



Dinkarrao K. Shinde Smarak Trusts

DR. A. D. SHINDE COLLEGE OF ENGINEERING.

Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502

Academic Year 2024-25



Academic Calendars

 शिवाजी विद्यापीठ कोल्हापूर Estd. 1962 "A++" Accredited by NAAC (2021) With CGPA 3.52	SHIVAJI UNIVERSITY, KOLHAPUR 416 004, MAHARASHTRA PHONE:EPABX-2609000, Affiliation T1 Section-0231-2609089, 2609146 Web : www.unishivaji.ac.in Email: affiliationt1@unishivaji.ac.in शिवाजी विद्यापीठ, कोल्हापूर-४१६ ००४, महाराष्ट्र दूरध्वनी - इपीबीएक्स - २०६०९०००, संलग्नता टी.१ विभाग : ०२३१- २६०९०८९, २६०९१४६ वेबसाईट : www.unishivaji.ac.in ईमेल : affiliationt1@unishivaji.ac.in	 शिवाजी विद्यापीठ	 शिवाजी विद्यापीठ
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शिवाजी विद्यापीठ/संलग्नता टी.१/ प्रशांत/ 2312

दिनांक : 8 APR 2024


परिपत्रक

शैक्षणिक वर्ष २०२४- २०२५ यामधील सर्व विद्याशाखांच्या पदवी तसेच पदव्युत्तर वर्षाच्या सत्रारंभ व सत्रसमाप्ती तारखां खालील प्रमाणे राहतील.

विद्याशाखा	प्रथम सत्र		द्वितीय सत्र	
	सत्रारंभ	सत्रसमाप्ती	सत्रारंभ	सत्रसमाप्ती
कला, वाणिज्य, विज्ञान, सामाजिकशास्त्रे (पदवी अभ्यासक्रम) ०९ ते १२ सप्टेंबर २०२४ गणपती उत्सवासाठी सुट्टी राहिल.	१५/६/२०२४	२६/१०/२०२४	११/११/२०२४	३०/०४/२०२५
पदव्युत्तर अभ्यासक्रम (विद्यापीठ अधिविभाग) ०९ ते १२ सप्टेंबर २०२४ गणपती उत्सवासाठी सुट्टी राहिल.	१८/०६/२०२४	२६/१०/२०२४	११/११/२०२४	१६/०५/२०२५
पदव्युत्तर अभ्यासक्रम (महाविद्यालयीन) ०९ ते १२ सप्टेंबर २०२४ गणपती उत्सवासाठी सुट्टी राहिल.	१८/०६/२०२४	२६/१०/२०२४	११/११/२०२४	१६/०५/२०२५
कला व ललितकला (बी.आय.डी व बी.डेस.पदवी अभ्यासक्रम)	१५/६/२०२४	२६/१०/२०२४	११/११/२०२४	३०/०४/२०२५
वाणिज्य व व्यवस्थापन अभ्यासक्रम (बी.बी.ए, बी.सी.ए पदवी अभ्यासक्रम)	१५/७/२०२४	३०/११/२०२४	१५/१२/२०२४	३१/०५/२०२५
व्यवस्थापन (पदव्युत्तर अभ्यासक्रम एम.बी.ए., एम.सी.ए.)	१५/०७/२०२४	३०/११/२०२४	१५/१२/२०२४	१६/०६/२०२५
समाजकार्य पदवी अभ्यासक्रम	१५/०६/२०२४	२६/१०/२०२४	११/११/२०२४	३०/०४/२०२५
समाजकार्य पदव्युत्तर अभ्यासक्रम	१८/०६/२०२४	२६/१०/२०२४	११/११/२०२४	१६/०५/२०२५
शिक्षणशास्त्र पदवी अभ्यासक्रम	१८/०६/२०२४	२६/१०/२०२४	१८/११/२०२४	०७/०५/२०२५
शिक्षणशास्त्र पदव्युत्तर अभ्यासक्रम	०१/०७/२०२४	३०/१०/२०२४	११/११/२०२४	२२/०५/२०२५
विधी पदवी अभ्यासक्रम	०१/०७/२०२४	२४/१०/२०२४	१८/११/२०२४	२०/०५/२०२५
विधी पदव्युत्तर अभ्यासक्रम	०१/०७/२०२४	२४/१०/२०२४	१८/११/२०२४	०४/०६/२०२५
अभियांत्रिकी, टेक्सटाईल प्रथम वर्ष पदवी अभ्यासक्रम	१२/०८/२०२४	३१/१२/२०२४	०८/०१/२०२५	२१/०६/२०२५
अभियांत्रिकी व टेक्सटाईल द्वितीय, तृतीय व अंतिम वर्ष पदवी अभ्यासक्रम	०१/०७/२०२४	३०/११/२०२४	०१/०१/२०२५	३०/०५/२०२५
अभियांत्रिकी व टेक्सटाईल प्रथम वर्ष पदव्युत्तर अभ्यासक्रम	०५/०८/२०२४	११/०१/२०२५	२०/०१/२०२५	२७/०६/२०२५
अभियांत्रिकी व टेक्सटाईल द्वितीय वर्ष पदव्युत्तर अभ्यासक्रम	०१/०७/२०२४	०७/१२/२०२४	०१/०१/२०२५	०९/०६/२०२५
वास्तुशास्त्र द्वितीय वर्ष पदवी अभ्यासक्रम	०५/०८/२०२४	१०/०१/२०२५	२०/०१/२०२५	१८/०६/२०२५
वास्तुशास्त्र तृतीय वर्ष ते अंतिम वर्ष पदवी अभ्यासक्रम	०१/०७/२०२४	०६/१२/२०२४	१६/१२/२०२४	१४/०५/२०२५
वास्तुशास्त्र द्वितीय वर्ष पदव्युत्तर अभ्यासक्रम	०५/०८/२०२४	१६/०१/२०२५	०१/०२/२०२५	०९/०७/२०२५
फार्मसी पदवी अभ्यासक्रम	२९/७/२०२४	२४/१२/२०२४	१३/०१/२०२५	१४/०६/२०२५
फार्मसी पदव्युत्तर अभ्यासक्रम	०५/०८/२०२४	११/०१/२०२५	२३/०१/२०२५	३०/०६/२०२५
आंतरविद्याशाखीय आणि अभ्यास केंद्रांतर्गत अभ्यासक्रम (विद्यापीठ परिसरातील आंतरविद्याशाखीय अधिविभागांच्या सत्रारंभ व सत्रसमाप्ती यांच्या तारखा विद्यापीठातील अन्य अधिविभागांप्रमाणे राहतील.)	१८/०६/२०२४	२६/१०/२०२४	११/११/२०२४	१६/०५/२०२५

टीप-१) विद्यापीठ अनुदान आयोगाच्या दिनांक १८/७/२०१८ च्या अधिसूचनेतील कलम १४.१ नुसार सत्रारंभ व सत्रसमाप्तीच्या तारखेमध्ये विद्यार्थी प्रवेश व परीक्षा यांचा प्राथमिक कालावधी अंतर्भूत आहे.

२) सत्रारंभाच्या दिवशी महाविद्यालयाची साप्ताहिक सुट्टी येत असल्यास त्याच्या दुस-या दिवशी सत्रारंभ करावा. सत्रसमाप्तीच्या दिवशी महाविद्यालयाची साप्ताहिक सुट्टी येत असल्यास त्याच्या आधीचा दिवस सत्रसमाप्तीचा दिवस राहिल.


डॉ. व्ही. एन. शिंदे
कुलसचिव

प्रति,

१. प्राचार्य/संचालक, सर्व संलग्न महाविद्यालये/ मान्यताप्राप्त शिक्षण संस्था.
२. विभागप्रमुख, सर्व अधिविभाग, शिवाजी विद्यापीठ, कोल्हापूर.
३. विभागप्रमुख, सर्व प्रशासकीय विभाग, शिवाजी विद्यापीठ, कोल्हापूर.

सदरचे परिपत्रक विद्यापीठाच्या संकेतस्थळावर www.unishivaji.ac.in - Affiliation-Affiliation T-1 Circulars मध्ये उपलब्ध आहे.



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Approved by AICTE, Delhi, DTE Mumbai and Govt of Maharashtra. Affiliated to Shivaji University, Kolhapur.

E-mail.: principal.dadscoe@gmail.com. Phone: (02327) 250650, 08380049000.

Academic Calendar 2024-25 Odd Semester

July 2024							July 17 Moharam
S	M	T	W	Th	F	S	
	1	2	3	4	5	6	
7	8	9	10	11	12	13	
14	15	16	17	18	19	20	
21	22	23	24	25	26	27	
28	29	30	31				
AD: 27				TD: 27			Aug 15 Independence Day/Parashi New Year
August 2024							
S	M	T	W	Th	F	S	
				1	2	3	
4	5	6	7	8	9	10	
11	12	13	14	15	16	17	
18	19	20	21	22	23	24	
25	26	27	28	29	30	31	
AD: 26				TD: 26			Sept. 7 Ganesh Chaturthi Sept 16 Eid-e-Milad Sept. 17 Anant Chaturdashi Sept. 15: Engineers day
September 2024							
S	M	T	W	Th	F	S	
1	2	3	4	5	6	7	
8	9	10	11	12	13	14	
15	16	17	18	19	20	21	
22	23	24	25	26	27	28	
29	30						
AD: 23				TD: 20			Oct. 2 Gandhi Jayanti Oct. 12 Dussehra Oct. 15 National Students day
October 2024							
S	M	T	W	Th	F	S	
		1	2	3	4	5	
6	7	8	9	10	11	12	
13	14	15	16	17	18	19	
20	21	22	23	24	25	26	
27	28	29	30	31			
AD: 25				TD: 22			Nov. 1 Lakshmi Pujan Nov. 2 Diwali Nov. 3 Bhau Beej Nov. 15 Guru Nanak Jayanti Nov 26: Constitution Day
November 2024							
S	M	T	W	Th	F	S	
					1	2	
3	4	5	6	7	8	9	
10	11	12	13	14	15	16	
17	18	19	20	21	22	23	
24	25	26	27	28	29	30	
AD: 23				TD: 23			Dec.25 Christmas
December 2024							
S	M	T	W	Th	F	S	
1	2	3	4	5	6	7	
8	9	10	11	12	13	14	
15	16	17	18	19	20	21	
22	23	24	25	26	27	28	
29	30	31					
AD: 25				TD: 9/22 (1 Sem)			

AD: Academic Days: 101 TD: Teaching Days: 88

Events	I Sem	III Sem	V Sem	VII Sem
Commencement of Semester	1/08/2024	1/7/2024	1/7/2024	1/7/2024
Commencement of Classes	1/08/2024	1/7/2024	1/7/2024	1/7/2024
Formative Feedback	5/10/2024	6/9/2024	6/9/2024	6/9/2024
Announcement of CIE Syllabus and Assignment (UT 1)	7/10/2024	31/8/2024	31/8/2024	31/8/2024
Unit Test 1	14-16 Oct.24	9, 10, 11 Sept. 2024		
Work Progress Report	14/10/2024	9/9/2024	9/9/2024	9/9/2024
Announcement of Unit Test Marks	22/10/2024	18/9/2024	18/9/2024	18/9/2024
Announcement of CIE Syllabus and Assignment (UT 2)	2/12/2024	21/10/2024	21/10/2024	21/10/2024
Unit Test 2	28-30 Nov.24	29, 30, 31 Oct. 2024		
Work Progress Report	28/11/2024	29/10/2024	29/10/2024	29/10/2024
Announcement of Unit Test Marks	4/12/2024	6/10/2024	6/10/2024	6/10/2024
Summative Feedback	27/11/2024	28/10/2024	28/10/2024	28/10/2024
TW Finalization	18-23 Nov	14/10/2024 to 19/10/2024		
Course Exit Survey	23/11/2024	19/10/2024	19/10/2024	19/10/2024
Last Working Day	31/12/2024	30/11/2024	30/11/2024	30/11/2024

Events

Mentor and Mentee list submission: 1/7/2024
 Induction Programme I Sem.: 1/8/2024 -21/8/2024
 Placement Activity 1: 13/8/2024 -15/8/2024
 Placement Activity 2: 12/9/2024 -14/9/2024
 Faculty Development Programme: 12/9/2024 - 14/9/2024
 Non-Technical Activity: 27/9/2024-28/9/2024
 Department activities: 27/9/2024-28/9/2024
 Display defaulters list: Every month last working day

Vision

To provide best quality education in the field of Engineering and Technology to the aspirants and serve the nation through developments of scientific, creative, trustworthy human asset.

Mission

1. To meet engineering manpower needs for social, techno-economical development of region and nation
2. To contribute to knowledge through research and development.
3. To imbibe habits of creativity and innovation to generate IPRS.
4. To inculcate noble values of ethics, morality, integrity, and humanity.
5. To get global accreditation for all courses.

Dr. Vireshkumar G. Mathad
Dean Academics

Dr. Dinkar V. Ghewade
Principal



Dinkarrao K. Shinde Smarak Trust's

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Academic Calendar 2024-25 Even Semester

January 2025							Jan 26: Republic Day
S	M	T	W	Th	F	S	
			1	2	3	4	
5	6	7	8	9	10	11	
12	13	14	15	16	17	18	
19	20	21	22	23	24	25	
26	27	28	29	30	31		
AD:27			TD:27				Feb 3 Dr. A D Shinde Death Anniversary Feb 19 Chatrapati Shivaji Maharaj Jayanti Feb. 26: Maha Shivaratri
February 2025							
S	M	T	W	Th	F	S	
						1	
2	3	4	5	6	7	8	
9	10	11	12	13	14	15	
16	17	18	19	20	21	22	
23	24	25	26	27	28		
AD:22			TD:14				Mar. 14: Holi Mar. 30: Gudhi Padwa Mar. 31: Eid Al-Fitr
March 2025							
S	M	T	W	Th	F	S	
						1	
2	3	4	5	6	7	8	
9	10	11	12	13	14	15	
16	17	18	19	20	21	22	
23	24	25	26	27	28	29	
30	31						
AD:24			TD:21				Apr. 6: Rama Navami Apr. 10: Mahavir Jayanti Apr 14 Dr B. R. Ambedkar Jayanti Apr. 18: Good Friday
April 2025							
S	M	T	W	Th	F	S	
		1	2	3	4	5	
6	7	8	9	10	11	12	
13	14	15	16	17	18	19	
20	21	22	23	24	25	26	
27	28	29	30				
AD:23			TD:23				May 1 Maharastra Din/ Labour Day May 12: Buddha Purnima
May 2025							
S	M	T	W	Th	F	S	
				1	2	3	
4	5	6	7	8	9	10	
11	12	13	14	15	16	17	
18	19	20	21	22	23	24	
25	26	27	28	29	30	31	
AD:24			TD:24				June 7: Bakrid / Eid al Adha
June 2025							
S	M	T	W	Th	F	S	
1	2	3	4	5	6	7	
8	9	10	11	12	13	14	
15	16	17	18	19	20	21	
22	23	24	25	26	27	28	
29	30	31					
AD: 2			TD:00				

AD: Academic Days:120

TD: Teaching Days: 88

Events	II Sem	IV Sem	VI Sem	VIII Sem
Commencement of Semester	1/2/2025	1/1/2025	1/1/2025	1/1/2025
Commencement of Classes	1/2/2025	1/1/2025	1/1/2025	1/1/2025
Formative Feedback	19/3/2025	22/2/2025	22/2/2025	22/2/2025
Announcement of CIE Syllabus and Assignment (UT 1)	10/3/2025	13/2/2025	13/2/2025	13/2/2025
Unit Test 1	17-19 Mar. 25	20-22 Feb. 2025		
Work Progress Report	10/3/2025	13/2/2025	13/2/2025	13/2/2025
Announcement of Unit Test Marks	24/3/2025	25/2/2025	25/2/2025	25/2/2025
Announcement of CIE Syllabus and Assignment (UT 2)	NA	13/3/2025	13/3/2025	13/3/2025
Unit Test 2	NA	20-22 Mar. 2025		
Work Progress Report	19/4/2025	22/3/2025	22/3/2025	22/3/2025
Announcement of Unit Test Marks	NA	27/3/2025	27/3/2025	27/3/2025
Summative Feedback	19/4/2025	22/3/2025	22/3/2025	22/3/2025
TW Finalization	13/5/2025	9/5/2025		
Course Exit Survey	13/5/2025	22/3/2025	22/3/2025	22/3/2025
Last Working Day	3/6/2025	30/5/2025	30/5/2025	30/5/2025

Events

Mentor and Mentee list submission: 15/1/2025
 Placement Activity 1: 1/1/2025 to 15/1/2025
 Placement Activity 2: 1/4/2025 to 5/4/2025
 Annual Sports:4/2/2025 to 6/2/2025
 Annual Gathering:7/2/2025 to 8/2/2025
 Annual Alumni Meet:8/2/2025
 Tech Manthan:7/3/2025 to 8/3/2025
 Display defaulters list: Every month last working day

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Dr. Viresh Kumar G. Mathad
 Dean Academics

Dr. Dinkar V. Ghewade
 Principal



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Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502
Academic Year 2024-25



Odd Semester

Unit Test Notice/Supervisor Details



Dinkarrao K. Shinde Smarak Trusts

DR. A. D. SHINDE COLLEGE OF ENGINEERING.

Bhadgaon, Gadhinglaj, Dist: Kolhapur Pin: 416502

Academic Year 2024-25



Date-02/09/2024


Notice

All students are hereby informed that the Unit Test-I for T.Y B.Tech and Final year B.Tech is scheduled from 9th to 11th September 2024. So be prepared for exam. Time table will displayed soon at department level.

Instruction:

1. Test duration will be 60 minute.
2. Maximum marks for the test ~~at~~ 30
3. Be present in exam hall before 10 min of exam time.
4. Attendance is compulsory for all students
5. Collect the CIE booklet from college office before commencement of test.


Exam Co-ordinator


Academic Dean


Principal

PRINCIPAL
A.D. Shinde College of Engineer
Bhadgaon, Tal. Gadhinglaj, Dist. Kolha





Dinkarrao K. Shinde Smarak Trusts

DR. A. D. SHINDE COLLEGE OF ENGINEERING.

Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502

Academic Year 2024-25



Allotment of Supervision

Unit test-I is scheduled 9th September to 11th September 2024. following faculties are appointed as supervisor for this examination. The supervision is allotted as per following table.

Sr.No.	Name of Faculty	Monday 09/09/2024		Tuesday 10/09/2024		Wednesday 11/09/2024		Sign
		M	A	M	A	M	A	
1	Mr.A.S.Bhoi	✓			✓			<i>[Signature]</i>
2	Mr.I.T.Patel		✓	✓				<i>[Signature]</i>
3	Mr.S.R.Wadagule	✓	✓					<i>[Signature]</i>
4	Mr.V.S.Patil	✓		✓				<i>[Signature]</i>
5	Mr.A.R.Bandekar		✓		✓	✓		<i>[Signature]</i>
6	Mr.A.S.Borgave	✓		✓		✓		<i>[Signature]</i>
7	Miss.M.A.Nibalkar		✓		✓	✓		<i>[Signature]</i>
8	Miss.P.B.Jangali	✓		✓		✓		<i>P.B.Jangali</i>
9	Miss.P.S.Raykar		✓		✓		✓	<i>[Signature]</i>
10	Mr.I.M.Trasgar			✓	✓	✓		<i>[Signature]</i>



[Signature]
Controller of Exam



Supervisor Report

Day/Date-Monday/09th September 2024

Class-TY/Final Year B.Tech

Session – Morning

Sr.No	Name of Supervisor	Block No	Sign
1	P.B.Jangali	1	
2	Abhejit. S.B	2	
3	Susaj R. Wadagule	3	
4	Patil N.B. (CE)	4	
5	S.P. Bogadi	5	

Session – Afternoon

Sr.No	Name of Supervisor	Block No	Sign
1	M. A. Nimbalkar	1	
2	P. S. Raykar	2	
3	Susaj R. Wadagule	3	
4	A.R. Bandekar	4	
5	Mr. I. T. Patel	5	



(Controller of Exam)



Supervisor Report

Day/Date- Tuesday/10th September 2024

Class-TY/Final Year B.Tech

Session – Morning

Sr.No	Name of Supervisor	Block No	Sign
1	Abhijit S. Borgane	1	
2	Poonam Jangali	2	
3	Priyanka Raykar	3	
4	Mr. I. T. Patel	4	
5	V. S. Patil (CE)	5	

Session – Afternoon

Sr.No	Name of Supervisor	Block No	Sign
1	A. R. Bandekar	1	
2	Mr. L. M. Prangar	2	
3	M. A. Nimbalkar	3	
4	S. P. Bagade	4	
5	P. S. Raykar	5	



(controller of Exam)



Dinkarrao K. Shinde Smarak Trusts
DR. A. D. SHINDE COLLEGE OF ENGINEERING.
Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502
Academic Year 2024-25



Supervisor Report

Day/Date- Wednesday/11th September 2024 Class-TY/Final Year B. Tech

Session – Morning


Sr.No	Name of Supervisor	Block No	Sign
1	S. C. Gandhi	1	
2	M. A. Nimbalkar	2	
3	Abhijit S. B	3	
4	Mr. Srfan. M. Fraiger	4	
5	Poonam Jangali	5	

Session – Afternoon

Sr.No	Name of Supervisor	Block No	Sign
1	P. S. Raykar	1	
2	-	2	-
3	-	3	-
4	-	4	-
5	-	5	-



(Controller of Exam)

	<p style="text-align: center;">Dinkarrao K. Shinde Smarak Trust's Dr. A. D. Shinde College of Engineering Guddai, Bhadgaon, Tal: - Gadhinglaj, Dist: -Kolhapur <u>Department of Civil Engineering</u></p>
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Date: 03/09/2024

All the Third-year and Final Year students are here by informed that your Continuous Internal Evaluation (unit test-I) for semester V and VII respectively is scheduled from 09/09/2024 to 11/09/2024. The time table regarding exam as shown below.

CLASS TEST- I TIME TABLE

<u>Sr. No</u>	<u>Day & Date</u>	<u>Time</u>	<u>V SEM Subject</u>	<u>VII SEM Subject</u>
1.	Monday 09/09/2024	11.00AM to 12.00PM	Water Resource Engineering-I	Design of Concrete Structures-I
2.		2.00PM to 3.00PM	Design of Steel Structures	Earthquake Engineering
3.	Tuesday 10/09/2024	11.00AM to 12.00PM	Environmental Engineering-I	Quantity Survey and Valuation
4.		2.00PM to 3.00PM	Geotechnical Engineering-I	Transportation Engineering-I
5.	Wednesday 11/09/2024	11.00AM to 12.00PM	Open Elective – I (Waste Management)	Professional Elective-I (Solid Waste Management)

INSTRUCTION:

1. Exam will be conducted in offline mode.
2. You will get 60-mins to complete the paper.
3. Be present in exam hall before 10 min. of exam time.
4. Attendance is compulsory for all students.


3/9/24
IA Co-Ordinator




HOD

**DR. A. D. SHINDE COLLEGE OF ENGINEERING.**

Bhadgaon, Gadhinglaj, Dist: Kolhapur Pin:416502

Academic Year 2024-25**Department of Electrical Engineering**

Date: 03/09/2024

All the Third-year students are here by informed that your continuous internal evaluation (UNIT TEST-1) for Semester V is scheduled from 09/09/2024 to 11/09/2024.

Students should follow the below time table for CIE-1.

CIE -1 Time Table

SL. No	Subject Name	Time	Day and Date
1	AC Machines	11.00 AM to 12.00 PM	Monday 09/09/2024
2	Digital Electronics & Microcontroller	2.00 PM to 3.00 PM	
3	Power system -II	11.00 AM to 12.00 PM	Tuesday 10/09/2024
4	Advance control System	2.00 PM to 3.00 PM	
5	Signals & Systems	11.00 AM to 12.00 PM	Wednesday 11/09/2024
6	Domestic/industrial Electrical Installation, Estimation & costing	2.00 PM to 3.00 PM	

Instructions:

- 1.Exam will be conducted in offline mode.
2. You will get 60 minutes to complete the paper.
- 3.Be present in exam hall before 10 minutes of exam time.
- 4.Attendence is compulsory for all students.

Co-Ordinator



HOD
HOD

Dept. of Electrical Engg.
Dr.A.D.Shinde College of Engg
Bhadgaon, Tal. Gadhinglaj



Dinkarrao K. Shinde Smarak Trusts

DR. A. D. SHINDE COLLEGE OF ENGINEERING.

Bhadgaon, Gadhinglaj, Dist: Kolhapur Pin:416502

Academic Year 2024-25

Department of Electrical Engineering



Date: 03/09/2024

All the Final-year students are hereby informed that your continuous internal evaluation (UNIT TEST-1) for Semester VII is scheduled from 09/09/2024 to 11/09/2024.

Students should follow the below time table for CIE-1.

CIE -1 Time Table

SL. No	Subject Name	Time	Day and Date
1	Advance switch gear & protection	11.00 AM to 12.00 PM	Monday 09/09/2024
2	Flexible AC transmission system	2.00 PM to 3.00 PM	
3	Power quality & harmonics	11.00 AM to 12.00 PM	Tuesday 10/09/2024
4	Electric vehicle	2.00 PM to 3.00 PM	
5	Computer methods in power system	11.00 AM to 12.00 PM	Wednesday 11/09/2024
6	Domestic/industrial Electrical Installation, Estimation & costing	2.00 PM to 3.00 PM	

Instructions:

- 1.Exam will be conducted in offline mode.
2. You will get 60 minutes to complete the paper.
- 3.Be present in exam hall before 10 minutes of exam time.
- 4.Attendence is compulsory for all students.

IA Co-Ordinator



HOD
HOD
Dept. of Electrical Engg.
Dr.A.D.Shinde College of Engg
Bhadgaon, Tal.Gadhinglaj



Dinkarrao K. Shinde Smarak Trusts

DR. A. D. SHINDE COLLEGE OF ENGINEERING.

Bhadgaon, Gadhinglaj, Dist: Kolhapur Pin:416502

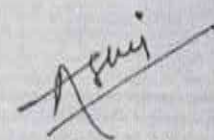
Department Of Mechanical Engineering
Academic Year 2024-25



Date: 02/09/2024

Unit Test I Time Table

Day/Date	V SEM Subject	VII SEM Subject
Monday 09/09/2024	Control Engineering	Refrigeration and Air Conditioning
	Theory of Machines - II	Mechanical System Design
Tuesday 10/09/2024	Heat and Mass Transfer	Finite Element Analysis
	Machine Design - I	Automobile Engineering
Wednesday 11/09/2024	Manufacturing Engineering	Total Quality Management
	Enterprise Resource Planning	-----



IA Coordinator


HOD





Dinkarrao K. Shinde Smarak Trust's

Dr. A. D. Shinde College of Engineering

Guddai, Bhadgaon, Tal: -Gadhinglaj, Dist: -Kolhapur

Department of Computer Science and Engineering

Date: 04/09/2024

All the Third-year students are here by informed that your Continuous Internal Evaluation (Unit Test-I) for semester V is scheduled from 09/09/2024 to 11/09/2024. Students are instructed to refer following time table.

UNIT TEST- I TIME TABLE

Sr. No.	Day & Date	Time	Subject
1.	Monday 09/09/2024	11.00AM to 12.00PM	Information Security
2.		2.00PM to 3.00PM	System Programming
3.	Tuesday 10/09/2024	11.00AM to 12.00PM	Object Oriented Modeling and Design
4.		2.00PM to 3.00PM	Internet of Things
5.	Wednesday 11/09/2024	11.00AM to 12.00PM	Java Programming

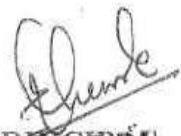
INSTRUCTION:

1. Exam will be conducted in offline mode.
2. You will get 60-mins to complete the paper.
3. Be present in exam hall before 10 min. of exam time.
4. Attendance is compulsory for all students.


HOD

Computer Science & Engineering
Dr.A.D.Shinde College of Engineering
A/P,Bhadgaon,Tal.Gadhinglaj




PRINCIPAL

A.D.Shinde College of Engineer,
Bhadgaon,Tal.Gadhinglaj,Dist.Kolhapur.



Dinkarrao K. Shinde Smarak Trust's

Dr. A. D. Shinde College of Engineering

Guddai, Bhadgaon, Tal: - Gadhinglaj, Dist: -Kolhapur

Department of Electronics & Computer Science

Date:02/09/2024

All the Third-year students are here by informed that your Continuous Internal Evaluation (unit test-I) for semester I is scheduled from 09/09/2024 to 11/09/2024. The time table regarding exam as shown below.

CLASS TEST- I TIME TABLE

<u>Sr. No</u>	<u>Subject</u>	<u>Time</u>	<u>Day & Date</u>
1.	Signal & System	11.00AM to 12.00PM	Monday 09/09/2024
2.	Power Electronics	2.00PM to 3.00PM	
3.	Computer Organization & Architecture	11.00AM to 12.00PM	Tuesday 10/09/2024
4.	Computer Network II	2.00PM to 3.00PM	
5.	Sensor & Applications	11.00AM to 12.00PM	Wednesday 11/09/2024

INSTRUCTION:

1. Exam will be conducted in offline mode.
2. You will get 60-mins to complete the paper.
3. Be present in exam hall before 10 min. of exam time.
4. Attendance is compulsory for all students.

IA Co-Ordinator



HOD

Dinkarrao K. Shinde Smarak Trusts



DR. A. D. SHINDE COLLEGE OF ENGINEERING.

Bhadgaon, Gadhinglaj, Dist.: Kolhapur Pin:416502

Academic Year 2024-25

Exam Section



Date: 07/11/2024

Notice

All the department HODs are hereby informed that the **Unit Test-I** for the Second-year is scheduled as per the academic calendar. Please find the details below.

Unit Test Details:

- Date of Examination: 12 Nov to 13 Nov, 2024
- Duration: 1 hour/subject
- Syllabus: First 3 units
- Type of Examination: Written

Instructions for the HoDs:

1. Kindly ensure that the faculty members of your department are informed about the unit test schedule and are prepared for the test's smooth execution
2. Please remind all students about the date, time, and venue of their respective unit tests, and encourage them to be punctual.
3. Herewith attached Unit Test time table and Paper format.

Should you require any further details or clarification, feel free to contact the undersigned.

We appreciate your support in ensuring the smooth conduct of the unit tests.


Exam Co-Ordinator


Academic Dean


Principal



Dinkarrao K. Shinde Smarak Trusts
DR. A. D. SHINDE COLLEGE OF ENGINEERING.
 Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502
Academic Year 2024-25
Exam Section





Allotment of Supervision

Unit test-I is scheduled 12th November to 13th November 2024. following faculties are appointed as supervisor for this examination. The supervision is allotted as per following table.

Sr.No.	Name of Faculty	Wednesday 12/11/2024			Wednesday 13/11/2024		Sign
		M	A	E	M	A	
1	Mrs.P.T.Kokitkar	✓				✓	<i>PTK</i>
2	Mr.I.T.Patel		✓		✓		<i>ITP</i>
3	Mr.A.S.Bhoi			✓		✓	<i>ASB</i>
4	Mr.V.V.Chougule	✓		✓			<i>VVC</i>
5	Mr.S.R.Wadagule	✓			✓		<i>SRW</i>
6	Mr.B.A.Angadi		✓			✓	<i>BAA</i>
7	Mr.A.S.Borgave			✓		✓	<i>ASB</i>
8	Miss.M.A.Nibalkar <i>Miss Nimbalkar</i>	✓			✓		<i>MN</i>
9	Mrs.H. Naikwadi		✓	✓			<i>HNaikwadi</i>
10	Miss.P.B.Jangali	✓		✓			<i>PBJ</i>
11	Miss.P.S.Raykar		✓			✓	<i>PSR</i>
12	Mr.I.M.Trasgar		✓		✓		<i>IMT</i>

[Signature]
 Controller of Exam

	<p style="text-align: center;">Dinkarrao K. Shinde Smarak Trusts</p> <p style="text-align: center;">DR. A. D. SHINDE COLLEGE OF ENGINEERING.</p> <p style="text-align: center;">Bhadgaon, Gadhinglaj, Dist: Kolhapur Pin:416502</p> <p style="text-align: center;">Academic Year 2024-25</p> <p style="text-align: center;">Department of Civil Engineering</p>	
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Date: 07/11/2024

Notice

All the Second-year students are here by informed that your Continuous Internal Evaluation (UNIT TEST-I) for Semester III is scheduled from 12/11/2024 to 13/11/2024. Students should follow the below time table for CIE-I

CIE -I Time Table



Sr. No.	Day and Date	Time	Subject Name (Sem III)
1	Tuesday 12/11/2024	10.30 AM to 11.30 AM	
2		01.00 PM to 02.00 PM	
3		03.30 PM to 04.30 PM	
4	Wednesday 13/11/2024	10.30 AM to 11.30 AM	
5		01.00 PM to 02.00 PM	

Instructions:

1. Student should take the CIE books required for the unit test from the college office.
2. Be present in exam hall before 10 minutes of exam time.
3. Attendance is compulsory for all students for all subjects.

IA Co-Ordinator

HOD

	<p style="text-align: center;">Dinkarrao K. Shinde Smarak Trusts</p> <p style="text-align: center;">DR.A. D. SHINDE COLLEGE OF ENGINEERING.</p> <p style="text-align: center;">Bhadgaon, Gadhinglaj, Dist: Kolhapur Pin:416502</p> <p style="text-align: center;">Academic Year 2024-25</p> <p style="text-align: center;">Department of Civil Engineering</p>	
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Unit Test I

Subject:		Class/ Sem.: Second year/ III Sem		
Name of the faculty:		Date:		
Time:		Total marks: 30		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A.			5M
	B.			5M
	C.			5M
2	A.			5M
	B.			5M
	C.			5M
3	A.			5M
	B.			5M
	C.			5M

Note:

If you want to make some changes in the above paper format then discuss to Dr.Viresh Mathad Sir (Academic Dean)



Dinkarrao K. Shinde Smarak Trusts
DR. A. D. SHINDE COLLEGE OF ENGINEERING.
Bhadgaon, Gadhinglaj, Dist: Kolhapur Pin:416502
Academic Year 2024-25
Exam Section



Supervisor Report

Day/Date-Tuesday/12th November 2024

Class- Second Year B.Tech

Session – Morning

Sr.No	Name of Supervisor	Block No	Sign
1	P. T. Kobitabas	1	
2	Miss. V. V. Chaugule	2	
3	Mr. S. R. Wadagule	3	
4	Miss. M. A. Nimbalkar	4	

Session – Afternoon

Sr.No	Name of Supervisor	Block No	Sign
1	Basavaraj. A. Angadi	1	
2	P. S. Raykar	2	
3	Prof. Irfan. M. Fazeel	3	
4	P. T. K. K. K. K.	4	

Session – Afternoon

Sr.No	Name of Supervisor	Block No	Sign
1	Prof. A. S. Borge	1	
2	Mr. S. R. Wadagule	2	
3	Prof. P. B. Borge	3	
4	S. P. Borge	4	



Dinkarrao K. Shinde Smarak Trusts
DR. A. D. SHINDE COLLEGE OF ENGINEERING.
Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502
Academic Year 2024-25
Exam Section



Supervisor Report

Day/Date-Wednesday/13th November 2024

Class- Second Year B.Tech

Session – Morning

Sr.No	Name of Supervisor	Block No	Sign
1	Prof. Irfan. M. Prangar	1	
2	Miss. V. V. Chaugule	2	
3	Mr. T. T. Patel	3	
4	Prof. H. S. Naikwadi	4	

Session – Afternoon

Sr.No	Name of Supervisor	Block No	Sign
1	Prof. A. S. Borgane	1	
2	Prof. B. A. Anandadi	2	
3	S. P. Bagade	3	
4	Prof. K. K. Gursav	4	



Dinkarrao K. Shinde Smarak Trusts

DR. A. D. SHINDE COLLEGE OF ENGINEERING.

Bhadgaon, Gadhinglaj, Dist: Kolhapur Pin:416502

Academic Year 2024-25

Department of Mechanical Engineering



Date: 06/11/2024

Notice

All the Second-year students are hereby informed that your Continuous Internal Evaluation (UNIT TEST-I) for Semester III is scheduled from 12/11/2024 to 13/11/2024.

Students should follow the below time table for CIE-I

CIE -I Time Table

Sr. No.	Day and Date	Time	Subject Name (Sem III)
1	<i>Tue</i> Friday 12/11/2024	10.30 AM to 11.30 AM	Engineering Mathematics - III
2		01.00 PM to 02.00 PM	Applied Thermodynamics
3		03.30 PM to 04.30 PM	Metallurgy
4	<i>Wed</i> Saturday 13/11/2024	10.30 AM to 11.30 AM	Fluid Mechanics
5		01.00 PM to 02.00 PM	Electrical Technology
6		03.30 PM to 04.30 PM	-----

Instructions:

1. You will get 60 minutes to complete the paper.
2. Be present in exam hall before 10 minutes of exam time.
3. Attendance is compulsory for all students.


IA Co-Ordinator


HOD



Dinkarrao K. Shinde Smarak Trusts

DR. A. D. SHINDE COLLEGE OF ENGINEERING.

Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502

Academic Year 2024-25

Department of Civil Engineering



Date: 07/11/2024

Notice

All the Second-year students are hereby informed that your Continuous Internal Evaluation (UNIT TEST-I) for Semester III is scheduled from 12/11/2024 to 13/11/2024. Students should follow the below time table for CIE-I

CIE -I Time Table

Sr. No.	Day and Date	Time	Subject Name (Sem III)
1	Tuesday 12/11/2024	10.30 AM to 11.30 AM	Engineering mathematics-III
2		01.00 PM to 02.00 PM	Surveying-I
3		03.30 PM to 04.30 PM	Strength of Materials
4	Wednesday 13/11/2024	10.30 AM to 11.30 AM	Fluid Mechanics-I
5		01.00 PM to 02.00 PM	Building Construction & Materials

Instructions:

1. Student should take the CIE books required for the unit test from the college office.
2. Be present in exam hall before 10 minutes of exam time.
3. Attendance is compulsory for all students for all subjects.

IA Co-Ordinator



HOD
Dept. of Civil Engineering
Dr. A. D. Shinde College of Engineering
Bh. Bhadgaon, Gadhinglaj.



Dinkarrao K. Shinde Smarak Trusts

DR. A. D. SHINDE COLLEGE OF ENGINEERING.

Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502

Academic Year 2024-25

Department of Electrical Engineering



Date: 07/11/2024

Notice

All the Second-year students are hereby informed that your Continuous Internal Evaluation (UNIT TEST-I) for Semester III is scheduled from 12/11/2024 to 13/11/2024.

Students should follow the below time table for CIE-I,

CIE -I Time Table

Sr. No.	Day and Date	Time	Subject Name
1	Tuesday 12/11/2024	10.30 AM to 11.30 AM	Engg. M-III
2		01.00 PM to 02.00 PM	EEMEC
3		03.30 PM to 04.30 PM	AEE
4	Wednesday 13/11/2024	10.30 AM to 11.30 AM	BCT
5		01.00 PM to 02.00 PM	EM

Instructions:

- 1.You will get 60 minutes to complete the paper.
- 2.Be present in exam hall before 10 minutes of exam time.
- 3.Attendence is compulsory for all students.


IA Co-Ordinator


HOD



Dinkarrao K. Shinde Smarak Trusts

DR. A. D. SHINDE COLLEGE OF ENGINEERING.

Bhadgaon, Gadhinglaj, Dist: Kolhapur Pin:416502

Academic Year 2024-25

Department of Computer Science and Engineering



Date: 05/11/2024

Notice

All the Second year students are here by informed that your continuous internal evaluation (UNIT TEST-I) for Semester III is scheduled from 12/11/2024 to 13/11/2024.

Students should follow the below time table for CIE-I

CIE -I Time Table

Sr. No.	Day and Date	Time	Subject Name (Sem III)
1	Tuesday 12/11/2024	10.30 AM to 11.30AM	Applied Mathematics
2		01.00 PM to 02.00 PM	Discrete Mathematics & Structures
3		03.30 PM to 04.30 PM	Data Structures
4	Wednesday 13/11/2024	10.30 AM to 11.30 AM	Computer Networks I
5		01.00 PM to 02.00 PM	Microprocessors

Instructions:

- 1.Be present in exam hall before 10 minutes of exam time.
- 2.Attendence is compulsory for all students for all the subjects..

IA Co-Ordinator

HOD

HOD

Computer Science & Engineering
Dr. A.D. Shinde College of Engineering
Bhadgaon Tal. Gadhinglaj



Dinkarrao K. Shinde Smarak Trust's

Dr. A. D. Shinde College of Engineering

Guddai, Bhadgaon, Tal: - Gadhinglaj, Dist: -Kolhapur

Department of Electronics & Computer Science

Date:06/11/2024

NOTICE

All the second-year students are here by informed that your Continuous Internal Evaluation (unit test-I) for semester I is scheduled from 12/11/2024 to 13/11/2024. The time table regarding exam as shown below.

CLASS TEST- I TIME TABLE



<u>Sr. No</u>	<u>Subject</u>	<u>Time</u>	<u>Day & Date</u>
1.	Engineering Mathematics -III	10.30AM to 11.30PM	Tuesday 12/11/2024
2.	Electronics Devices	01.00PM to 02.00PM	
3.	Digital Electronics	03.30AM to 04.30PM	
4.	Data Structures and Algorithms	10.30AM to 11.30PM	Wednesday 13/11/2024
5.	Database Management Systems	01.00PM to 02.00PM	

INSTRUCTION:

1. Exam will be conducted in offline mode.
2. You will get 60-mins to complete the paper.
3. Be present in exam hall before 10 min. of exam time.
4. Attendance is compulsory for all students.

SBhosale
IA Co-Ordinator

G. Band
HOD

	<p style="text-align: center;">Dinkarrao K. Shinde Smarak Trusts</p> <p style="text-align: center;">DR. A. D. SHINDE COLLEGE OF ENGINEERING.</p> <p style="text-align: center;">Bhadgaon, Gadhinglaj, Dist: Kolhapur Pin:416502</p> <p style="text-align: center;"><u>Academic Year 2024-25</u></p> <p style="text-align: center;"><u>Department of First Year Engineering</u></p>	
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Date: 26/11/2024

Notice

All the first-year students are hereby informed that your **Mid Sem Evaluation** for Sem I is scheduled from 29/11/2024 to 30/11/2024. The time table regarding the exam as shown below.

MID SEM EVALUATION -TIME TABLE

Sr. No.	Subject	Time	Day & Date
1.	Engg. Physics	10.30AM to 11.30AM	Friday 29/11/2024
	Engg. Chemistry		
2.	Basic Civil Engineering	01.00PM to 02.00PM	
	Basic Mechanical Engineering		
3.	Engineering Graphics	10.30AM to 11.30AM	Saturday 30/11/2024
4.	Basic Electronics Engineering		
5.	Basic Electrical Engineering	01.00PM to 02.00PM	
	Engineering Mechanics		

INSTRUCTION:

1. Test duration will be 60 Minutes.
2. Maximum Marks for the test are 30.
3. Be present in exam hall before 10 min. of exam time.
4. Attendance is compulsory for all students.
5. Collect the CIE booklet from collage office before commencement of test.

H.O.D.
General Science & Humanities
Dr. A. D. Shinde College of Engineering
Bhadgaon, Tal. Gadhinglaj

Academic Dean



PRINCIPAL

A. D. Shinde College of Engineering
Bhadgaon, Tal. Gadhinglaj, Dist. Kolhapur



Dinkarrao K. Shinde Smarak Trusts

DR.A. D. SHINDE COLLEGE OF ENGINEERING.

Bhadgaon, Gadhinglaj, Dist: Kolhapur Pin:416502

Academic Year 2024-25

Exam Section




Date:16/08/2024

Notice


All students are hereby informed that the Unit Test-II for T.Y B.Tech and Final Year B.Tech is scheduled from 25th to 26^h October 2024. So be prepared for exam. Time table will display soon at department level.

Instruction:

1. Test duration will be 60 min.
2. Maximum marks for the test are 30.
3. Be present in exam hall before 10min of exam time.
4. Attendance is compulsory for all student,
5. Collect the CIE booklet from college office before commencement of test.


Exam Co-ordinator


Academic Dean


Principal



Dinkarrao K. Shinde Smarak Trusts

DR. A. D. SHINDE COLLEGE OF ENGINEERING.

Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502

Academic Year 2024-25

Exam Section



Allotment of Supervision

Unit test-II is scheduled **25th October to 26th October 2024**. following faculties are appointed as supervisor for this examination. The supervision is allotted as per following table.

Sr.No.	Name of Faculty	Friday 25/10/2024			Saturday 26/10/2024			Sign
		M	A	E	M	A	E	
1	Mr.A.S.Bhoi	✓				✓		<i>Ami</i>
2	Mr.S.P.Bagadi			✓	✓			<i>B.P.</i>
3	Miss.P.T.Kokitkar		✓		✓			<i>P.H.</i>
4	Mr.V.S.Patil			✓			✓	<i>V.S.P.</i>
5	Mrs.P.S.Shiragavi	✓			✓			<i>P.S.</i>
6	Miss.V.V.Chougule				✓	✓		<i>V.V.C.</i>
7	Mr.A.R.Bandekar		✓			✓		<i>A.R.B.</i>
8	Mr.B.A.Angadi	✓		✓				<i>B.A.A.</i>
9	Miss.H.S.Naikwadi		✓			✓		<i>H.S.N.</i>
10	Miss.N.B.More	✓		✓				<i>N.B.M.</i>
11	Miss.S.P.Pujari		✓			✓		<i>S.P.P.</i>
12	Miss.S.V.Solapure		✓		✓			<i>S.V.S.</i>
13	Miss.S.S.Bhoi	✓		✓				<i>S.S.B.</i>

[Signature]
Controller of Exam



Dinkarrao K. Shinde Smarak Trusts

DR. A. D. SHINDE COLLEGE OF ENGINEERING.

Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502

Academic Year 2024-25

Exam Section



Supervisor Report

Day/Date-Friday/25th October 2024

Class-TY/Final Year B.Tech

Session – Morning

Sr.No	Name of Supervisor	Block No	Sign
1	Basavaraj. A. Angadi	1	
2	S. P. Bagde	2	
3	Prof. P. S. Shiragavi	3	
4	Miss. N. B. More	4	
5	Mrs. Bhori. S. S	5	

Session – Afternoon

Sr.No	Name of Supervisor	Block No	Sign
1	Prof. P. T. Kokilkar	1	
2	Prof. S. R. Pujari	2	
3	Prof. A. R. Bandekar	3	
4	Prof. S. V. Solapure	4	
5	Prof. H. S. Naikwad	5	

Session – Evening

Sr.No	Name of Supervisor	Block No	Sign
1	Mrs. Bhori. S. S	1	
2	Basavaraj. A. Angadi	2	
3	Prof. V. S. Patil	3	
4	Prof. S. P. Bagde	4	
5	Prof. M. A. Nimbalkar	5	

(Controller of Exam)



Dinkarrao K. Shinde Smarak Trusts

DR. A. D. SHINDE COLLEGE OF ENGINEERING.

Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502

Academic Year 2024-25

Exam Section



Supervisor Report

Day/Date-Saturday/26th October 2024

Class-TY/Final Year B.Tech

Session – Morning

Sr.No	Name of Supervisor	Block No	Sign
1	Prof. P. S. Shiragavi	1	
2	Prof. P. T. Kolitakekar	2	
3	Prof. A. S. Bhoi	3	
4	Miss. V. V. Chougule	4	
5	Ms. S. V. Solapure	5	

Session – Afternoon

Sr.No	Name of Supervisor	Block No	Sign
1	Prof. S. R. Pujari	1	
2	Prof. A. R. Bandekar	2	
3	Prof. V. V. Chougule	3	
4	Prof. H. S. Naikwadi	4	
5	Prof. A. S. Bhoi	5	

Session – Evening

Sr.No	Name of Supervisor	Block No	Sign
1	-	1	-
2	-	2	-
3	-	3	-
4	-	4	-
5	Prof. V. S. Patil	5	



Dinkarrao K. Shinde Smarak Trusts

DR. A. D. SHINDE COLLEGE OF ENGINEERING.

Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502

Academic Year 2024-25

Department of Civil Engineering



Date: 23/10/2024

Notice

All the Third-year and Final-year students are here by informed that your Continuous Internal Evaluation (UNIT TEST-II) for Semester V/VII is scheduled from 25/10/2024 to 26/10/2024. Students should follow the below time table for CIE-II

CIE -II Time Table

Sr. No.	Day and Date	Time	Subject Name (Sem V)	Subject Name (Sem VII)
1	Friday 25/10/2024	10.00 AM to 11.00 AM	Water Resource Engineering-I	Design of Concrete Structures-I
2		12.30 PM to 01.30 PM	Design of Steel Structures	Earthquake Engineering
3		03.00 PM to 04.00 PM	Environmental Engineering-I	Quantity Survey and Valuation
4	Saturday 26/10/2024	10.00 AM to 11.00 AM	Geotechnical Engineering-I	Transportation Engineering-I
5		12.30 PM to 01.30 PM	Open Elective – I (Waste Management)	Professional Elective-I (Solid Waste Management)

Instructions:

1. You will get 60 minutes to complete the paper.
2. Be present in exam hall before 10 minutes of exam time.
3. Attendance is compulsory for all students.


23/10/24
IA Co-Ordinator


HOD



Dinkarrao K. Shinde Smarak Trusts

DR. A. D. SHINDE COLLEGE OF ENGINEERING.

Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502

Academic Year 2024-25

Department of Electrical Engineering



Date: 23/10/2024

Notice


All the Third-year and Final-year students are hereby informed that your Continuous Internal Evaluation (UNIT TEST-II) for Semester V/VII is scheduled from 25/10/2024 to 26/10/2024. Students should follow the below time table for CIE-II

CIE -II Time Table

Sr. No.	Day and Date	Time	Subject Name (Sem V)	Subject Name (Sem VII)
1	Friday 25/10/2024	10.00 AM to 11.00 AM	Digital Electronics And Micro Processor	Advance switch gear & protection
2		12.30 PM to 01.30 PM	Domestic /Industrial Electrical Installation, Estimation And Costing	Flexible AC transmission system
3		03.00 PM to 04.00 PM	AC Machines	Power quality & harmonics
4	Saturday 26/10/2024	10.00 AM to 11.00 AM	Power System-II	Electric vehicle
5		12.30 PM to 01.30 PM	Advanced Control System	Computer methods in power system
		03.00 PM to 04.00 PM	Signals & Systems	

Instructions:

1. You will get 60 minutes to complete the paper.
2. Be present in exam hall before 10 minutes of exam time.
3. Attendance is compulsory for all students.


IA Co-Ordinator


HOD



Dinkarrao K. Shinde Smarak Trusts

DR. A. D. SHINDE COLLEGE OF ENGINEERING.

Bhadgaon, Gadhinglaj, Dist: Kolhapur Pin:416502

Academic Year 2024-25

Department of Mechanical Engineering



Date: 23/10/2024

Notice

All the Third-year and Final-year students are hereby informed that your Continuous Internal Evaluation (UNIT TEST-II) for Semester V/VII is scheduled from 25/10/2024 to 26/10/2024. Students should follow the below time table for CIE-II

CIE -II Time Table

Sr. No.	Day and Date	Time	Subject Name (Sem V)	Subject Name (Sem VII)
1	Friday 25/10/2024	10.00 AM to 11.00 AM	Control Engineering	Refrigeration and Air Conditioning
2		12.30 PM to 01.30 PM	Theory of Machines – II	Mechanical System Design
3		03.00 PM to 04.00 PM	Heat and Mass Transfer	Finite Element Analysis
4	Saturday 26/10/2024	10.00 AM to 11.00 AM	Machine Design – I	Automobile Engineering
5		12.30 PM to 01.30 PM	Manufacturing Engineering	Total Quality Management
6		03.00 PM to 04.00 PM	Enterprise Resource Planning	-----

Instructions:

1. You will get 60 minutes to complete the paper.
2. Be present in exam hall before 10 minutes of exam time.
3. Attendance is compulsory for all students.


IA Co-Ordinator


HOD

Head of Department of Mechanical Engineering
Dr. A. D. Shinde College of Engineering
Bhadgaon, Gadhinglaj, Dist: Kolhapur



Dinkarrao K. Shinde Smarak Trusts

DR. A. D. SHINDE COLLEGE OF ENGINEERING.

Bhadgaon, Gadhinglaj, Dist: Kolhapur Pin:416502

Academic Year 2024-25

Department of Computer Science and Engineering



Date: 22/10/2024

Notice

All the Third year students are hereby informed that your continuous internal evaluation (UNIT TEST-II) for Semester V is scheduled from 25/10/2024 to 26/10/2024.

Students should follow the below time table for CIE-II


CIE -II Time Table

Sr. No.	Day and Date	Time	Subject Name (Sem V)
1	Friday 25/10/2024	10.00 AM to 11.00 AM	Information Security
2		12.30 PM to 01.30 PM	System Programming
3		03.00 PM to 04.00 PM	Object Oriented Modeling and Design
4	Saturday 26/10/2024	10.00 AM to 11.00 AM	Computer Algorithm
5		12.30 PM to 01.30 PM	Internet of Things

Instructions:

- 1.Be present in exam hall before 10 minutes of exam time.
- 2.Attendence is compulsory for all students for all the subjects..


IA Co-Ordinator


HOD
HOD
Computer Science & Engineering
Dr.A.D.Shinde College of Engineering
A/P.Bhadgaon,Tal.Gadhinglaj



Dinkarrao K. Shinde Smarak Trust's

Dr. A. D. Shinde College of Engineering

Guddai, Bhadgaon, Tal: - Gadhinglaj, Dist: -Kolhapur

Department of Electronics & Computer Science

Date:23/10/2024

All the Third-year students are here by informed that your Continuous Internal Evaluation (unit test-II) for semester V is scheduled from 25/10/2024 to 26/10/2024. The time table regarding exam as shown below.

CLASS TEST- II TIME TABLE

<u>Sr. No</u>	<u>Subject</u>	<u>Time</u>	<u>Day & Date</u>
1.	Signal & System	10.00AM to 11.00 AM	FRIDAY 25/10/2024
2.	Power Electronics	12.30PM to 1.30PM	
3.	Computer Organization & Architecture	03.00PM to 04.00 PM	
4.	Computer Network II	10.00AM to 11.00AM	SATURDAY 26/10/2024
5.	Sensor & Applications	12.30PM to 1.30PM	

INSTRUCTION:

1. Exam will be conducted in offline mode.
2. You will get 60-mins to complete the paper.
3. Be present in exam hall before 10 min. of exam time.
4. Attendance is compulsory for all students.


IA Co-Ordinator


HOD



Dinkarrao K. Shinde Smarak Trusts
DR. A. D. SHINDE COLLEGE OF ENGINEERING.
Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502
Academic Year 2024-25

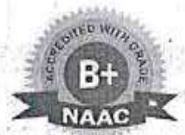


Even Semester

Unit Test Notice/Supervisor Details



Dinkarrao K. Shinde Smarak Trusts
DR.A. D. SHINDE COLLEGE OF ENGINEERING.
Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502
Academic Year 2024-25
Exam Section



Date: 12/02/2025

Notice

All the department HODs are hereby informed that the **Unit Test-I** for semester IV, VI & VIII is scheduled as per the academic calendar. Please find the details below.

Unit Test Details:

- Date of Examination: 21 Feb to 22 Feb, 2025
- Duration: 1 Hour
- Syllabus: First Three Units
- Type of Examination: Written

Instruction for the HODs:


1. Kindly ensure that the faculty members of your department are informed about the unit test schedule and are prepared for the test's smooth execution.

2. Please remind all students about the date, time & venue of their respective unit tests and encourage them to be punctual.

3. Herewith attached Unit Test time table & Paper format.

Should you require any further details or clarification, feel free to contact the undersigned.


Exam Controller


Principal


Academic Dean

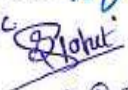

Principal

Dean Academic
Dr.A.D. Shinde College of Engineering
Bhadgaon, Tal. Gadhinglaj, Dist. Kolhapur


A.D. Shinde College of Engineering
Bhadgaon, Tal. Gadhinglaj, Dist. Kolhapur


CC To,

Mechanical Engg. Dept. 

Civil Engg. Dept. 

Electrical Engg. Dept. - 

Computer Science Engg. Dept. - 

Electronics & Comp. Sci. Engg. Dept. - 



Dinkarrao K. Shinde Smarak Trusts

DR. A. D. SHINDE COLLEGE OF ENGINEERING.

Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502

Academic Year 2024-25

Exam Section



Allotment of Supervision

Unit test-I is scheduled 21st to 22nd February 2025. Following faculties are appointed as supervisor for this examination. The supervision is allotted as per following table.

Sr.No.	Name of Faculty	Friday 21/02/2025			Saturday 22/02/2025			Sign
		M	A	E	M	A	E	
1	Mr.S.P.Bagadi	✓		✓	✓			
2	Mr.I.T.Patel		✓		✓		✓	
3	Mrs.P.T.Kokitkar	✓		✓		✓		
4	Mrs.K.K.Gurav	✓		✓		✓		
5	Mrs.P.S.Shiragavi		✓		✓	✓		
6	Mr.V.S.Patil	✓		✓		✓		
7	Mr.B.A.Angadi		✓	✓	✓			
8	Mr.A.S.Borgave	✓	✓			✓		
9	Mrs.H.S.Naikwadi		✓	✓	✓			
10	Miss.P.B.Jangali	✓	✓		✓			
11	Mrs.S.V.Solapure	✓			✓	✓		
12	Mr.I.M.Trasgar		✓	✓		✓		

Controller of Exam



Dinkarrao K. Shinde Smarak Trusts

DR. A. D. SHINDE COLLEGE OF ENGINEERING.

Bhadgaon, Gadhinglaj, Dist: Kolhapur Pin:416502

Academic Year 2024-25



Supervisor Report

Day/Date-Friday/21st February/2024

Class-SY/TY/Final Year B.Tech

Session – Morning

Sr.No	Name of Supervisor	Block No	Sign
1	A. S. Borgane	1	
2	V. S. Patel	2	
3	K. K. Guron	3	
4	P. T. Kokitakar	4	
5	G. R. Pujari	5	
6	S. P. Bagadi	6	
7	P. B. Jangali	7	

Session – Afternoon

Sr.No	Name of Supervisor	Block No	Sign
1	Basavaraj. A. Angadi	1	
2	A. S. Borgane	2	
3	Mr. I. T. Patel	3	
4	Mrs. P. S. Shiragavi	4	
5	Mr. I. M. Traigar	5	
6	Miss. P. B. Jangali	6	
7	Prof. H. S. Naikwadi	7	

Session – Evening

Sr.No	Name of Supervisor	Block No	Sign
1	Prof. K. K. Guron	1	
2	Prof. B. A. Angadi	2	
3	Prof. P. T. Kokitakar	3	
4	Prof. I. M. Traigar	4	
5	Prof. H. S. Naikwadi	5	
6	Prof. V. S. Patel	6	
7	Prof. S. P. Bagadi	7	



Dinkarrao K. Shinde Smarak Trusts

DR. A. D. SHINDE COLLEGE OF ENGINEERING.

Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502

Academic Year 2024-25



Supervisor Report

Day/Date-Saturday/22nd February 2024

Class-SY/FY/Final Year B.Tech

Session – Morning

Sr.No	Name of Supervisor	Block No	Sign
1	Prof. B. A. Anisadi	1	
2	Prof. P. S. Shiragavi	2	
3	Prof. K. T. Patel	3	
4	Prof. H. S. Naikwadi	4	
5	Prof. Patil V. S.	5	
6	Prof. Solapure, S. V	6	
7	Prof. S. P. Bagadi	7	

Session – Afternoon

Sr.No	Name of Supervisor	Block No	Sign
1	Prof. P. S. Shiragavi	1	
2	Prof. M. A. Nimbalkar	2	
3	Prof. A. S. Borgane	3	
4	Prof. P. B. Jangali	4	
5	Prof. S. V. Solapure	5	
6	Prof. I. M. Tringur	6	
7	Prof. P. T. Rokitakar	7	

Session – Evening

Sr.No	Name of Supervisor	Block No	Sign
1		1	
2		2	
3		3	
4		4	
5		5	
6	Mr. K. T. Patel	6	
7		7	



Dinkarrao K. Shinde Smarak Trusts

DR. A. D. SHINDE COLLEGE OF ENGINEERING.

Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin: 416502

Academic Year 2024-25

Department of Mechanical Engineering



Date: 13/02/2025

Notice

All the Second, Third and Final - year students are hereby informed that **UNIT TEST-I** for Semester IV, VI and VIII is scheduled from 21/02/2025 to 22/02/2025. So be prepared for the exam.

Students should follow the below time table.

Time Table

Sr. No.	Day/Date	Time	Name of the Subject		
			IV	VI	VIII
1	Friday 21/02/2025	10.30 AM- 11.30 AM	Applied Numerical Methods	Industrial Management and Operations Research	Mechatronics
2		1.00PM- 02.00PM	Analysis of Mechanical Elements	Industrial Fluid Power	Energy and Power Engineering
3		03.30 PM - 04.30 PM	Fluid and Turbo Machinery	Metrology and Quality Control	Noise and Vibration
1	Saturday 22/02/2025	10.30 AM- 11.30 AM	Theory of Machines – I	Machine Design – II	Industrial Engineering
2		1.00PM- 02.00PM	Machine Tools and Processes	Internal Combustion Engines	Industrial Automation & Robotics
3		03.30 PM - 04.30 PM	-----	Computer Aided Design and Manufacturing	-----

Instructions:

1. Student should take the CIE books required for unit test from the college office.
2. Be present in exam hall before 10 minutes of exam time.
3. Attendance is compulsory for all students

IA Co-Ordinator

Dept of Mechanical Engg
Dr. A. D. Shinde College of Engineering
Bhadgaon



Dinkarrao K. Shinde Smarak Trusts
DR. A. D. SHINDE COLLEGE OF ENGINEERING.
Bhadgaon, Gadhinglaj. Dist.: Kolhapur Pin:416502
Academic Year 2024-25
Department of Civil Engineering



Date: 18/02/2025

Notice

All the Second, Third and Final-year students are hereby informed that the **Unit Test-I** for Semester IV, VI and VIII is scheduled from 21/02/2025 to 22/02/2025. So be prepared for the exam.

Students should follow the below time table.

Time Table

Sr. No.	Day and Date	Time	Name of the Subject		
			IV	VII	VIII
1	Friday 21/02/2025	10.30 AM to 11.30 AM	Structural Mechanics	Theory of Structures	Design of Concrete Structures-II
2		01.00 PM to 02.00 PM	Surveying-II	Engineering Management	Water Resource Engineering-II
3		03.30 AM to 04.30 PM	Concrete Technology	Environmental Engineering-II	Transportation Engineering-II
4	Saturday 22/02/2025	10.30 AM to 11.30 AM	Fluid Mechanics-II	Geotechnical Engineering-II	Elective-II (Advance Foundation Engineering)
5		01.00 PM to 02.00 PM	Building Design and Drawing	Soil and Water Conservation Techniques	Elective-III (Advanced Construction Techniques)

Instructions:

- 1.Student should take the CIE books required for the unit test from the college office.
- 2.Be present in exam hall before 10 minutes of exam time.
- 3.Attendence is compulsory for all students for all subjects.


IA Co-Ordinator


HOD



Dinkarrao K. Shinde Smarak Trusts
DR. A. D. SHINDE COLLEGE OF ENGINEERING.
Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502
Academic Year 2024-25
Department of Electrical Engineering



Date: 17/02/2025

Notice

All the Second, Third and Final-year students are hereby informed that the **Unit Test-I** for Semester IV, VI and VIII is scheduled from 21/02/2025 to 22/02/2025.

Students should follow the below time table.

Time Table

Sr. No.	Day and Date	Time	Name of the Subject		
			IV	VII	VIII
1	Friday 21/02/2025	10.30 AM to 11.30 AM	Dc machine & Transformer	Electrical energy audit & energy conservation	Ad. Microcontroller
2		01.00 PM to 02.00 PM	Control System-1	Power system stability control	Electrical Generation Utilization & Traction
3		03.30 PM to 04.30 PM	Power System-1	Electric machine design	Extra High Voltage AC
4	Saturday 22/02/2025	10.30 AM to 11.30 AM	Power Electronics	Electrical Drives-1	Management Entrepreneurship & Development
5		01.00 PM to 02.00 PM	Electromagnet	Digital Signal Processing	High Voltage DC
6		03.30 PM to 04.30 PM		Ele. Installation , Testing & Maintenance	

Instructions:

1. Student should take the CIE books required for the unit test from the college office.
2. Be present in exam hall before 10 minutes of exam time.
3. Attendance is compulsory for all students for all subjects.

IA Co-Ordinator

HOD



Dinkarrao K. Shinde Smarak Trusts
DR. A. D. SHINDE COLLEGE OF ENGINEERING.
Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502
Academic Year 2024-25
Department of Electrical Engineering



Date: 17/02/2025

Notice

All the Second, Third and Final-year students are here by informed that the **Unit Test-I** for Semester IV, VI and VIII is scheduled from 21/02/2025 to 22/02/2025.

Students should follow the below time table.

Time Table

Sr. No.	Day and Date	Time	Name of the Subject		
			IV	VII	VIII
1	Friday 21/02/2025	10.30 AM to 11.30 AM	Dc machine & Transformer	Electrical energy audit & energy conservation	Ad. Microcontroller
2		01.00 PM to 02.00 PM	Control System-1	Power system stability control	Electrical Generation Utilization & Traction
3		03.30 PM to 04.30 PM	Power System-1	Electric machine design	Extra High Voltage AC
4	Saturday 22/02/2025	10.30 AM to 11.30 AM	Power Electronics	Electrical Drives-1	Management Entrepreneurship & Development
5		01.00 PM to 02.00 PM	Electromagnet	Digital Signal Processing	High Voltage DC
6		03.30 PM to 04.30 PM		Ele. Installation , Testing & Maintenance	

Instructions:

1. Student should take the CIE books required for the unit test from the college office.
2. Be present in exam hall before 10 minutes of exam time.
3. Attendance is compulsory for all students for all subjects.

IA Co-Ordinator

HOD



Dinkarrao K. Shinde Smarak Trusts
DR. A. D. SHINDE COLLEGE OF ENGINEERING.
Bhadgaon, Gadhinglaj, Dist: Kolhapur Pin:416502
Academic Year 2024-25
Department of Computer Science and Engineering



Date: 17/02/2025

Notice

All the Second and Third-year students are hereby informed that the **Unit Test-I** for Semester IV and VI is scheduled from 21/02/2025 to 22/02/2025. So be prepared for the exam.


Students should follow the below time table.

Time Table

Sr. No.	Day and Date	Time	Name of the Subject	
			IV	VI
1	Friday 21/02/2025	10.30 AM to 11.30 AM	Automata Theory	Compiler Construction
2		01.00 PM to 02.00 PM	Computer Networks - II	Operating System-II
3		03.30 AM to 04.30 PM	Computer Organization and Architecture	Database Engineering
4	Saturday 22/02/2025	10.30 AM to 11.30 AM	Operating Systems - I	Machine Learning
5		01.00 PM to 02.00 PM	Software Engineering	Cyber Security

Instructions:

1. Student should take the CIE books required for the unit test from the college office.
2. Be present in exam hall before 10 minutes of exam time.
3. Attendance is compulsory for all students for all subjects.


IA Co-Ordinator


HOD



Dinkarrao K. Shinde Smarak Trusts
DR. A. D. SHINDE COLLEGE OF ENGINEERING.
Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502
Academic Year 2024-25
Department of Electronics And Computer Science



Date: 15/02/2025

Notice

All the second and third-year students are hereby informed that the **Unit Test-I** for Semester IV and VI is scheduled from 21/02/2025 to 22/02/2025. So be prepared for the exam. Students should follow the below time table.

Time Table

Sr. No.	Day and Date	Time	Name of the Subject	
			IV	VI
1	Friday 21/02/2025	10.30 AM to 11.30 AM	Electronic Circuits	Digital Signal Processing
2		01.00 PM to 02.00 PM	Controls and Instrumentation	PLC & Automation
3		03.30 AM to 04.30 PM	Computer Network	Software Engineering
4	Saturday 22/02/2025	10.30 AM to 11.30 AM	Microprocessors and Microcontrollers	Python Programming
5		01.00 PM to 02.00 PM	Discrete Structure & Automata Theory	IOT

Instructions:

1. Student should take the CIE books required for the unit test from the college office.
2. Be present in exam hall before 10 minutes of exam time.
3. Attendance is compulsory for all students for all subjects.


IA Co-Ordinator


HOD



Dinkarrao K. Shinde Smarak Trusts
DR.A. D. SHINDE COLLEGE OF ENGINEERING.
Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502
Academic Year 2024-25
Exam Section



Date:17/03/2025

Notice

All the department HODs are hereby informed that the **Unit Test-II** for semester IV, VI & VIII and **Unit Test-I** for semester II is scheduled as per the academic calendar. Please find the details below.

Unit Test Details:

- Date of Examination: 28 March to 29 March, 2025
- Duration: 1 Hour

Instruction for the HODs:

1. Kindly ensure that the faculty members of your department are informed about the unit test schedule and are prepare for the test's smooth execution.
2. Please remind all students about the date, time & syllabus of their respective unit tests and encourage them to be punctual.
3. Herewith attached Unit Test time table & Paper format.

Should you require any further details or clarification, feel free to contact the undersigned.

Exam Controller

Academic Dean

Principal

PRINCIPAL

A.D. Shinde College of Engineering
Bhadgaon, Tal Gadhinglaj, Dist Kolhapur

CC To,

First Year Engg. Dept. -

Mechanical Engg. Dept. -

Civil Engg. Dept. -

Electrical Engg. Dept. -

Computer Science Engg. Dept. -

Electronics & Comp. Sci. Engg. Dept. -



Dinkarrao K. Shinde Smarak Trusts
DR. A. D. SHINDE COLLEGE OF ENGINEERING.
 Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502
Academic Year 2024-25
Exam Section



Allotment of Supervision

Unit test-II for sem II, VI, VIII & Mid sem Evaluation (First Year) is scheduled **28th to 29th March 2025**. Following faculties are appointed as supervisor for this examination. The supervision is allotted as per following table.

Sr.No.	Name of Faculty	Friday 28/03/2025			Saturday 29/03/2025			Tuesday 01/04/2025	Sign
		M	A	E	M	A	E	M	
1	Mr.A.S.Bhoi				✓	✓	✓		<i>[Signature]</i>
2	Mr.S.R.Wadagule				✓	✓	✓		<i>[Signature]</i>
3	Miss.R.V.Patil	✓	✓	✓			✓		<i>[Signature]</i>
4	Mrs.R.M.Jadhav				✓	✓	✓		<i>[Signature]</i>
5	Mrs.H.R.Patil				✓	✓	✓		<i>[Signature]</i>
6	Miss.S.T.Dundage				✓	✓	✓		<i>[Signature]</i>
7	Mrs.S.B.Jadhav							✓	<i>[Signature]</i>
8	Mr.A.A.Magdum							✓	<i>[Signature]</i>
9	Miss.S.R.Pujari	✓	✓	✓					<i>[Signature]</i>
10	Mrs.S.V.Solapure	✓	✓	✓					<i>[Signature]</i>
11	Mrs.S.B.Patil	✓	✓	✓					<i>[Signature]</i>
12	Mr.H.M.Patil	✓	✓	✓					<i>[Signature]</i>
13	Mr.S.S.Sakhare	✓	✓	✓					<i>[Signature]</i>
14	Mr.A.G.Kamble	✓	✓	✓					<i>[Signature]</i>
15	Miss.M.A.Nimbalkar	✓	✓	✓					<i>[Signature]</i>
16	Mrs.S.S.Bhoi				✓	✓	✓		<i>[Signature]</i>
17	Mr.I.M.Trasgar					✓			<i>[Signature]</i>
18	Mr.B.A.Angadi				✓				<i>[Signature]</i>
19	Mrs.P.T.Kokitkar					✓			<i>[Signature]</i>
20	Mrs.K.K.Gurav				✓				<i>[Signature]</i>

[Signature]
Controller of Exam



Dinkarrao K. Shinde Smarak Trusts

DR. A. D. SHINDE COLLEGE OF ENGINEERING.

Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502

Academic Year 2024-25**Supervisor Report****Day/Date-Friday/28th March 2025****Class-FY/SY/TY/Final Year B.Tech****Session – Morning**

Sr.No	Name of Supervisor	Block No	Sign
1	Mr. Kallage D.S.	1	
2	Ms. Patil A.R.	2	
3	Mr. Patil S.V.	3	
4	Mr. Maragudri B.M.	4	
5	Mr. Patil O.T.	5	
6	Mr. M. A. Nimbalkar	6	
7	Ms. S. R. Pujari	7	
8	Ms. R. V. Patil	8	

Session – Afternoon

Sr.No	Name of Supervisor	Block No	Sign
1	Mr. Patil O.T.	1	
2	Mr. S.V. Patil	2	
3	Ms. Patil A.R.	3	
4	Miss R.V. Patil	4	
5	Mr. Kallage D.S.	5	
6	Mr. S.B. Patil	6	
7	Ms. M. A. Nimbalkar	7	
8	Ms. S. R. Pujari	8	

Session – Evening

Sr.No	Name of Supervisor	Block No	Sign
1	Mr. Maragudri B.M.	1	
2	Mr. Jangale Y. G.	2	
3	Ms. S. R. Pujari	3	
4	Ms. S.V. Solapure	4	
5	Mr. S.V. Patil	5	
6	Mr. H.M. Patil	6	
7	Miss R.V. Patil	7	
8	Mr. D.S. Kallage	8	



Dinkarrao K. Shinde Smarak Trusts

DR. A. D. SHINDE COLLEGE OF ENGINEERING.

Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502

Academic Year 2024-25



Supervisor Report

Day/Date-Saturday/29th March 2025

Class-FY/SY/TY/Final Year B.Tech

Session – Morning

Sr.No	Name of Supervisor	Block No	Sign
1	Miss. K. K. Gurav	1	
2	Mr. A. S. Bhoi	2	
3	Mr. S. R. Wadagule	3	
4	Ms. H. R. Patil	4	
5	Miss. S. T. Dundage	5	
6	Mr. B. A. Angadi	6	
7	Mrs. Bhoi. S. S	7	
8	Mrs. R. M. Jadhav	8	

Session – Afternoon

Sr.No	Name of Supervisor	Block No	Sign
1	Miss H. R. Patil	1	
2	Miss. S. T. Dundage	2	
3	Mr. A. S. Bhoi	3	
4	Mr. S. R. Wadagule	4	
5	Mr. A. S. Bhoi	5	
6	Mr. I. M. Trasgar	6	
7	Mrs. R. M. Jadhav	7	
8	Mrs. Bhoi. S. S	8	

Session –Evening

Sr.No	Name of Supervisor	Block No	Sign
1	Mr. A. S. Bhoi	1	
2	Mrs. R. S. Bhoi	2	
3	Mrs. R. M. Jadhav	3	
4	Miss. R. V. Patil	4	
5	Mr. S. R. Wadagule	5	
6		6	
7		7	
8		8	



Dinkarrao K. Shinde Smarak Trusts
DR. A. D. SHINDE COLLEGE OF ENGINEERING.
Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502
Academic Year 2024-25



Supervisor Report

Day/Date-Tuesday/01st April 2025

Class-FY

Session – Morning

Sr.No	Name of Supervisor	Block No	Sign
1	A.A. Magadum	1	
2	S.B. Jadhav	2	



Dinkarrao K. Shinde Smarak Trusts
DR. A. D. SHINDE COLLEGE OF ENGINEERING.
Bhadgaon, Gadhinglaj. Dist.: Kolhapur Pin:416502
Academic Year 2024-25
Department of Civil Engineering



Date: 24/03/2025

Notice

All the Second, Third and Final-year students are hereby informed that the **Unit Test-II** for Semester IV, VI and VIII is scheduled from 28/03/2025 to 29/03/2025. So be prepared for the exam.

Students should follow the below time table.

Time Table

Sr. No.	Day and Date	Time	Name of the Subject		
			IV	VII	VIII
1	Friday 28/03/2025	10.30 AM to 11.30 AM	Structural Mechanics	Theory of Structures	Design of Concrete Structures-II
2		01.00 PM to 02.00 PM	Surveying-II	Engineering Management	Water Resource Engineering-II
3		03.30 AM to 04.30 PM	Concrete Technology	Environmental Engineering-II	Transportation Engineering-II
4	Saturday 29/03/2025	10.30 AM to 11.30 AM	Fluid Mechanics-II	Geotechnical Engineering-II	Elective-II (Advance Foundation Engineering)
5		01.00 PM to 02.00 PM	Building Design and Drawing	Soil and Water Conservation Techniques	Elective-III (Advanced Construction Techniques)

Instructions:

1. Student should take the CIE books required for the unit test from the college office.
2. Be present in exam hall before 10 minutes of exam time.
3. Attendance is compulsory for all students for all subjects.


IA Co-Ordinator


HOD



Dinkarrao K. Shinde Smarak Trusts
DR. A. D. SHINDE COLLEGE OF ENGINEERING.
Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502
Academic Year 2024-25
Department of Electrical Engineering



Date: 26/03/2025

Notice

All the Second, Third and Final-year students are here by informed that the **Unit Test-II** for Semester IV, VI and VIII is scheduled from 28/03/2025 to 29/03/2025.

Students should follow the below time table.

Time Table

Sr. No.	Day and Date	Time	Name of the Subject		
			IV	VII	VIII
1	Friday 28/03/2025	10.30 AM to 11.30 AM	Dc machine & Transformer	Electrical energy audit & energy conservation	Ad. Microcontroller
2		01.00 PM to 02.00 PM	Control System-1	Power system stability control	Electrical Generation Utilization &Traction
3		03.30 PM to 04.30 PM	Power System-1	Electric machine design	Extra High Voltage AC
4	Saturday 29/03/2025	10.30 AM to 11.30 AM	Power Electronics	Electrical Drives-1	Management Entrepreneurship & Development
5		01.00 PM to 02.00 PM	Electromagnet	Digital Signal Processing	High Voltage DC
6		03.30 PM to 04.30 PM	Environmental Studies	-	-

Instructions:

- 1.Student should take the CIE books required for the unit test from the college office.
- 2.Be present in exam hall before 10 minutes of exam time.
- 3.Attendence is compulsory for all students for all subjects.


IA Co-Ordinator


HOD



Dinkarrao K. Shinde Smarak Trusts

DR. A. D. SHINDE COLLEGE OF ENGINEERING.

Bhadgaon, Gadhinglaj, Dist: Kolhapur Pin: 416502

Academic Year 2024-25

Department of Mechanical Engineering



Date: 20/03/2025

Notice

All the Second, Third and Final - year students are hereby informed that **UNIT TEST-II** for Semester IV, VI and VIII is scheduled from 28/03/2025 to 29/03/2025. So be prepared for the exam.

Students should follow the below time table.

Time Table

Sr. No.	Day/Date	Time	Name of the Subject		
			IV	VI	VIII
1	Friday 28/03/2025	10.30 AM- 11.30 AM	Applied Numerical Methods	Industrial Management and Operations Research	Mechatronics
2		1.00PM- 02.00PM	Analysis of Mechanical Elements	Industrial Fluid Power	Energy and Power Engineering
3		03.30 PM - 04.30 PM	Fluid and Turbo Machinery	Metrology and Quality Control	Noise and Vibration
1	Saturday 29/03/2025	10.30 AM- 11.30 AM	Theory of Machines – I	Machine Design – II	Industrial Engineering
2		1.00PM- 02.00PM	Machine Tools and Processes	Internal Combustion Engines	Industrial Automation & Robotics
3		03.30 PM - 04.30 PM	Environmental studies	Computer Aided Design and Manufacturing	-----

Instructions:

1. Be present in exam hall before 10 minutes of exam time.
2. Attendance is compulsory for all students


IA Co-Ordinator


HOD

Dept. of Mechanical Engg.
Dr. A. D. Shinde College of Engg.
Bhadgaon, Tal. Gadhinglaj



Dinkarrao K. Shinde Smarak Trusts
DR. A. D. SHINDE COLLEGE OF ENGINEERING.
Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502
Academic Year 2024-25
Department of Computer Science and Engineering



Date: 25/03/2025

Notice

All the Second and Third-year students are here by informed that the **Unit Test-II** for Semester IV and VI is scheduled from 28/03/2025 to 29/03/2025. So be prepared for the exam.

Students should follow the below time table.


Time Table

Sr. No.	Day and Date	Time	Name of the Subject	
			IV	VI
1	Friday 28/03/2025	10.30 AM to 11.30 AM	Automata Theory	Compiler Construction
2		01.00 PM to 02.00 PM	Computer Networks - II	Operating System-II
3		03.30 AM to 04.30 PM	Computer Organization and Architecture	Database Engineering
4	Saturday 29/03/2025	10.30 AM to 11.30 AM	Operating Systems - I	Machine Learning
5		01.00 PM to 02.00 PM	Software Engineering	Cyber Security
6		03.30 AM to 04.30 PM	Environmental Studies	-

Instructions:

- 1.Student should take the CIE books required for the unit test from the college office.
- 2.Be present in exam hall before 10 minutes of exam time.
- 3.Attendence is compulsory for all students for all subjects.


IA Co-Ordinator


HOD
Computer Science & Engineering
Dr.A.D.Shinde College of Engineering
A/P.Bhadgaon,Tal.Gadhinglaj



Dinkarrao K. Shinde Smarak Trusts
DR. A. D. SHINDE COLLEGE OF ENGINEERING.
Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502
Academic Year 2024-25
Department of Electronics And Computer Science



Date: 22/03/2025

Notice

All the second and third-year students are hereby informed that the **Unit Test-II** for Semester IV and VI is scheduled from 28/03/2025 to 29/03/2025. So be prepared for the exam. Students should follow the below time table.

Time Table

Sr. No.	Day and Date	Time	Name of the Subject	
			IV	VI
1	Friday 28/03/2025	10.30 AM to 11.30 AM	Electronic Circuits	Digital Signal Processing
2		01.00 PM to 02.00 PM	Controls and Instrumentation	PLC & Automation
3		03.30 PM to 04.30 PM	Computer Network	Software Engineering
4	Saturday 29/03/2025	10.30 AM to 11.30 AM	Microprocessors and Microcontrollers	Python Programming
5		01.00 PM to 02.00 PM	Discrete Structure & Automata Theory	IOT
		03.30 PM to 04.30 PM	Environmental Studies	

Instructions:

1. Student should take the CIE books required for the unit test from the college office.
2. Be present in exam hall before 10 minutes of exam time.
3. Attendance is compulsory for all students for all subjects.


IA Co-Ordinator


HOD



Dinkarrao K. Shinde Smarak Trusts
DR. A. D. SHINDE COLLEGE OF ENGINEERING.
Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502
Academic Year 2024-25
Department of First Year Engineering



Date: 25/03/2025

Notice

All the First Year Students are here by informed that the **Mid Sem Evaluation** for Semester II is scheduled from 28/03/2025 to 01/04/2025. So be prepared for the exam. Students should follow the below time table.

Time Table

Sr. No.	Day and Date	Time	Name of the Subject	
			Chemistry Group	Physics Group
1	Friday 28/03/2025	10.30 AM to 11.30 AM	Engineering. Chemistry	Engineering Physics
2		01.00 PM to 02.00 PM	Engineering Mechanics	Basic Civil Engineering
3	Saturday 29/03/2025	10.30 AM to 11.30 AM	Engineering Mathematics-II	Engineering Mathematics-II
5		01.00 PM to 02.00 PM	Basic Electronics Engineering	Basic Electrical Engineering
6	Tuesday 01/04/25	10.30 AM to 11.30 AM	Basic Mechanical Engineering	Engineering Graphics

Instructions:

- 1.Student should take the CIE books required for the unit test from the college office.
- 2.Be present in exam hall before 10 minutes of exam time.
- 3.Attendence is compulsory for all students for all subjects.
4. For Engineering Graphics Bring A3 Sheet for Exam.


IA Co-Ordinator




HOD 25/03/25



Dinkarrao K. Shinde Smarak Trusts

DR. A. D. SHINDE COLLEGE OF ENGINEERING.

Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502

Academic Year 2024-25



Odd Semester

Unit Test

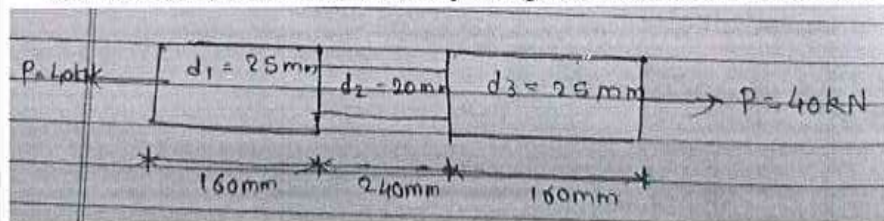
Question Papers



Dinkarrao K. Shinde Smarak Trusts
DR. A. D. SHINDE COLLEGE OF ENGINEERING
Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502
Academic Year 2024-25
Department of Civil Engineering



Unit Test-I

Subject: Strength of materials		Class/ Sem.: SY/III Sem		
Name of the faculty: Prof. S. R. Wadagule		Date: 12/11/2024		
Time: 03.30 PM to 04.30 PM		Total marks: 30		
Note.: Answer all the main questions.				
Q. No.	Description of the question	CO	BL	Marks
1	A. Define stress, strain and modulus of elasticity.	1	1	3M
	B. A bar of 25mm diameter is subjected to a pull of 40 KN. The measured extension on gauge length of 200mm is 0.085mm & change in diameter is 0.003mm. Calculate poisson's ratio & three values of the moduli. OR B. The bar shown in figure is tested in universal testing machine. It is observed that at a load of 40KN the total extension of a bar is 0.285mm. Determine young's modulus of material.	1	3	7M
				
2	A. Explain point of zero share force and point of contra flexure. A.	2	2	3M



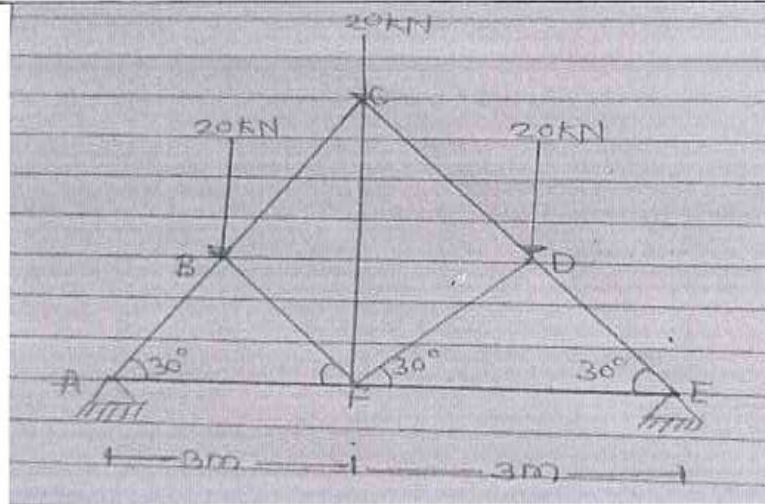
Dinkarrao K. Shinde Smarak Trusts

DR. A. D. SHINDE COLLEGE OF ENGINEERING

Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502

Academic Year 2024-25

Department of Civil Engineering





Dinkarrao K. Shinde Smarak Trusts
DR.A. D. SHINDE COLLEGE OF ENGINEERING.
Bhadgaon, Gadhinglaj, Dist: Kolhapur Pin:416502
Academic Year 2024-25
Department of Civil Engineering



Unit Test I

Subject: Fluid Mechanics- I	Class/ Sem.: SY/ III Sem
Name of the faculty: Prof.Vaibhavee V.Chougule	Date: 13/11/2024
Time: 10.30 AM -11.30 AM	Total marks: 30

Note.: Answer any two questions from each questions

Q. No.	Description of the question	CO	BL	Marks
1	A.State and explain any 5 physical properties of fluids	1	1	5M
	B.State and explain different types of fluids	1	1	5M
	C.Define surface tension and explain in detail	1	1	5M
2	A.State and explain different types of pressure measuring devices	1	1	5M
	B.State hydrostatic law and derive its expression	2	1	5M
	C.Explain different conditions of stability for submerged and floating bodies	2	2	5M
3	A.Define: i) Pathline ii) Stream line iii) Stream tube iv) Streak line What is the special feature of concept of stream tube	3	1	5M
	B.Derive a general equation for continuity for a 3-D flow in Cartesian coordinates for a steady incompressible flow	3	2	5M
	C.What is flow net? State its uses and limitations. Also explain methods of drawing a flownet	3	1	5M



Dinkarrao K. Shinde Smarak Trusts
DR. A. D. SHINDE COLLEGE OF ENGINEERING
Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502
Academic Year 2024-25
Department of Civil Engineering



Unit Test I

Subject: Building Construction and Material	Class/ Sem.: SecondYear/ III
Name of the faculty: Prof. Mr.R.V.Savyanavar	Date: 13/11/2024
Time: 01.00 PM to 02.00 PM	Total marks: 30

Note.: Answer any two questions from each question

Q. No.	Description of the question	CO	BL	Marks
1	A. What are the essential constituents of good brick earth? How is the quality of bricks affected by the excess of one or other of the constituents.	1	4	5
	B. What are the characteristics of good timber? What are the common uses of timber in building industry.	1	1	5
	C. Write a note of Seasoning of timber.	1	2	5
2	A. List out types of shallow foundations and write suitability of each foundation	2	1	5
	B. What is form work? What are the characteristics of good formwork.	2	1	5
	C. Write a note Pile Foundation.	2	2	5
3	A. Enlist different types of bonds in brick masonry. Draw neat sketch of any two bonds types.	3	1	5
	B. What are the factors to be considered for the selection of stone masonry.	3	4	5
	C. Write a note of Dressing of stone.	3	2	5



Dinkarrao K. Shinde Smarak Trusts
DR.A. D. SHINDE COLLEGE OF ENGINEERING.
Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502
Academic Year 2024-25
Department of Civil Engineering





Unit Test I

Subject: Surveying- I	Class/ Sem.: SY/ III Sem
Name of the faculty: Prof.Pooja Shirgavi	Date: 12/11/2024
Time: 10.00 PM -2.00 PM	Total marks: 30



Note.: Answer any two questions from each questions

Q. No.	Description of the question	CO	BL	Marks
1	A.Explain Factors affecting sensitivity of bubble	1	1	5M
	B.Define Contour line, contour interval, and horizontal equivalent.	1	1	5M
	Describe two peg method of permanent adjustment of dumpy level.	1	2	5M
2	A.Explain trapezoidal rule with neat sketch.	2	1	5M
	B. Explain Capacity contouring	2	1	5M
	C.Describe trapezoidal rule for volume calculation	2	2	5M
3	A.Explain principal of plane and accessories in plane table survey.	3	1	5M
	B. Explain Intersection Method of plane table survey.	3	1	5M
	C.Explain Traversing method of plane table survey	3	1	5M

	<p style="text-align: center;">Dinkarrao K. Shinde Smarak Trusts DR. A. D. SHINDE COLLEGE OF ENGINEERING. Bhadgaon, Gadhinglaj, Dist: Kolhapur Pin: 416502 Academic Year 2024-25 Department of Civil Engineering</p>	
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Unit Test I

Subject: Engineering Mathematics III		Class/ Sem.: SY/III Sem		
Name of the faculty: Prof. M. A. Bandi		Date: 12/11/2024		
Time: 10:30 to 11:30 am		Total marks: 30		
Note.: Answer any two questions from each question.				
Q. No.	Description of the question	CO	BL	Marks
1	A. Find Laplace transform of $t.e^t.\sin 4t$.	3	3	5M
	B. Find the inverse Laplace transform of $(2s^2-4) / (s+1)(s-2)(s-3)$	3	3	5M
	C. Solve $d^2y/dt^2 + 2dy/dt + 5y = e^t.\sin t$ with $y=0, dy/dt = 0$ at $t=0$	3	3	5M
	A. Find the directional derivative of $\phi = xy^2+yz^3$ at the point A (2, -1, 1) in the direction of vector $i+2j+2k$	4	3	5M
	B. A particle moves along the curve $x = e(-t), y = 2\cos 3t, z = 2\sin 3t$. Find the velocity and acceleration vectors and the magnitudes of it at $t = 0$.	4	3	5M
	C. If $\phi_1 = x+y+z, \phi_2 = x+y+z^2, \phi_3 = 2xz+2yz+z^3$, show that $\nabla \phi_1[\nabla \phi_2 \times \nabla \phi_3] = 0$	4	3	5M
2	A. Find the Fourier series expansion for $f(x) = x$ in $[-\pi, \pi]$.	5	3	5M
	B. Find half range sine series of $f(x) = (\pi-x)$ in $[0, \pi]$	5	3	5M
	C. Obtain half range Fourier cosine series for $f(x) = e^x$ in $(0, \pi)$.	5	3	5M

	<p style="text-align: center;">Dinkarrao K. Shinde Smarak Trusts</p> <p style="text-align: center;">DR. A. D. SHINDE COLLEGE OF ENGINEERING.</p> <p style="text-align: center;">Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502</p> <p style="text-align: center;">Academic Year 2024-25</p> <p style="text-align: center;">Department of Civil Engineering</p>	
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Unit Test-I

Subject: Water Resource Engineering-I		Class/ Sem.: TY/ V Sem		
Name of the faculty: Prof. S. R. Wadagule		Date: 09/09/2024		
Time: 11.00 AM to 12.00 PM		Total marks: 30		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. Explain "Hydrological cycle" with a neat sketch.	1	1 (2)	5M
	B. Enlist different recording types of rain gauges and explain any one type of rain gauge with a suitable sketch in brief.	1	2 (4)	5M
	C. Determine optimum number of rain gauges in catchment area from following data. • No. of existing rain gauge = 7 • Mean annual rainfall at the gauges are 1010, 980, 900, 870, 850, 800, 700 mm. • Permissible error = 8 %	1	3	5M
2	A. What is Infiltration? Explain factors affecting infiltration.	2	2 (2)	5M
	B. What are the methods to control evaporation?	2	2 (2)	5M
	C. Calculate ϕ index of a storm from the following data. Catchment area: 430 Sq Km Volume of Direct Runoff separating from Base flow= 10.75 mm ³ Time of Rainfall (hr): 12-15 15-18 18-21 21-24 24-30 Rainfall (CM) : 1.2 1.5 0.9 2.2 0.2	2	4 (3)	5M
3	A. Define and explain the term Unit Hydrograph, State Assumptions made during construction of Unit Hydrograph.	3	1 (2)	5M
	B. Write a short note on S-Curve Hydrograph.	3	2 (2)	5M
	C. Explain the term base flow and separation of base flow.	3	1 (2)	5M



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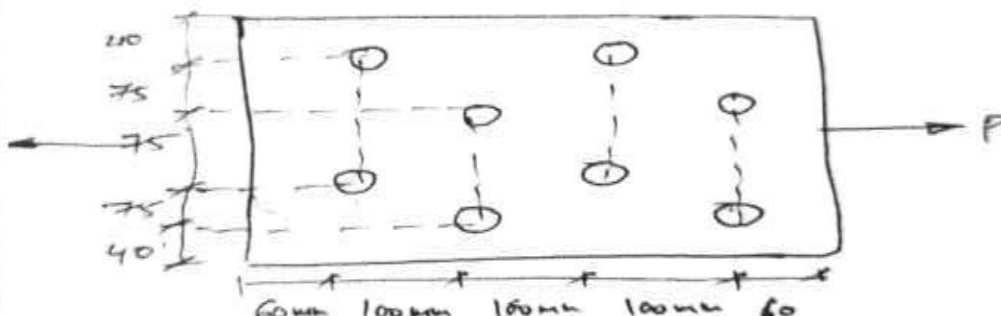
Unit Test I



Subject: Design of Steel Structures	Class/ Sem.: Third Year B. Tech/ V Sem
Name of the faculty: Mr. A.S.Madakari	Date: 09/09/2024
Time: 2.00pm – 3.00 pm	Total marks: 30

Note.: Answer any two questions from each questions ?



Q. No.	Description of the question	CO	BL	Marks
1A	An angle ISA 110mm X 110 mm X 80 mm carrying an axial load (tension) of 220 kN is connected to a gusset plate of 12 mm thick by a lap joint using side and end fillet weld. Design the fillet weld. take ultimate shear stress in the weld as 330 N/mm^2 . Diagram to be self assessed.	1	6	10M

OR

1B	<p>Determine the strength & efficiency of the lap joint. The two plates to be joined are 10 mm & 16 mm thick of bolt 4.6 grade.</p> 	1	3	10M
2A	<p>Design a single angle tension member with bolted connection if the factored load is 180 kN and the length of the tension member is 2.5 m. Use steel of grade Fe410 and M18 bolts of grade 4.6. assume length of the member to be effective length.</p>	2	6	10M

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OR				
2B	A tension member of 0.95 m long is to resist a unfactored service dead load of 20 KN and a service live load of 60 kN. Design a rectangular bar of standard structural steel of grade E250. Assume that the members is connected by one line of 16 mm dia bolts of grade 4.6	2	6	10M
3A	<u>Determine the design axial load on the column section ISMB 400, given that the height of the column is 3.5 m. and that it is pin ended. Also assume $f_y = 20$ MPa, $f_u = 410$ MPa & $E = 2 \times 10^5$ Mpa</u>	3	3	10M
OR				
3B	An ISA 150*150*12 mm used as a strut has the effective length as 3m. Calculate the strength when it is connected by a) One bolt at each end--- fixed b) Two bolts at each end--- fixed c) Welded at each end	3	4	10M



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Unit Test - I

Subject: Environmental Engineering - I	Class/Sem.: TY/V Sem
Name of the Faculty: Prof. Vinayak S. Patil	Date: 10/09/2024
Time: 10.30 AM to 11.30 AM	Total Marks: 30

Note: Answer any Two Questions from each Question

Q. No.	Description of the Question	CO	BL	Mark
1	A. What is per capita demand of water? How it is determined?	1	1	5M
	B. Draw a neat sketch of intake works and explain function of each.	1	2	5M
	C. Explain factors affecting water demand.	1	2	5M
2	A. Explain the methods of destabilization of colloidal particles.	2	2	5M
	B. Explain the principle and working of Tube settler.	2	2	5M
	C. Design a cascade aerator for treating flow of 10 MLD. X	2	6	5M
3	A. Explain the difference between slow and rapid sand filter.	3	2	5M
	B. Draw a flow diagram of a typical surface water treatment plant and explain the Functions of each unit.	3	2	5M
	C. Write a short note on - a) Break point chlorination b) Reverse Osmosis	3	6	5M



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Unit Test - I



Subject: Geotechnical Engineering - I	Class/Sem.: TY/V Sem
Name of the Faculty: Prof Priyanka R.Telvekar	Date: 10/09/2024
Time: 2.00 PM to 3.00 PM	Total Marks: 30

Note: Answer any Two Questions from each Question

Q. No.	Description of the Question	CO	BL	Marks
1	A). Explain With Sketch Phase Diagrams For the partially saturated soil and dry soil.	1	4 (2)	5M
	B). Determine the degree of saturation and porosity of 18kN/m^3 and water content of 18%. If the soil gets saturated, calculate the saturated unit weight content of soil before and after saturation ?Take $G=2.62$	1	4 (2)	5M
	C). Explain Plasticity chart with sketch. What is the use of it in I.S. classification of soil?	1	2 ✓	5M
2	A). State Darcy's Low and explain regarding its validity.	2	2 (1)	5M
	B). In a constant head permeability test, a cylindrical sample of 100mm in diameter and 150mm in height is subjected to an upward flow of 540ml/min. The head loss over the length of the sample is measured to be 360mm. calculate the coefficient of permeability in m/sec.	2	4 ✓	5M
	C). Explain falling head laboratory test for determination of permeability.	2	4 (2)	5M
3	A). Differentiate between compaction and consolidation.	3	4 (2)	5M
	B). Differentiate between standard proctor test and modified proctor test	3	4 (2)	5M
	C). A laboratory compaction test on soil having $G=2.67$ gave a MDD of 17kN/m^3 and water content of 17%. Determine the	3	4 (3)	5M

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	<p>degree of saturation, air content and percentage of air voids at the maximum dry density.</p>			
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Unit Test-I

Subject: Waste Management	Class/ Sem.: TY/ V Sem
Name of the faculty: Prof.R.V.Savyanavar	Date: 11/09/2024
Time: 11.00 AM to 12.00 PM	Total marks: 30

Note.: Answer any two questions from each questions

Q. No.	Description of the question	CO	BL	Mark
1	A. Write down the properties of waste in details.	1	1	5M
	B. Explain the Various act & rules for waste in India.	1	(3)	2.5M
	C. Define waste. Explain the different sources of waste	1	1	5M
2	A. Describe water quality standard in details.	2	2	5M
	B. Explain Advanced Water Waste treatments-Reverse Osmosis in details.	2	2	5M
	C. What is importance of the wastewater treatment plant?	2	1	5M
3	A. Define Neutralization Process.	5	1	5M
	B. Explain in details flow diagram of textile industry treatment plant.	5	(4)	5M
	C. What is importance of Industrial waste water treatment plant?	5	1	5M



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Unit Test I

Subject: Design Of Concrete Structure-I	Class/ Sem.: Final (B.Tech)/ VII Sem
Name of the faculty: Prof Pooja S. Shirgavi	Date: 09/09/2024
Time: 11.00 am – 12:00 pm	Total marks: 30

Note.: Attempt any two sub questions from each main question

Q. No.	Description of the question	CO	BL	Mark
1.	a) Explain the i) Characteristic Strength ii) Partial Safety Factors. What are the provisional sums & provisional quantities?	1	2	5M
	b) Find the moment of resistance of Rectangular RCC Beam Of size 250mm Wide & 450mm deep to the center of tensile Reinforcement it is reinforced with 2 bars of 16mm ϕ as compression reinforcement at a effective cover of 50mm & 4 bars of 25mm ϕ as tensile steel. Use mild steel bars & M15 Concrete.	1	6	5M
	c) What do you understand by "Limit state"? What are the different limit states to be accounted in design of RC structures?	1	1	5M
2.	a) Find <u>$X_{u,max}$, $P_{t,max}$ and $M_{u,lim}$</u> for Fe250 steel and M20 concrete	2	6	5M
	b) A rectangular Section of effective size 300mm x 500mm is used as a simply supported beam for effective span 7m. What maximum UDL can be allowed on the beam, if the maximum percentage of steel is provided only on tension side? Use M20 & Fe415 Steel. Determine the amount to be provided.	2	6	5M
	c) Explain the various modes of failure in RC beam.	2	2	5M
3.	a) Compare Working stress method and Limit state method of design.	3	4	5M
	b) A singly RCC beam has an effective dimension of 230mm X 450mm. It is reinforced with 4-20mm dia. Find out moment of resistance of beam. Consider concrete of grade M20 and HYSD steel reinforcement of Fe415 grade.	3	6	5M
	c) Explain the following i. Under reinforced section ii. Over reinforced section.	3	2	5M



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Unit Test I

Subject: Earthquake Engg	Class/ Sem.: Final (B.Tech)/ VII Sem
Name of the faculty: Mr. Amit S Madakari	Date: 09/09/2024
Time: 2.00 pm — 3.00 pm	Total marks: 30

Note.: Answer any two questions from each questions

Q. No.	Description of the question	CO	BL	Marks
1	a) Explain Plate tectonic theory with neat sketch.	1	2	5M
	b) Explain Seismic waves with Schematic Diagram		2	5M
	c) Write a short note on methods of measurement of earthquake.		2	5M
2	a) Derive the equation for logarithmic decrement.	2	2	5M
	b) Explain the phenomenon of resonance		2	5M
	c) A spring mass (k_1 , m_1) system has a natural frequency f_1 . calculate the value of stiffness of other spring which when connected to k_1 in series decreases the frequency by 50%.		2	5M
	d) Derive the equation for undamped free vibration for SDOF		(4)	5M
3	a) A four storied square RC framed residential building as shown in fig 1 with live load <u>4kN/m²</u> is to be constructed on hard strata in zone V. determine the seismic forces on the structure by seismic coefficient method using IS 1893 Part 1. all beams and columns sizes are <u>300mm X 450 mm</u> . thickness of roof and floor slab 120 mm. wall is 230 mm thick all round. height of floor is 3m. density of concrete is <u>25kN/m³</u> and masonry <u>20kN/m³</u> . Assume 5 % damping	3	6	10M



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Unit Test

Subject: Quantity Survey & Valuation	Class/ Sem.: Final (B.Tech)/ VII Sem
Name of the faculty: Mr. Parag Dawane	Date: 11/09/2024
Time: 11.00 am - <u>12 noon</u>	Total marks: 30

Note.: Answer any two questions from each questions

Q. No.	Description of the question	CO	BL	Marks
1	a) Explain in detail type of Estimate	1	③	5M
	b) What are the provisional sums & provisional quantities.		③	5M
	c) Enumerate the principles involved in measurement of items		③	5M
2	a) Explain Administrative Approval & Technical sanction	2	1	5M
	b) Define Specification & Explain in details type of specification		1	5M
	c) What are the principle in selecting the unit of measurement? write mode of measurement of any six civil engineering items.		2	5M
3	a) Analysis Rate for PCC (1:4:8) in foundation take volume of concrete 10 m ³ .	3	6	5M
	b) Write a short note on Response spectrum analysis and tripartite plot.	3	3	5M
	c)) Explain the point of difference between Short & Long wall method of quantity take off.	3	3	5M

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Unit Test I

Subject: Transportation Engineering-I		Class/ Sem.: Final Year/ VII Sem		
Name of the faculty: Prof.R.V.Savyanavar		Date: 10/09/2024		
Time: 02.00 PM to 03.00 PM		Total marks: 30		
Note.: Answer any two questions from each question.				
Q. No.	Description of the question	CO	BL	Mark
1	A. Explain the requirement of an ideal highway alignment.	1	2	5M
	B. Explain in brief NHAI & MSRDC	1	2	5M
	C. Explain the classification of roads as per Lucknow Road Plan.	1	2	5M
2	A. Explain ‘Camber’ and state IRC recommendations for camber.	2	2	5M
	B. Calculate extra widening required for a pavement width 7m on a horizontal curve of radius 300m, if the longest wheel base of vehicle expected is 7m. Design speed is 60Kmph.	2	6	5M
	C. Explain the necessity of widening of pavements on curve with sketch	2	3	5M
3	A. Enlist various teste on bitumen and explain one in detail.	4	5	5M
	B. Distinguish between rigid and flexible pavement.	4	4	5M
	C. Write a note on stresses in rigid pavement.	4	2	5M



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Unit Test I

Subject: Solid Waste Management	Class/ Sem.: BE/ VII Sem
Name of the faculty: Prof.Vaibhavee V.Chougule	Date: 2
Time: 1	Total marks: 30

Note.: Answer any two questions from each questions


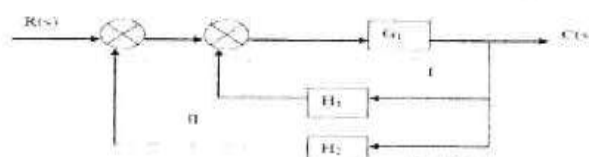
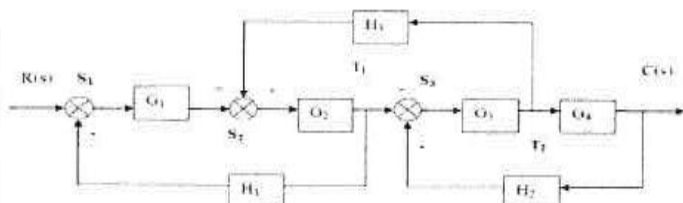
Q. No.	Description of the question	CO	BL	Marks
1	A.What are the different types and sources of Solid Waste? Explain.	1	1	5M
	B.With help of the flow diagram, explain the functional elements of MSW management.	1	1	5M
	C.Explain segregation of Biomedical waste in detail.	1	2	5M
2	A.Explain on site handling, sorting, storage and processing of MSW.	2	2	5M
	B.Explain the different collection route methods.	2	2	5M
	C. List and explain the factors affecting MSW generation rate?	2	1	5M
3	A.Define Transfer station and explain its necessity.	3	1	5M
	B.Explain different factors considering while planning & designing of Transfer station	3	2	5M
	C.List the different collection vehicles with their suitability.	3	1	5M



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Unit Test I

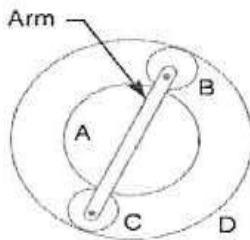
Subject: Control Engineering		Class/ Sem.: TY/ VII Sem		
Name of the faculty: Mr.		Date:09/09/2024		
Time: 11.00 AM to 12.00 PM		Total marks: 30		
Note.: Answer any two questions from each questions				
Q. No.	Description of the question	CO	BL	Marks
1	1. Explain Force Current analogy	1	2	5M
	2. Show that two systems are analogous by comparing their transfer functions 	1	3	5M
	3. Write difference between Open loop and closed loop control system.	1	2	5M
2	1. Explain The Block Diagram Reduction Rule.	2	2	5M
	2. Using block diagram reduction techniques find $C(s) / R(s)$ as in figure below 	2	3	5M
	3. Determine the transfer function $C(s) / R(s)$ of the system shown in Figure below by block diagram reduction method. 	2	3	5M
3	1. Explain Concept of Poles and Zeros in Transfer Function ?	3	2	5M
	2. Define Damping Ratio and Natural Frequency?	3	1	5M
	3. Explain First and Second Order in Response of systems?	3	2	5M



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Unit Test I

Subject: TOM-II		Class / Sem.: TY/ V Sem		
Name of the faculty: Mr.G.M.KUMBAR		Date: 09/09/2024		
Time: 2.00 PM to 3.00 PM		Total marks: 30		
Note.: Answer any two questions from each questions				
Q. No.	Description of the question	CO	BL	Marks
1	a) Define gear Drive? Give Advantages and Dis-advantages of gear drive?	1	2	5M
	b) Derive Law of Gearing?	1	6	5M
	c) A pinion having 30 teeth drives a gear having 80 teeth. The profile of the gears is involute with 20° pressure angle, 12 mm module and 10 mm addendum. Find the length of path of contact, arc of contact and the contact ratio.	1	2	5M
2	a) Define gear train? Derive Simple gear train?	2	2	5M
	b) Explain Compound Epicyclic Gear Train—Sun and Planet Gear?	2	3	5M
	c) An epicyclic train of gears is arranged as shown in Fig. How many revolutions does the arm, to which the pinions B and C are attached, make : 1. when A makes one revolution clockwise and D makes half a revolution anticlockwise, and 2. when A makes one revolution clockwise and D is stationary ? The number of teeth on the gears A and D are 40 and 90 respectively. 	2	3	5M
3	a) Define 1) active force. 2) reactive force. 3) axis of precession. 4) plane of spinning.5) gyroscope.	3	1	5M
	b) Derive Precessional Angular Motion?	3	6	5M
	c) Explain Gyroscopic Couple?	3	2	5M

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Unit Test I

Subject: Heat and Mass Transfer	Class/ Sem.: TE / V Sem
Name of the faculty: Dr. D V Ghewade	Date: 10/09/2024
Time: 2.00PM to 3.00PM	Total marks: 30

Note: Answer any two sub questions from each questions.

Q. No.	Description of the Question	CO	BL	Marks
1.	A. Define Thermal Conductivity and describe it with respect to solids, liquids and gases	1	2	5M
	B. The 20 mm thick furnace wall made up of steel ($k=48 \text{ W/mK}$) is covered outside with 50 mm brick wall ($k=0.04 \text{ W/mK}$). The temperature inside the furnace is 450°C with inside heat transfer coefficient of $24 \text{ W/m}^2\text{K}$. The outside heat transfer coefficient is $4 \text{ W/m}^2\text{K}$ with ambient temperature of 25°C . Determine the rate of heat transfer per unit area to surroundings.	1	3	5M
	C. Steam at 150°C is being transported to process equipment through 8 mm thick steel ($k=48 \text{ W/mK}$) pipe of diameter 200 mm is insulated with polythelene ($k=0.02 \text{ W/mK}$) and outer diameter of insulation is 300 mm. The outside heat transfer coefficient is $12 \text{ W/m}^2\text{K}$. The heat transfer coefficient inside the pipe is $24 \text{ W/m}^2\text{K}$. What is heat transfer rate per unit length of pipe.	1	3	5M
2.	A. The electric conductor ($k=380 \text{ W/mK}$) with 100 ohm resistance is carrying current of 5 Amp under 240 volt condition. It is to be insulated ($k=0.06 \text{ W/mK}$) to transfer max heat generated in it due to I^2R losses. What shall be the radius of insulation? The heat transfer coefficient between insulation cover and surroundings is $8 \text{ W/m}^2\text{K}$	2	3	5M
	B. Derive the equation for temperature distribution in a plane wall with heat generation. Write the assumptions made.	2	3	5M
	C. Define diffusivity, fin effectiveness and fin efficiency	2	2	5M
3	A. A rectangular fin is attached to the wall surface at temperature 150°C . Fin thickness is 6 mm, length 40 mm and width 30 mm. The heat transfer coefficient between fin surface and surroundings is $23 \text{ W/m}^2\text{K}$ and the	3	3	5M



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	conductivity of fin material is 240 W/mK. The surrounding temperature is 40 °C. Determine the rate of heat transfer from fin.(assume adiabatic tip)			
B.	8 pin fins are attached to the wall surface at temperature 200 °C . Fin diameter is 6 mm, length 40 mm. The heat transfer coefficient between fin surface and surroundings is 14 W/m ² K and the conductivity of fin material is 225 W/mK. The surrounding temperature is 30 °C. Determine fin efficiency	3	3	5M
C.	A copper ball of diameter 100 mm is heated in a oven to 250 °C and is annealed in ambient conditions of 25 °C. The properties of Cu are k= 380 W/mK, density = 600 kg/m ³ , Sp Heat Capacity= 2.35 kJ/kg K. The heat transfer coefficient with surroundings is 10 W/m ² K. Determine the time required to cool the copper ball to 50 °C.	3	3	5M



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Unit Test I

Subject: Machine Design - I		Class/ Sem.: TY/ V Sem		
Name of the faculty: Mr. Aniruddha S. Bhoi		Date:10/09/2024		
Time: 02.00 PM to 03.00 PM		Total marks: 30		
Note.: Answer any two questions from each questions				
Q. No.	Description of the question	CO	BL	Marks
1	1. Explain the various factors which are consider for design of machine.	1	2	5M
	2. Write a note on factor of safety.	1	1	5M
	3. What are the types of theories of failure ? Explain maximum principle stress theory	1	2	5M
2	1. Explain design procedure for knuckle joint	2	2	5M
	2. Write a note on power screw and explain Trapezoidal and ACME Threads.	2	2	5M
	3. The nominal diameter of a triple threaded screw is 50 mm. While the pitch is 8 mm. It is used with a collar having an outer diameter of 100 mm and inner diameter of 65 mm. The coefficient of friction at the threaded surface as well as at the collar surface can be taken as 0.15. The screw is used to raise a load of 15KN. Using the uniform wear theory for collar friction. Calculate 1. Torque required to raise the load. 2. Torque required to lower the load 3. The force required to raise the load, if applied at radius of 500 mm.	2	3	5M
3	1. Explain the ACME code of shaft design.	3	2	5M
	2. Explain the design procedure for square and flat key.	3	2	5M
	3. The standard cross section for a flat key which is fitted on a 50 mm diameter shaft is 16 X 10 mm. The key is transmitting 475 N-m torque from the shaft to the hub. The key is made of commercial steel ($S_{yt} = S_{yc} = 230 \text{ N/mm}^2$). Determine the length of key if the factor of safety is '3' .	3	3	5M

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Unit Test I

Subject: Manufacturing Engineering		Class/ Sem.: TY/ V th Sem		
Name of the faculty: Mr. I. T. Patel		Date: 11/09/2024		
Time: 11.00 AM to 12.00 PM		Total marks: 30		
Note: Answer any two sub questions from each main question.				
Q. No.	Description of the question	CO	BL	Marks
1	A. Compare orthogonal cutting with oblique cutting	1	4	5M
	B. Describe cutting speed, feed, and depth of cut involved in conventional metal cutting operation.	1	4	5M
	C. Explain force measurement by Lathe tool dynamometer.	1	2	5M
2	A. Describe factors affecting tool life.	2	2	5M
	B. A 60 mm diameter bar was machined at 280 rpm; tool life observed was 15 minutes Speed was changed to 240 rpm, tool life observed was 30 minutes, find cutting Speed for 20 minutes tool life.	2	6	5M
	C. Tool life equation is $VT^n = C$, if $n= 0.2$ and $C= 100$, calculate cutting Speed that will give 75 minutes tool life.	2	2	5M
3	A. Write in brief important properties of tool material.	3	3	5M
	B. Draw a neat sketch of single point cutting tool and describe various angle provided on single point tool.	3	2	5M
	C. Explain tool geometry of milling cutter with neat sketch.	3	2	5M

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Unit Test I

Subject: Enterprise Resource Planning		Class/ Sem.: TE / V Sem		
Name of the faculty: Dr. Sachin A Mehta		Date: 11/09/2024		
Time: 2.00PM to 3.00PM		Total marks: 30		
Note: Answer any two sub questions from each questions.				
Q. No.	Description of the question	CO	BL	Marks
1.	A. Define Enterprise. Explain difference between Modern and traditional approaches regarding enterprises.	1	1,2	5M
	B. What are the benefits to an industry resulting from ERP implementation?	1	2	5M
	C. What are the reasons for growth of ERP market?	1	2	5M
2.	A. Discuss in brief the significance of related technologies like Data warehousing, OLAP & BPR.	2	1,2	5M
	B. What is EIS (Executive Information System)? Discuss how it supports decisions at executive level?	2	1,2	5M
	C. Explain in brief Customer relationship management (CRM)	2	2	5M
3	A. What is CIM & what are the results of CIM?	3	1,2	5M
	B. Explain BOM with an example.	3	1,2	5M
	C. Explain PDM, list the benefits of PDM.	3	1,2	5M

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Unit Test I

Subject: Refrigeration & Air Conditining		Class/ Sem.: FINAL YEAR/ VII Sem		
Name of the faculty: Mr. Shripad P.Bagadi		Date:09/09/2024		
Time: 11.00 AM to 12.00 PM		Total marks: 30		
Note.: Answer any two questions from each questions				
Q. No.	Description of the question	CO	BL	Marks
1	1. Explain BEE star label rating & COP of the refrigerator?	1	2	5M
	2.Explain reversed Brayton cycle for air refrigeration device and expression for COP and represent on T-S plot?	1	2	5M
	3.Explain air refrigeration systems? List the advantages of air refrigeration Systems?	1	2	5M
2	1.Explain with neat sketch Simple Vapour compression cycle.	2	2	5M
	2.Draw cascade system on p-H and T-S plots with schematic diagram , Explain the System and write the expression for COP.	2	4	5M
	3.Explain in detail the methods of improving performance of a vapour compression refrigeration with help of P-H diagram.	2	2	5M
3	1.Define and explain primary and secondary refrigerants..	2	1	5M
	2.Describe the working of evaporative condenser with a neat sketch?	2	1	5M
	3. Write note on Ice plant	2	2	5M

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Unit Test I

Subject: Mechanical System Design		Class / Sem : Final Year / VII Sem		
Name of the faculty: Mr.G.M.KUMBAR		Date: 09/09/2024		
Time: 2.00 PM to 3.00 PM		Total marks: 30		
Note.: Answer any two questions from each questions				
Q. No.	Description of the question	CO	BL	Marks
1	a) Define Aesthetic And Ergonomics? Explain both with 1 Example?	1	2	5M
	b) Explain Communication between Man (user) and machine with Figure?	1	3	5M
	c) Explain Types of Design of Displays?	1	2	5M
2	a) Define Pressure Vessel? Explain Classification Of Pressure Vessel?	2	2	5M
	b) Derive Lames Equation?	2	4	5M
	c) Cylindrical pressure vessel shell of inside diameter 1500mm is subjected to an internal pressure of 2MPa.the shell as well as the heads are made of low alloy steel with Sut = 450 M Pa. Double welded butt joint which are spot radiographed are used to fabricate the vessel ,corrosion allowance is 3mm. Determine the thickness of cylinder shell and head, if the heads are . 1) flat 2)Plain formed 3)Tori spherical with crown radius of 1125mm. 4) conical with Semi cone angle 30 degree.	2	6	5M
3	a)_Define Gear Box? Explain Purpose of Gear Box?	4	1	5M
	b) Draw Structural Diagram For the below Structural Formula a) 2(1) 3(2) 2(6) b) 2(1) 3(4) 2(2) c) 2(3) 3(1) 2(6) d) 2(6) 3(1) 2(3) e) 2(2) 3(4) 2(1)	4	2	5M
	C) Draw Symmetric Structural Diagram For the below Structural Formula and identify the optimum Structural Diagram giving justification a) 2(1) 2(2) 3(4) b) 2(1) 2(6) 3(2) c) 2(2) 2(1) 3(4)	4	2	5M



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Unit Test I

Subject: Finite Element Analysis		Class/ Sem.: BE/ VII Sem		
Name of the faculty: Prof. Kishor S. Joshi		Date: 10/09/2024		
Time: 7		Total marks: 30		
Note.: Answer any one from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. Discuss the general steps of finite element analysis. B. Define Nodes, Elements and explain Discretization.	1	3	10M
2	A. Consider a bar as shown in fig. an axial load of 200Knis applied at point P. take $A_I=2400\text{mm}^2$, $E_I=70 \times 10^9 \text{ N/m}^2$. Calculate the following; (i) The nodal displacement at point,P (ii) Stress in each material. (iii) Reaction force. OR B. A thin steel plate of uniform thickness 25mm is subjected to a post load of 420N at mid depth as shown in fig. the plate is also subjected to self-weight. Young's modulus, $E=2 \times 10^5 \text{ N/mm}^2$. And unit weight density, $\rho=0.8 \times 10^{-4} \text{ N/mm}^2$. Calculate the following. (i) Displacement at each nodal point. (ii) Stresses in each element.	2	3	10M
3	A. Derive the stiffness matrix [K] for a truss element OR B. Consider a four-bar truss as shown in fig. it is given that $E=2 \times 10^5 \text{ N/mm}^2$ and $A_e=625\text{mm}^2$ for all elements. (i) Determine the element stiffness matrix for each element. (ii) Assemble the structural stiffness matrix K for the entire truss. (iii) Solve for the nodal displacement.	5	3	10 M

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Unit Test I

Subject: Automobile Engineering		Class/ Sem.: Final Year / VII Sem		
Name of the faculty: Mr. Aniruddha S. Bhoi		Date:10/09/2024		
Time: 02.00 PM to 03.00 PM		Total marks: 30		
Note.: Answer any two questions from each questions				
Q. No.	Description of the question	CO	BL	Marks
1	1. Briefly explain main components of Automobile.	1	2	5M
	2. Explain and draw the layout of the transmission system of a four wheel driven automobile.	1	1	5M
	3. Write the short note on general classification of automobile.	1	2	5M
2	1. Draw and explain single plate clutch.	2	2	5M
	2. Draw and explain sliding mesh type gear box.	2	2	5M
	3. Write a note on torque converter.	2	3	5M
3	1. Draw and explain steering geometry.	3	2	5M
	1. Write a note on combined angle and scrub radius.	3	2	5M
	2. Draw and explain steering mechanism.	3	3	5M



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Unit Test I

Subject: Total Quality Management	Class/ Sem.: BE/ VII Sem
Name of the faculty: Dr. Sachin A Mehta	Date: 11/09/2024
Time: 11.00AM to 12.00PM	Total marks: 30

Note: Answer any two sub questions from each question.

Q. No.	Description of the question	CO	BL	Marks
1.	A. How process approach leads to QA and Quality Management	1	2	5M
	B. Why internal customer consideration is important for any organization? What do they expect?	1	2	5M
	C. Explain the defect prevention program for Quality Assurance.	1	2	5M
2	A. Describe in brief any five QC tools used in problem solving process.	2	2	5M
	B. Briefly explain Process capability, Process capability index, process performance & process performance index.	2	2	5M
	C. Explain in brief Affinity diagram, Relationship diagram.	2	2	5M
3	A. Explain accelerated life testing for reliability. What are its limitations?	3	2	5M
	B. Explain FEMA technique in details with concept and its applications.	3	2	5M
	C. Which system is reliable - parallel, series or combined? Why.	3	2	5M

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Unit Test I

Subject: Switch gear and protection	Class/ Sem.: BE/ VII Sem
Name of the faculty: Prof. S. C. Gandh	Date: 09/09/2024
Time: 11.00AM to 12.00 PM	Total marks: 30

Note.: Answer any two questions from each question

Q. No.	Description of the question	CO	BL	Marks
1	A. Explain High Resistance & Zero Current Interruption in Detail.	1	2	5M
	B. Explain Construction & working of Vacuum Circuit Breaker.	1	2	5M
	C. Write a note on HRC Fuse & mention Its Applications.	1	2	5M
2	A. Write a note on Qualities of relay.	2	2	5M
	B. With neat diagram explain induction disc type relay	2	2	5M
	C. With neat diagram explain Microprocessor based over current relay.	2	2	5M
3	A. Explain directional relay in detail	3	2	5M
	B. Write a note on earth fault and earth fault protection.	3	2	5M
	C. Write a note on Plug Setting and time setting multiplier.	3	2	5M



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Unit Test I

Subject: FLEXIBLE AC TRANSMISSION SYSTEM (FACTS)	Class/ Sem.: FINAL YEAR/ VII th Sem
Name of the faculty: Mr. Amar Ramesh Bandekar	Date: 09/09/2024
Time: 2:00PM-3:00PM	Total marks: 30M

Note.: Answer any two questions from each question



Q. No.	Description of the question	CO	BL	Marks
1	A. Explain different types of FCATS controller	1	II	5M
	B. Explain in detail the uncompensated transmission line	1	II	5M
	C. Compare HVDC and FACTS systems.	1	II, IV	5M
2	A. Compare FC-TCR and TCR-TSC	2	II, V	5M
	B. Explain thyristor controlled and thyristor switched reactor with suitable operating waveforms	2	II	5M
	C. List the objectives of shunt compensation.	2	I, IV	5M
3	A. Explain basic control scheme of STATCOM with the help of block diagram	3	II	5M
	B. Explain operation of STATCOM in inductive and capacitive mode for voltage changes	3	II	5M
	C. Compare STATCOM and SVC	3	II, V	5M

up NO 1...6.

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Unit Test I

Subject: Power Quality and Harmonics		Class/ Sem.: BE / VIII Sem		
Name of the faculty: Shivanand killedar		Date: 10/09/2024		
Time: 11.00AM to 12.00PM		Total marks: 30		
Q. No.	Description of the question	CO	BL	Marks
Note: Answer any one question				
1	A. Write short notes on Voltage Sag, Voltage swell, Interruption	1	2	10M
	B. What is meant by Harmonics? Explain in detail, sources & effects for generation of Harmonics	1	2	10M
Note: Answer any two questions from each section				
2	A. Explain impact of harmonics on telecommunication line	2	2	5M
	B. Explain influence on power factor on harmonic	2	2	5M
	C. Explain in detail, mitigation techniques for harmonic distortion	2	3	5M
3	A. Explain series filter	3	2	5M
	B. Explain the suppression of power system harmonics by shunt active power filter	3	2	5M
	C. Compare Shunt Active Filter, Series Active Filter and Hybrid Filter in detail with their system configuration	3	2	5M



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Unit Test I

Subject: ELECTIRC VEHICLE		Class/ Sem.: BE/ VII Sem		
Name of the faculty: Prof.Abhijit Borganve		Date: 11/09/2024		
Time: 11.00AM to 12.00 PM		Total marks: 30		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. <u>what</u> is EV and HEV and mention the features of Ev.	1	1	5M
	B. <u>compare</u> EV and IC engine.	1	4	5M
	C. Describe the EV configurations.	1	1	5M
2	A. Explain the Series -parallel configuration of the electric drive train with neat diagram.	2	2	5M
	B. Explain the power flow control of series hybrid system with neat diagram.	2	2	5M
	C. Describe the configuration and control of permanent magnet motor.	2	2	5M
3	A. Describe the classification of different energy management strategies.	3	2	5M
	B. Compare and explain the different energy management strategies.	3	4	5M
	C. <u>mention</u> the implementation issues of energy management strategies.	3	2	5M



**Unit Test I**

Subject: Computer Methods in Power System		Class/ Sem.: BE / VII Sem																																											
Name of the faculty: Basavaraj A. Angadi		Date: 11/09/2024																																											
Time: 11.00AM to 12.00PM		Total marks: 30																																											
Q.No.	Description of the question	CO	BL	Marks																																									
Note: Answer any two questions from each section																																													
1	A. Define Node, Branch, Link, Twing and Graph.	1	1	5M																																									
	B. What is tree? Explain with neat diagram and examples.	1	1	5M																																									
	C. What are the properties of tree.	1	1	5M																																									
2	A. Draw the node incidence matrix from network shown below.	2	2	5M																																									
	B. Draw the Oriented graph from the complete incidence matrix given below.	2	2	5M																																									
	<table><tr><th rowspan="2">Nodes</th><th colspan="6">Branches</th></tr><tr><th>a</th><th>b</th><th>c</th><th>d</th><th>e</th><th>f</th></tr><tr><td>L</td><td>-1</td><td>0</td><td>0</td><td>1</td><td>-1</td><td>0</td></tr><tr><td>M</td><td>1</td><td>-1</td><td>0</td><td>0</td><td>0</td><td>-1</td></tr><tr><td>N</td><td>0</td><td>1</td><td>-1</td><td>0</td><td>1</td><td>0</td></tr><tr><td>O</td><td>0</td><td>0</td><td>1</td><td>-1</td><td>0</td><td>1</td></tr></table>	Nodes	Branches						a	b	c	d	e	f	L	-1	0	0	1	-1	0	M	1	-1	0	0	0	-1	N	0	1	-1	0	1	0	O	0	0	1	-1	0	1			
Nodes	Branches																																												
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M	1	-1	0	0	0	-1																																							
N	0	1	-1	0	1	0																																							
O	0	0	1	-1	0	1																																							
	C. What is cut set matrix and Tie set matrix? Explain briefly.	2	2	5M																																									
Note: Answer any one question																																													
3	A. In the following network, the numerical values of resistance also indicate the branch numbers, write the oriented graph of the network, select a tree with branch 1,2&3 as a tree, Write cut set matrix.	3	2	10M																																									
	Fig (a) for Q-3A																																												
	Fig(b) for Q-3B																																												
	B. For the circuit show below, i) Draw the oriented graph. ii) Select a tree iii) Calculate the loops iv) Draw the Tie set matrix.	3	2	10M																																									

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Unit Test I

Subject: AC MACHINES		Class/ Sem.: TY/ V th Sem		
Name of the faculty: Mr. Amar Ramesh Bandekar		Date: 09/09/2024		
Time: 11:00AM-12:00PM		Total marks: 30M		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. Explain the principle and operation of 3-phase induction motor	1	II	5M
	B. List out application of 3 phase induction motors	1	I,IV	5M
	C. The power input to the rotor of 440 V, 50Hz , 6 pole , 3 phase induction motor is 80KW.The rotor emf is observed to make 100 complete alterations per min. Calculate a) the slip ; b) the rotor speed ; c) the mechanical power developed ; D) the rotor copper loss per phase ; e) the rotor resistance per phase of rotor current is 65 A	1	III,VI	5M
2	A. Explain no load test and blocked rotor test for 3 phase induction motor	2	II	5M
	B. The stator loss of 3 phase Induction motor is 2kW. When the power input is 90kW, what will be the rotor mechanical power developed and the rotor copper loss if the motor is running with a slip of 4%.	2	III,VI	5M
	C. Explain power flow diagram of three phases IM	2	II	5M
3	A. Explain with diagram construction and working of single-phase induction motor	3	II	5M
	B. Explain with the help of the neat construction and working of shading pole induction motor and its applications.	3	II	5M
	C. Explain hysteresis motor	3	II	5M



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Unit Test I

Subject: Digital Electronics and Microcontroller	Class/ Sem.: TY/ VI Sem
Name of the faculty: Basavaraj A. Angadi	Date: 09/09/2024
Time: 11.00AM to 12.00 PM	Total marks: 30

Note.: Answer any two questions from each questions

Q. No.	Description of the question	CO	BL	Marks
1	Converts	1	2	5M
	i) $(25.375)_{10} = (?)_2 = (?)_8$	1	2	5M
	ii) $(2AB.9)_{16} = (?)_8 = (?)_2$ iii) $(10101)_2 = (?)_{10} = (?)_{16}$	1	2	5M
2	A. State and Explain Distributive law.	2	1	5M
	B. Show that $AB + A\bar{B}C + B\bar{C} = AC + B\bar{C}$	2	2	5M
	C. Explain De Morgan's theorem.	2	1	5M
3	A. Simply the Expression $Y=ABC + A\bar{B}C$ using K-Map method	3	2	5M
	B.Reduce the expression using K-Map $f = \sum m (0, 1, 4, 5, 6, 7, 9, 11, 15) + d (10, 14)$	3	2	5M
	C.Solve by K-Map method $f = \sum m (0,2,4,6,7,8,10,12,13,15)$	3	2	5M

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Unit Test I

Subject: Power Systems-II		Class/ Sem.: TY/ V Sem		
Name of the faculty: Prof S. C. Gandh		Date: 10/09/2024		
Time: 11.00AM to 12.00PM		Total marks: 30		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. Explain With Suitable example OLD, Impedance & reactance Diagram.	1	2	5M
	B. Explain Per Unit representation of three-phase Transformer	1	2	5M
	C. Write a note on Steady state model of synchronous machine, Representation of loads.	1	2	5M
2	A. Draw and explain short circuit transient on unloaded transmission line.	2	2	5M
	B. Describe selection criteria of circuit breaker	2	2	5M
	C. Write Z-bus building algorithm	2	2	5M
3	A. Explain sequence Network and impedance of synchronous machine	3	2	5M
	B. Explain Sequence impedance of transformer	3	2	5M
	C. Draw zero sequence diagram of transformer with different connections.	3	2	5M





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Unit Test I

Subject: Advance Control System		Class/ Sem.: EE / V Sem		
Name of the faculty: shivanand killedar		Date: 10/09/2024		
Time: 02.00PM to 03.00PM		Total marks: 30		
Q. No.	Description of the question	CO	BL	Marks
Note: Answer any one question				
1	A. Explain and derive the transfer function of lead compensator and derive the expression for the same	1	2	10M
	B. Explain effect of addition of poles and zeros on performance of control system.	1	2	10M
Note: Answer any two questions from each section				
2	A. What is controller tuning? Explain Zeigler Nichols method for controller tuning	2	2	5M
	B For the lead compensator show that maximum phase lead angle is given by $\sin\Phi_m = (1 - \alpha)/(1 + \alpha)$	2	2	5M
	<i>Design a suitable lead compensator for a system with unity feedback and having open loop transfer function :</i> $G(s) = \frac{K}{s(s+1)(s+4)}$ <i>to meet the specifications :</i> 1. Damping ratio $\xi = 0.5$ 2. Undamped natural frequency $\omega_n = 2 \text{ rad/sec}$	2	3	5M
3	A. Explain steps involved in converting uncompensated system to compensated system using bode plot and lead compensator	3	2	5M
	B. Explain steps involved in converting uncompensated system to compensated system using bode plot and lead-lag compensator	3	2	5M
	C. <i>Consider the unity feedback system whose open loop transfer function is.</i> $G(s) = \frac{K}{s(s+1)(s+2)}$ <i>Design suitable lag-lead compensator so as to achieve,</i> Static velocity error constant $= 10 \text{ sec}^{-1}$ Phase margin: 50° Gain margin $\geq 10 \text{ dB}$	3	3	5M

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Unit Test I

Subject: Signals & Systems		Class/ Sem.: TY/ V Sem		
Name of the faculty: Prof.Abhijit Borganve		Date: 11/09/2024		
Time: 11.00AM to 12.00 PM		Total marks: 30		
Note.: Answer any two questions from each question.				
Q. No.	Description of the question	CO	BL	Marks
1	A.Describe the various types of signals.	1	1	5M
	B. Find the EVEN & ODD components of following signals A) $x(t)=\cos (w_0t + \pi/3)$ B) $x(t)=\sin t + 2\sin t + 2\sin^2t \cos t$	1	3	5M
	C. Determine the following signal is periodic or not. If periodic find fundamental period. A) $x(t)=\cos (t + \pi/4)$ B) $x(t)=e^{j[(\pi/2)t-1]}$	1	3	5M
2	A. Explain the convolution integral.	2	2	5M
	B. Determine the Convolution sum of two sequences. $X(n)=\{3,2,1,2\}$, $h(n)=\{1,2,1,2\}$	2	3	5M
	C. Find the convolution of following signals. A) $x_1(t)=u(t)$ and $x_2(t)=u(t)$ B) $x_1(t)=t u(t)$ and $x_2(t)=u(t)$	2	3	5M
3	A. Mention any 5 properties of Laplace transform.	3	3	5M
	B. What is ROC and mention properties of ROC.	3	2	5M
	C. Find the Laplace transform and sketch ROC of the signal $x(t)=e^{-at}u(t)+ e^{-bt}u(-t)$	3	3	5M



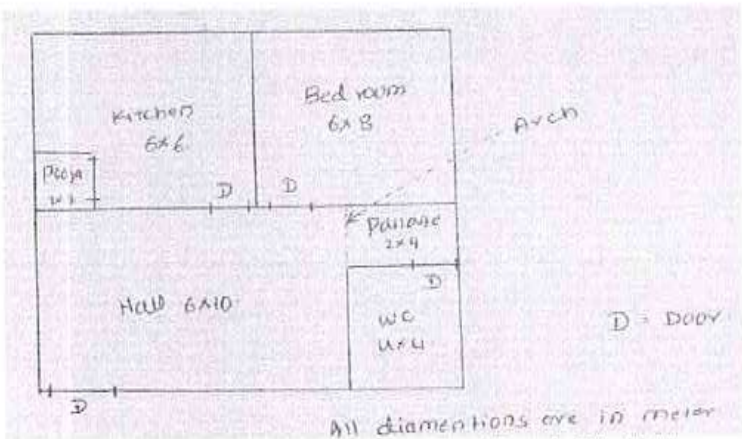
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Academic Year 2024-25
Department of Electrical Engineering



Unit Test I

Subject: Domestic /Industrial Electrical Installation, Estimation and Costing	Class/ Sem.: TY/ V Sem
Name of the faculty: Dr. Vireshkumar G. Mathad	Date: 11/09/2024
Time: 02.00PM to 03.00 PM	Total marks: 30

Note.: Answer any two questions from each questions

Q. No.	Description of the question	CO	BL	Marks
1	A. Write the different types of wires system and explain briefly.	1	2	5M
	B. With neat diagram explain different accessories wiring tools used for wiring systems.	1	2	5M
	C. List with specifications of different types of wiring materials	1	2	5M
2	A. Explain the following i) Electrical Schedule of rates ii) catalogues iii) Contingencies	2	2	5M
	B. With example explain purse system	2	2	5M
	C. Write the information required for purchase of orders	2	2	5M
3	Fig 3.1 shows plan of residential building. Calculate the following I. Draw layout diagram for lighting by casing and capping II. Load table III. Material required for wiring  Fig. 3.1: Plan of residential building OR	3	4	10M
	B. Fig 3.1 shows plan of residential building. Calculate the following I. Draw layout diagram for lighting by conduit wiring II. Load table III. Material required for wiring	3	4	10M



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Department of Electrical Engineering



Unit Test I

Subject: EEMEC	Class/ Sem.: SY/ III Sem
Name of the faculty: Prof. S. C. Gandh	Date: 12/11/2024
Time: 1.00 PM to 2.00PM	Total marks: 30

Note.: Answer any three questions from each questions

Q. No.	Description of the question	CO	BL	Marks
1	A. Explain factors affecting resistivity.	1	1,2	5
	B. With neat diagram describe working of HRC fuse.	1	2,3	5
	C. Explain the concept of super conductivity.	1	2	5
2	A. Write short note on liquid insulating & gas insulating material.	2	1	5
	B. List the characteristics of good insulating materials.	2	1,2	5
	C. With neat diagram explain working of breakdown voltage of transformer	2	2	5
3	A. List and explain magnetic materials.	3	1,2	5
	B. With neat B.H curve explain ferromagnetic behavior under critical condition.	3	2	5
	C. Write short note on soft & hard magnetic material.	3	1	5



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Academic Year 2024-25

Department of Electrical Engineering



Unit Test I

Subject: Engineering Mathematics - III		Class/ Sem.: SY/ III Sem EE		
Name of the faculty: Prof. S. B. Jadhav.		Day/ Date: Tuesday/ 12-11-24		
Time:		Total marks: 30		
Note.: Answer any two questions from each question				
Q. No.	Solve the following	CO	BL	Marks
1	A] Solve $(D^3 - 6D^2 + 11D - 6) y = e^{2x} + e^{3x}$	1	1	5M
	B] Solve $(D^2 + 2) y = x^2 e^{3x} + e^x - \cos 2x$	1	1,2	5M
	C] Solve $(x^3 D^3 + 2x^2 D^2 + 2) y = 10 (x + \frac{1}{x})$	1	1,2	5M
2	A] Find the directional derivative of $\phi = x^2y + y^2z + z^2x^2$ at P (1,2,1) in the direction of the normal to the surface $x^2 + y^2 + z^2 = 1$ at Q (1,1,1).	2	2	5M
	B] Find div F and curl F where $F = x y z \mathbf{i} + 3x^2y\mathbf{j} + (xz^2 - y^2z) \mathbf{k}$ at (2, -1, 1).	2	3	5M
	C] Show that the vector $f = (z + \sin y) \mathbf{i} + x \cos y \mathbf{j} + (x-y) \mathbf{k}$ is irrotational.	2	3	5M
3	A] Find the α -cut and strong α -cut for $\alpha = 1, 0.99, 0.1$ of $A(x) = \frac{100}{1+10x}$, Where $X = \{10, 20, 30, 40, 50\}$	3	2	5M
	B] Given two fuzzy sets A and B is given by $A(x) = \frac{0.6}{x_2} + \frac{0.8}{x_3} + \frac{0.9}{x_4} + \frac{0.7}{x_5} + \frac{0.1}{x_6}$, $B(x) = \frac{0.7}{x_2} + \frac{0.5}{x_3} + \frac{0.2}{x_4} + \frac{0.1}{x_5} + \frac{0}{x_6}$ then find \bar{A} , $A \cap B$, $\bar{A} \cap B$	3	2	5M
	C] Find the Fuzzy Cardinality of the Fuzzy Set defined by $A(x) = 1 - \frac{x}{5}$ on $X = \{0, 1, 2, 3, 4, 5\}$	3	2	5M

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Unit Test I

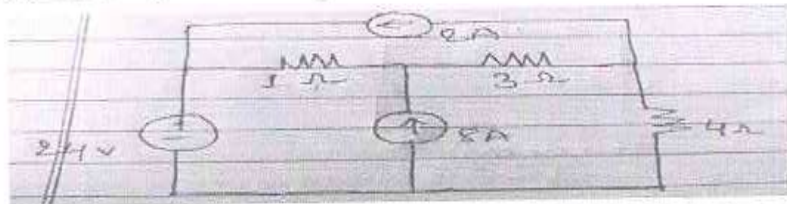
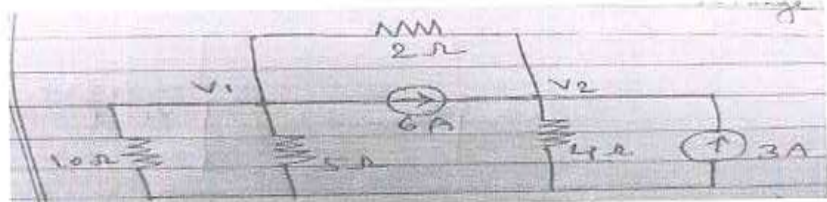
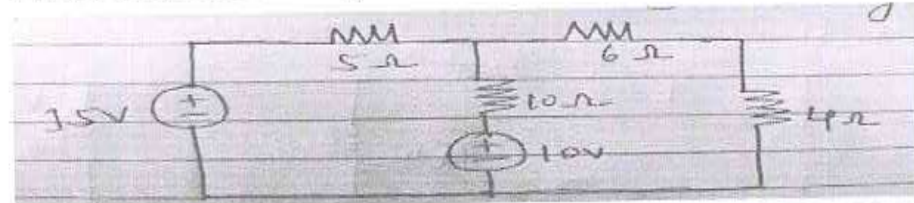
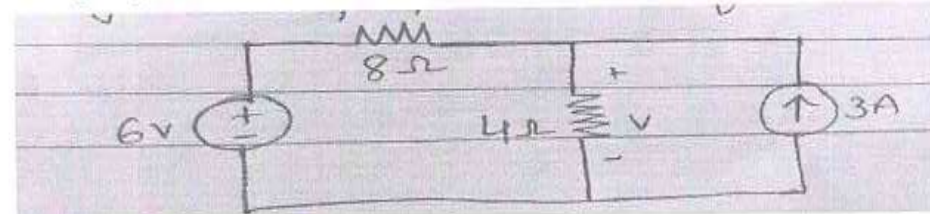
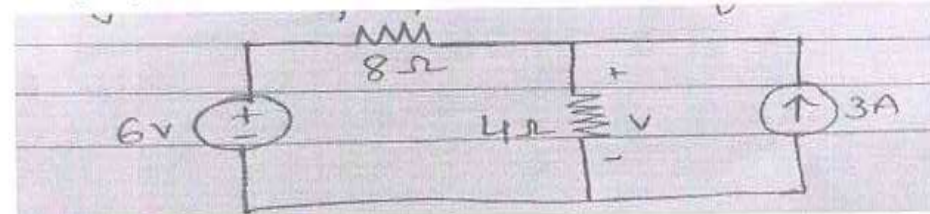
Subject: ANALOG ELECTRONICS ENGINEERING (AEE)		Class/ Sem.: SECOND YEAR/ II nd Sem		
Name of the faculty: Mr. Amar Ramesh Bandekar		Date: 12/11/2024		
Time: 3:30PM-4:30PM		Total marks: 30M		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. Explain full wave bridge rectifier with its input & output waveform	1	II	5M
	B. Explain the V-I characteristics of P-N junction diode	1	II	5M
	C. Compare Photo diode, Tunnel diode, Schottky diode	1	II,IV	5M
2	A. Explain the construction and working of JFET	2	II,	5M
	B. Explain the necessity of heat sink	2	II	5M
	C. Explain the construction and working of MOSFET	2	II	5M
3	A. Explain the operation of RC phase shift oscillator	3	II	5M
	B. Explain the operation of wein bridge oscillator	3	II	5M
	C. Explain barkhausen Criterion	3	II	5M





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Department of Electrical Engineering



Unit Test I

Subject: Basic of Circuit Theory		Class/ Sem.: SE/ III Sem		
Name of the faculty: Prof.Abhijit Borganve		Date:13/11/2024		
Time: 10.30AM to 11.30 AM		Total marks: 30		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. Use mesh analysis find the power delivered to the 4Ω resistor. 	1	3	5M
	B. Calculate node voltage in the ckt. 	1	3	5M
	C. For the circuit shown in fig. find the branch current using Mesh analysis. 	1	3	5M
2	A. Using Superposition theorem find V in the given CKT. 	2	3	5M
	B. Find the Thevenin equivalent Ckt of the given Ckt and find the current through $R_L = 6\Omega$. 	2	3	5M

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Unit Test-I

Subject: Electrical Measurement		Class/ Sem.: SE / III Sem		
Name of the faculty: Basavaraj A. Angadi		Date: 13/11/2024		
Time: 1.00 PM to 2.00 PM		Total marks: 30		
Note.: Answer any two questions from each section of question.				
Q. No.	Description of the questions	CO	BL	Marks
1	A. Write working principle, torque equation, advantage and disadvantages of PMMC type instrument.	1	2	5M
	B. State necessity of extension in voltmeter, explain multiplier and derive the expression for multiplier.	1	4	5M
	C. The moving iron instrument give full scale reading of 24mA. When the potential difference across the terminal is 72mv calculate. a) Shunt resistance of full-scale deflection 120A b) Power consumption	1	3	5M
2	A. Derive the balancing condition of Kelvin's double bride and explain with neat diagram.	2	2	5M
	B. In a Maxwell induction bridge arm AB consist of unknow inductance L_1 and small resistance r_1 with series resistance $R_s=1.35\Omega$ while BC and CD have standard value resistance of 100Ω . While arm AD consist of variable inductance $L_2=5mH$ with resistance of $R_2=35\Omega$ then calculate inductance L_1 and r_1 of the coil.	2	3	5M
	C. Derive the balancing condition of Schering bride and explain with neat diagram of bride.	2	2	5M
3	A. Explain the working of Megger with neat diagram.	3	2	5M
	B. Write working principle, torque equation, advantage and disadvantages of Dynamometer type instrument.	3	2	5M
	C. A Whetstone's bridge has resistance $P=1000\Omega$, $Q=100\Omega$ the balancing is obtained when $S=20\Omega$. Find the value of unknow resistance R.	4	3	5M



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Department Computer Science and Engineering

A.Y: 2024-25

UNIT TEST - I

Course: CSE 2 <i>name of the faculty</i>		Total Marks: 30		
Sub: Information Security		Class & Sem: V		
Date: 09/09/2024		Time: 11:00AM to 12:00PM		
Que No.	Description Of Question	CO	BL Level	Marks
1.	Answer any Three (5 x 3=15)			
A	Differentiate between monoalphabetic and polyalphabetic ciphers? What are the limitations of one-time pad?	CO1	L1	05
B	Explain with Block diagram of key generation & a single round of DES Algorithm.	CO1	L1	05
C	How certification authorities are useful for distribution of public keys?	CO2	L5	05
D	Users A and B use the Diffie-Hellman key exchange technique with a common prime $q=71$ and a primitive root $a=7$ i) If user A has a private key $X_A=5$, what is A's public key Y_A ? ii) If user B has a private key $X_B=12$, what is B's public key Y_B ? iii) What is the shared secret key?	CO2	L2	05
2.	Answer any three (5 x 3=15)			N
A	Write short notes on (any 2): i) Steganograph ii) Hash functions iii) Differential Cryptanalysis	CO2	L2	05
B	What is message authentication? How to achieve message authentication using hash functions?	CO3	L4	05
C	Explain Kerberos in detail.	CO3	L4	05
D	Describe in detail X.509 certificate.	CO3	L2	05



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A.Y: 2024-25

UNIT TEST - I				
Course: CSE		Total Marks: 30		
Sub: System Programming		Class & Sem: V		
Date: 09/09/2024		Time: 02:00PM to 03:00PM		
Que No.	Description Of Question	CO	BL Level	Marks
1.	Answer any Three (5 x 3=15)			
A	Explain in detail fundamentals of Language Processing Activities.	CO1	L2	05
B	Write short note on: Toy Compiler.	CO1	L2	05
C	Write short note on: LEX and YACC LPDT's.	CO1	L2	05
D	Write in detail pass structure of an assembler.	CO2	L4	05
2.	Answer any three (5 x 3=15)			
A	List & discuss elements of assembly language programming.	CO2	L1	05
B	Write a short note on Assembly Statements.	CO2	L2	05
C	Explain in detail Macro definition and call.	CO3	L2	05
D	Explain with example Nested macro call.	CO3	L2	05



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A.Y: 2024-25

UNIT TEST - I				
Course: CSE		Total Marks: 30		
Sub: Object Oriented Modeling & Design		Class & Sem: V		
Date: 10/09/2024		Time: 11:00AM to 12:00PM		
Que No.	Description Of Question	CO	BL Level	Marks
1.	Answer any Three (5 x 3=15)			
A	Explain Object Orientation Themes.	CO1	L2	05
B	Explain Generalization with an example?	CO1	L2	05
C	Define link and association. Explain UML notations for link and association, with an example?	CO1	L2	05
D	With neat diagram explain Object Oriented Development.	CO1	L2	05
2.	Answer any three (5 x 3=15)			
A	Explain the nested states and nested state diagram, with example?	CO1	L2	05
B	1. Explain Events and States. 2. List the types of events.	CO2	L1	05
C	Write short note on a. Process b. Data flow c. Actors d. Data stores	CO2	L2	05
D	Construct a DFD for ATM network	CO2	L4	05



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Department of Computer Science Engineering



Unit Test I

Subject: Internet of Things	Class/ Sem.: TY/ V Sem
Name of the faculty: Dr. Vireshkumar G. Mathad	Date: 10/09/2024
Time: 02.00PM to 03.00 PM	Total marks: 30

Note.: Answer any two questions from each questions

Q. No.	Description of the question	CO	BL	Marks
1	A. With neat diagram explain IoT frame works	1	1	5M
	B. Write the different identification technologies of IoT, explain any one briefly.	1	2	5M
	C. Write a short note on Internet in IoT	1	2	5M
2	A. Explain different traffic characteristics with M2M applications.	2	2	5M
	B. Explain the fallowing terms wrt IoT i) Scalability ii) Interoperability iii) Security and privacy	2	3	5M
	C. With neat diagram explain RFID technology.	2	3	5M
3	A. With neat diagram explain working principal of RFID.	3	2	5M
	B. With neat diagram explain RFID reader.	3	2	5M
	C. With architecture diagram explain RFID middleware.	3	2	5M



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A.Y: 2024-25

UNIT TEST - I				
Course: CSE		Total Marks: 30		
Sub: Java Programming		Class & Sem: V		
Date: 11/09/2024		Time: 11:00AM to 12:00PM		
Que No.	Description Of Question	CO	BL Level	Marks
1.	Answer any Three (5 x 3=15)			
A	Differentiate between JVM, JDK and JRE?	CO1	L1	05
B	Describe java Buzzwords?	CO1	L1	05
C	Explain constructor and its type?	CO2	L2	05
D	Explain Static variable, Method and Static Class with example?	CO2	L2	05
2.	Answer any three (5 x 3=15)			
A	Write Simple Program of java with example.	CO1	L1	05
B	Describe inheritance and its type with example?	CO2	L1	05
C	Explain Object Oriented Concepts in java?	CO1	L1	05
D	Explain JVM Architecture?	CO1	L1	05



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Department of Computer Science Engineering



Unit Test I

Subject: Engineering Mathematics - III	Class/ Sem.: SY/ III Sem CSE
Name of the faculty: Prof. S. B. Jadhav	Day/ Date: Tuesday/ 12-11-24
Time: 10.30AM to 11.30 AM	Total marks: 30

Note.: Answer any two questions from each question

Q. No.	Solve the following	CO	BL	Mark
1	A] Compute the coefficient of correlation between x & y from their values given below <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div>X: 30 33 25 10 33 75 40 85 90 95</div> <div>Y: 68 65 80 85 70 30 55 18 15 10</div> </div>	1	1,2	5M
	B] Find the lines of regression & coefficient of correlation for the following data <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div>X: 65 66 67 67 68 69 70 72</div> <div>Y: 67 68 65 66 72 72 69 71</div> </div>	1	1,3	5M
	C] Fit a straight line to the following data <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div>X: 0 1 2 3 4 5</div> <div>Y: 1 2 3 4.5 6 7.5</div> </div>	1	1,3	5M
2	A] If the mean and variance of a binomial distribution is 2 and 4/3 respectively then find the probabilities of i) two successes ii) less than two successes	2	2	5M
	B] Fit a Poisson's distribution to the following data <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div>X: 0 1 2 3 4 Total</div> <div>f: 109 65 22 3 1 200</div> </div>	2	2,3	5M
	C] Weights of 4000 students are found to be normally distributed with mean 50 kgs. And standard deviation 5kgs. Find the number of students with weights i) less than 45 kgs ii) between 45 and 60 kgs. (Given Area between Z= 0 & Z= 1 is 0.3413 and Area between Z= 0 & Z= 2 is 0.4772)	2	2,3	5M
3	A] Calculate by Trapezoidal rule an approximate value of $\int_0^1 e^x dx$ in steps of 0.20	3	1,3	5M
	B] Evaluate $\int_{0.5}^{0.7} \sqrt{x} e^{-x} dx$ using Simpson's 1/3 rd rule.	3	1,3	5M

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Unit Test I

Subject: Discrete Mathematics & Structures - III	Class/ Sem.: SY/ III Sem DMS
Name of the faculty: Prof. S. B. Jadhav.	Day/ Date: Tuesday/ 12-11-24
Time: 01.00PM to 02.00 PM	Total marks: 30



Note.: Answer any two questions from each question

Q. No.	Solve the following	CO	BL	Marks
1	A] Check whether the given statement formula is Tautology, Contradiction or Contingency $(\neg P \rightarrow Q) \rightarrow (Q \rightarrow P)$ by using truth table	1	1	5M
	B] Show that $\neg P \wedge (\neg Q \wedge R) \vee (Q \wedge R) \vee (P \wedge Q) \equiv R$ by using Laws	1	2	5M
	C] Obtain the Conjunctive canonical form of $(\neg P \rightarrow R) \wedge (Q \leftrightarrow P)$	1	2	5M
2	A] Let the Set $A = \{1, 2, 3, 4\}$ and $B = \{2, 3, 4\}$ then find $A - B$, $A \cup B$, $A \cap B$, $ A $, $ B $	2	2	5M
	B] If $A = \{1, 4\}$, $B = \{2, 3, 6\}$, $C = \{2, 3, 7\}$ then verify that $A \times (B - C) = (A \times B) - (A \times C)$	2	3	5M
	C] Let the Set $A = \{1, 3, 4, 5, 8, 9\}$, $B = \{1, 2, 3, 5, 7\}$ & $C = \{1, 5\}$ then find $P(C)$, $A \times B$ and $B \times A$	2	3	5M
3	A] Show that the relation 'less than or equal to' is a partial ordering on the set of integers.	3	2	5M
	B] If $A = \{3, 5, 6, 7\}$ and $R = \{(x, y): x \geq y\}$ then find matrix of relation R and also draw directed graph.	3	2	5M
	C] Let $X = \{1, 2, 3, 4, 6, 8, 12, 24\}$ and the relation ' \leq ' is defined as ' $x \leq y$ iff x divides y' then draw the Hasse diagram of (X, \leq) .	3	2	5M

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Unit Test I

Subject: Data Structures		Class/ Sem.: SY/ III Sem		
Name of the faculty: Prof. M. K. Hasabe		Date: 12/11/2024		
Time: 3:30PM to 4:30 PM		Total marks: 30		
Note: All questions are compulsory.				
Q. No.	Description of the question	CO	BL	Marks
1	Solve any TWO questions from following			
	A. Explain the operation on Data Structure.	1	1	5M
	B. Write a note on time Complexity and space complexity	1	2	5M
	C. Write algorithm for calculating (Draw flowchart) area of Circle	1	2	5M
2	Solve any TWO questions from following			
	A. Write algorithm for bubble sort and explain bubble sort with suitable example.	2	2	5M
	B. Write the algorithm for linear search with example	2	1	5M
	C. Define hashing and hash function. Explain in detail.	2	2	5M
3	Solve any ONE question from following			
	A. Write the algorithm for example for enqueue, dequeue & display operation of Queue.	3	2	5M
	B. Explain array representation of stack & write the algorithm for Stack operation	3	2	5M
	C. Convert the following infix expression into postfix & prefix expression. (A + B) * (C - D).	3	3	5M

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Unit Test-I

Subject: Computer Network – I		Class/ Sem.: SY/ III Sem		
Name of the faculty: Prof. Irfan M Trasgar		Date: 13-11-2024		
Time: 10:30 am to 11:30 am		Total marks: 30		
Note.: Answer any two questions from each question.				
Q. No.	Description of the question	CO	BL	Marks
1	A. Define the following terms: i) Router ii) Hub iii) Switch iv) Gateway v) Bridge	1	1	5M
	B. With neat layered diagram explain OSI Model.	1	2	5M
	C. Differentiate between LAN, MAN and WAN.	1	2	5M
2	A. List the various design issues for DLL (Data Link Layer)? Explain framing in detail.	2	1,2	5M
	B. What is CRC? Illustrate the calculation for frame 1101011111 using the generator $G(x) = x^4 + x + 1$.	2	1,3	5M
	C. Explain Sliding window protocol in detail.	2	2	5M
3	A. What is CSMA? With neat diagram explain 1-Persistent, Non-Persistent and P-Persistent CSMA?	3	1,2	5M
	B. Explain multiple access protocol “ALOHA” in detail.	3	2	5M
	C. Explain frame format of IEEE-802.3 Ethernet.	3	2	5M

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Unit Test I

Subject: Microprocessors	Class/ Sem.: SY/ III Sem
Name of the faculty: Prof H. S. Naikwadi	Date: 13/11/2024
Time: 01.00 PM to 02.00 PM	Total marks: 30

Note.: Answer any two questions from each question

Q. No.	Description of the question.	CO	BL	Marks
1	A. Draw Architecture Of 8085 Microprocessor.	1	1	5M
	B. Explain all logical instructions of 8085 Microprocessor.	1	2	5M
	C. Write and explain program of addition between two 16-bit no.	1	2	5M
2	A. Draw and explain internal architecture of Microprocessor in detail with programming model.	2	1,2	5M
	B. Explain all data addressing modes of Microprocessor.	2	3	5M
	C. Explain stack memory addressing mode of Microprocessor.	2	3	5M
3	A. Write short note on PUSH and POP instruction.	3	2	5M
	B. Explain all Multiplication and Division instructions of Microprocessors.	3	2	5M
	C. Write short note on Assembler Details.	3	2	5M



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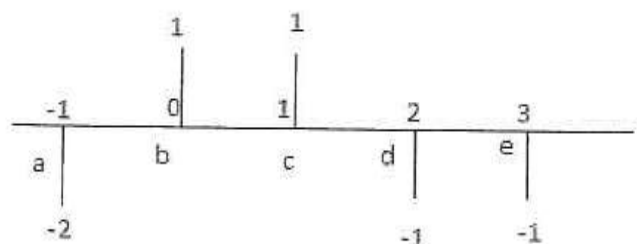
Bhadgaon, Gadhinglaj, Dist: Kolhapur Pin:416502

Academic Year 2024-25

Department of Electronics & Computer Science



Unit Test I

Subject: Signal and System		Class/ Sem.: TY/ V Sem		
Name of the faculty: Prof. M. A. Bandi		Date: 09/09/2024		
Time: 11:00 to 12:00 pm		Total marks: 30		
Note.: Answer any two questions from each question.				
Q. No.	Description of the question	CO	BL	Marks
1	A. Explain Classification of Signals.	1	2	5M
	B. Determine even and odd parts of signal 1. $x(t)=e^t$ 2. $x(t)=3+2t+5t^2$	1	3	5M
	C. A discrete time signal shown in fig. Sketch & labels the following signal. $x(-n-1)$, $x(2n+1)$, $x(n/2)$, $x(n-2)$	1	2	5M
				
2	A. What is meant by system? Explain classification of system.	2	1	5M
	B. Check whether following systems are linear or not 1. $dy/dt + 3ty(t)=t^2x(t)$ 2. $y(n)=Ax1(n)+B$	2	3	5M
	C. Convolve the sequences $x(n): \{2,3,1,4\}$ and $h(n)= \{-1,2,3\}$ using graphical method.	2	3	5M
3	A. Explain properties of Fourier Transform.	3	2	5M
	B. Explain limitations for Fourier transform.	3	2	5M
	C. State and prove the convolution theorem for Fourier Transforms.	3	2	5M



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Academic Year 2024-25

Department of Electronics & Computer Science



Unit Test I

Subject: Power Electronics

Class/ Sem.: TY/ V Sem

Name of the faculty: Prof. S.S.Bhoi

Date: 09/09/2024

Time: 02:00 to 03:00 pm

Total marks: 30

Note.: Answer any two questions from each question.

Q. No.	Description of the question	CO	BL	Marks
1	A. Explain <u>With</u> neat diagram V-I characteristics of DIAC.	1	(1)	5M
	B. Explain With neat diagram and waveform V-I characteristics of IGBT.	1	(1)	5M
	C. <u>Define</u> the term <u>Commutation</u> . <u>With</u> neat diagram explain its types.	1	(6)	5M
2	A. Explain With neat diagram full wave rectifier. with inductive load.	3	(1)	5M
	B. Explain With neat diagram Half wave rectifier with freewheeling diode.	3	(1)	5M
	C. Single phase full wave rectifier is supplied with a voltage $V=230\sin(314t)$ if firing angle is 30 degree and $R_L=100$ ohm. find VLDC and ILDC.	3	3	5M
3	A. Explain with waveforms morgan's choppers.	(5)	(1)	5M
	B. Define chopper. Explain step down chopper with neat diagram.	(5)	1	5M
	C. Explain the working principle of dc series and dc shunt motors.	(5)	(1)	5M

$$v = 230 \sin(314t)$$



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Department of Electronics & Computer Science



Unit Test I

Subject: Computer Organization & Architecture		Class/ Sem.: TY/ V Sem		
Name of the faculty: Prof. A. A. Magadum		Date: 10-09-2024		
Time: 11.00 am to 12.00 pm		Total marks: 30		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. Draw and explain functional unit of computer.	1	⑥	5M
	B. Define clock rate and CPI? Calculate the MIPS if a computer completed 2 million instructions in 0.10 seconds.	1	①, 3	5M
	C. Represent -7.75 and -0.125 numbers in IEEE 754 32-bit format	1	3	5M
2	A. Draw and explain basic control unit of computer system	2	⑥	5M
	B. Explain hardwired control unit with neat diagram	2	①	5M
	C. Compare RISC and CISC.	2	2	5M
3	A. Classify the memory in computer system and write a note on RAM	3	2	5M
	B. Explain memory <u>I</u> nterleaving with diagram.	3	①	5M
	C. Explain <u>M</u> emory <u>H</u> ierarchy with diagram	3	①	5M

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Unit Test - I

Subject: Computer Network-II		Class/ Sem.: TY/ V Sem		
Name of the faculty: Prof. Irfan M T		Date: 10/09/2024		
Time: 2:00 to 3:00 pm		Total marks: 30		
Note: Answer any two questions from each question.				
Q. No.	Description of the question	CO	BL	Marks
1	A. With neat diagram explain Client-Server Model and write the <u>Advantages</u> and <u>Dis-advantages</u> of using <u>Client-Server</u> Model.	1	①	5M
	B. Write Algorithm to create Client-Server Model and briefly explain the issues that you may encounter while designing it.	1	2	5M
	C. Write a short note on Multiprotocol Servers?	1	1	5M
2	A. With neat <u>Header</u> diagram, briefly explain the <u>Packet</u> format for IPv6.	2	①	5M
	B. What is the reason behind the transition from <u>IPv4</u> to <u>IPv6</u> . List the technologies which are used for transition from <u>IPv4</u> to IPv6 and explain any one of them.	2	2	5M
	C. Write a short note on ICMPv6.	2	2	5M
3	A. Explain the concept of DNS in internet.	3	2	5M
	B. Mention types of Records in DNS and briefly explain any 5 of them.	3	2	5M
	C.Differentiate between BOOTP and DHCP Protocol.	3	2	5M



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Department of Electronics & Computer Science



Unit Test I

Subject: Sensors And Applications

Class/ Sem.: TY/ V Sem

Name of the faculty: Prof. M. A. Bandi

Date: 11/09/2024

Time: 11:00 to 12:00 ^{pm}
_{am} _{pm}

Total marks: 30

Note.: Answer any two questions from each question.

Q. No.	Description of the question	CO	BL	Marks
1	A. List the various characteristics of instruments and explain any four.	1	1	5M
	B. Draw the block diagram of instrumentation system and explain its blocks.	1	2	5M
	C. Define the term sensor and transducers. Write any two advantages of it.	1	1	5M
2	A. Give the comparison between PTC & NTC. (Any 5 points)	2	1	5M
	B. Explain the working principle of thermocouple in detail.	2	2	5M
	C. Explain the working principle of optical type pyrometer.	2	2	5M
3	A. Explain the working principle of capacitive type level measuring device.	3	2	5M
	B. Explain Rotameter with neat diagram.	3	2	5M
	C. Explain the working principle of electromagnetic flow meter.	3	2	5M



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Department of Electronics And Computer Science



Unit Test I

Subject: Engineering Mathematics - III	Class/ Sem.: SY/ III Sem ECS
Name of the faculty: Prof. S. B. Jadhav.	Day/ Date: Tuesday/ 12-11-24
Time:	Total marks: 30

Note.: Answer any two questions from each question

Q. No.	Solve the following	CO	BL	Marks
1	A] Solve $(D^3 - 6D^2 + 11D - 6)y = e^{2x} + e^{3x}$	1	1	5M
	B] Solve $(D^2 + 2)y = x^2 e^{3x} + e^x - \cos 2x$	1	1,2	5M
	C] Solve $(x^3 D^3 + 2x^2 D^2 + 2)y = 10(x + \frac{1}{x})$	1	1,2	5M
2	A] Find the directional derivative of $\phi = x^2y + y^2z + z^2x^2$ at P (1,2,1) in the direction of the normal to the surface $x^2 + y^2 + z^2 = 1$ at Q (1,1,1).	2	2	5M
	B] Find div F and curl F where $F = xyz \mathbf{i} + 3x^2y \mathbf{j} + (xz^2 - y^2z) \mathbf{k}$ at (2, -1, 1).	2	3	5M
	C] Show that the vector $f = (z + \sin y) \mathbf{i} + x \cos y - z \mathbf{j} + (x - y) \mathbf{k}$ is irrotational.	2	3	5M
3	A] Find the α -cut and strong α -cut for $\alpha = 1, 0.99, 0.1$ of $A(x) = \frac{100}{1+10x}$, Where $X = \{10, 20, 30, 40, 50\}$	3	2	5M
	B] Given two fuzzy sets A and B is given by $A(x) = \frac{0.6}{x_2} + \frac{0.8}{x_3} + \frac{0.9}{x_4} + \frac{0.7}{x_5} + \frac{0.1}{x_6}$, $B(x) = \frac{0.7}{x_2} + \frac{0.5}{x_3} + \frac{0.2}{x_4} + \frac{0.1}{x_5} + \frac{0}{x_6}$ then find \bar{A} , $A \cap \bar{B}$, $\bar{A} \cap B$	3	2	5M
	C] Find the Fuzzy Cardinality of the Fuzzy Set defined by $A(x) = 1 - \frac{x}{5}$ on $X = \{0, 1, 2, 3, 4, 5\}$	3	2	5M

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Department of Electronics & Computer Science





Unit Test I

Subject: Electronic Devices		Class/ Sem.: SY/ III Sem		
Name of the faculty: Prof. S.S.Bhoi		Date: 12/10/2024		
Time: 01:00 to 02:00 pm		Total marks: 30		
Note.: Answer any two questions from each question.				
Q. No.	Description of the question	CO	BL	Marks
1	A. Define is diode? Explain three types of biasing with neat sketch.	1	1,2	5M
	B. Explain construction, symbol, working principle and V-I characteristic of LED.	1	2	5M
	C. What is clipper and clamper circuited? Explain the series positive clipper with relevant Diagram.	1	1,2	5M
2	A. Explain V-I characteristics of Zener diode and write its applications.	2	2	5M
	B. Explain construction, symbol, working principle and V-I characteristics of Photo diode.	2	2	5M
	C. Compare the Zener breakdown and Avalanche breakdown.	2	2	5M
3	A. Compare between JFET and MOSFET, and write an application of MOSFET.	3	2	5M
	B. Calculate the emitter current I_E for a transistor connected in Common emitter(CE) configuration, given $\beta=38$ and $I_B=10\mu A$.	3	3	5M
	C. Explain common base (CB) configuration of BJT.	3	2	5M

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Unit Test I

Subject: Data Structures and Algorithms		Class/ Sem.: SY/ III Sem		
Name of the faculty: Prof. S. R. Pujari		Date: 13-11-2024		
Time: 10:30 to 11:30 am		Total marks: 30		
Note.: Answer any two questions from each question.				
Q. No.	Description of the question	CO	BL	Marks
1	A. What is Data Structures? Explain types of data structures with example	1	1,2	5M
	B. Write in detail of algorithm. Write an algorithm to factorial of a number.	1	2	5M
	C. Explain time complexity and space complexity in detail.	1	2	5M
2	A. Define Queue. List and explain types of queue.	2	1,2	5M
	B. Explain application of Stack? Convert Infix to Postfix ((A+B)+C*(D-E))/F	2	2,3	5M
	C. Define stack & queue in detail. Give an example for both.	2	1,2	5M
3	i. List the different types of linked list. Explain each with appropriate diagrams.	3	1,2	5M
	ii. What is doubly linked list? Explain applications of doubly linked and circular linked list.	3	1,2	5M
	iii. Define Linked List? How to represent linked list .Compare linked list v/s arrays.	3	1,2	5M

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Unit Test I

Subject: Database Management System		Class/ Sem.: SY/ III Sem		
Name of the faculty: Prof. S. V. Solapure		Date: 13-11-2024		
Time: 1:00pm to 2:00pm		Total marks: 30		
Note.: Answer any two questions from each question.				
Q. No.	Description of the question	CO	BL	Marks
1	A. Define DBMS? Explain different characteristics of DBMS	1	1,2	5M
	B. Define Abstraction? Explain the different levels of Abstraction	1	1,2	5M
	C. Differentiate between file system vs database system.	1	2	5M
2	A. Explain the following terms 1. Cardinality 2.Participation	2	2	5M
	B. What is ER Model? Explain with example of any organization.	2	1,2	5M
	C. Explain the Generalization, Specialization and Aggregation with example.	2	2	5M
3	A. Explain the following: 1. Primary key 2. Candidate key 3. Super key 4. Foreign key	3	2	5M
	2. What is Relational algebra? Explain relational operators in details.	3	1,2	5M
	3. Explain following terms with reference to following database: i)Table ii)Tuple iii) Domain iv) Attribute v)Fields	3	2	5M

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Mid Sem Evaluation

Subject: Engineering Physics		Class/ Sem.: FY/ I Sem		
Name of the faculty: Prof. Miss. H. R. Patil		Date: 29/11/2024		
Time: 10.30AM to 11.30 AM		Total marks: 30		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. Explain construction and working of Laurent's half shade polarimeter.	1	2	5
	B.What is double refraction? Give Huygens theory of double refraction in uniaxial crystal. Distinguish between positive and negative crystals.	1	2	5
	C.Define the Specific rotation. A 20cm long tube containing 48 cm ³ of sugar solution rotates the plane of polarization by 11°. If the specific rotation of sugar is 66°, calculate the mass of sugar in the solution.	1	3	5
2	A. What is the principle of fibre optics? Determine the Numerical Aperture of step index fibre. When the core refractive index is 1.5 and the cladding refractive index is 1.47.	2	3	5
	B.Explain construction and working of Ruby laser with neat diagram.	2	2	5
	B. State the applications of laser.	2	1	5
3	A. Explain the basic requirement for acoustically good hall.	3	2	5
	B. Explain the term reverberation and reverberation Time. State & Explain the Sabine's formula.	3	2	5
	C. A room has a volume of 1000 m ³ , the total wall area is 200m ² , the total floor area is 100m ² , and ceiling area is 100m ² . The average sound absorption coefficient for wall is 0.02, ceiling is 0.8 and floor is 0.05. Determine the average absorption coefficient and reverberation time.	3	3	5



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Mid Sem Evaluation

Subject: Engineering Chemistry	Class/ Sem.: FY/ I Sem
Name of the faculty: Prof.S.T.Dundage	Date: 29-11-2024
Time: 10.30 am to 11.30 am	Total marks: 30

Note.: Answer any two questions from each question

Q. No.	Description of the question	CO	BL	Marks																		
1	A. Give composition, properties and applications of plain carbon steels.	1	BL1	05																		
	B. Give composition, properties and applications of Glass Reinforced Plastic (GRP) and Fiber Reinforce Plastic(FRP).	1	BL1	05																		
	C. Give composition, properties and applications of Brasses.	1	BL1	05																		
2	A. Give schematic representation of a single beam spectrophotometer. How will you determine the concentration of unknown solution?	2	BL2	05																		
	B. Explain construction and working of GLC With neat labelled diagram.	2	BL2	05																		
	C. State Beers Lamberts Law and derive expression for it.	2	BL1	05																		
3	A. A sample of water on analysis was found to contain the following impurities expressed in mg/lit. <table border="1"><thead><tr><th>HARDNESS</th><th>MASS OF IMPURITIES</th><th>MOLECULAR WEIGHT</th></tr></thead><tbody><tr><td>Ca(HCO₃)</td><td>12 PPM</td><td>162</td></tr><tr><td>Mg(HCO₃)</td><td>15.8 PPM</td><td>146</td></tr><tr><td>CaCl₂</td><td>60 PPM</td><td>111</td></tr><tr><td>MgCl₂</td><td>23 PPM</td><td>120</td></tr><tr><td>MgSo₄</td><td>32PPM</td><td>126</td></tr></tbody></table> <p>Calculate the temporary , permanent and total hardness of water in mg/lit.</p>	HARDNESS	MASS OF IMPURITIES	MOLECULAR WEIGHT	Ca(HCO ₃)	12 PPM	162	Mg(HCO ₃)	15.8 PPM	146	CaCl ₂	60 PPM	111	MgCl ₂	23 PPM	120	MgSo ₄	32PPM	126	3	BL3	05
	HARDNESS	MASS OF IMPURITIES	MOLECULAR WEIGHT																			
	Ca(HCO ₃)	12 PPM	162																			
	Mg(HCO ₃)	15.8 PPM	146																			
	CaCl ₂	60 PPM	111																			
	MgCl ₂	23 PPM	120																			
	MgSo ₄	32PPM	126																			
B. Explain ion Exchange process for the removal of hardness of water?	3	BL2	05																			
C. Explain reverse Osmosis technique for the treatment of hard water?	3	BL2	05																			

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Mid Sem Evaluation

Subject: Basic Civil Engineering		Class/ Sem.: FY/ I Sem		
Name of the faculty: Prof. Miss. K. K. Gurav		Date: 29/11/2024		
Time: 01.00 PM to 02.00 PM		Total marks: 30		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. Explain the role of civil engineering in infrastructural developement	1	2	5M
	B. Enlist and discuss the scope of any 5 sub branches of civil engineering.	1	2	5M
	C. Explain the role of civil engineer in various construction activities.	1	2	5M
2	A. Differentiate between Load Bearing Structure and Framed Structure	2	4	5M
	B. What are the good characteristics of a brick?	2	2	5M
	C. Enlist and explain in detail 5 different Principles of Building and Planning.	2	2	5M
3	A. Explain in brief fundamental Principals of Surveying.	3	2	5M
	B. Differentiate in between Plane survey and Geodetic Survey.	3	4	5M
	C. What is meant by Contour? Explain in detail Linear measurements , Angular measurements and state its uses.	3	2	5M

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MID TERM EVALUATION



Subject: Basic Mechanical Engineering			Class/ Sem.: FY/ I Sem/B		
Name of the faculty: Prof. Kishor S. Joshi			Date: 29/11/2024		
Time: 01.00-02.00 pm			Total marks: 30		
Note: Solve any one full question from each section					
Section-I					
Q. No.	Description of the question		CO	BL	Marks
1	a	Define Thermodynamics explain thermodynamic process and thermodynamic cycle.	1	3	5
	b	Explain with neat sketch construction and working of four stroke S.I. engine.	1	2	5
OR					
2	a	State first law of thermodynamics and explain Joule's experiment	1	2	5
	b	Differentiate between four stroke S.I engine and four stroke C.I. engine	1	2	5
Section-II					
3	a	Explain reciprocating pump with neat sketch.	3	4	5
	b	Compare belt, chain and gear drives.	3	2	5
OR					
4	a	Explain construction and working of centrifugal pump. Give its application	3	4	5
	b	Explain with neat sketch construction and working of Pelton wheel turbine.	3	4	5
Section-III					
5	a	Define Manufacturing process and explain with neat sketch working of drilling process.	5	4	5
	b	With neat sketch explain the Arc welding process.	5	4	5
OR					
6	a	With neat sketch explain the process of casting.	5	4	5
	b	explain with neat sketch working of milling process.	5	5	5

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MID TERM EVALUATION

Subject: Engineering Graphics			Class/ Sem/Div.: FY/ I Sem/A		
Name of the faculty: Prof. Kishor S. Joshi			Date: 30/11/2024		
Time: 10.30-11.30 am			Total marks: 30		
Note: Solve any one full question from each section					
Section-I					
Q. No.	Description of the question		CO	BL	Marks
1	a	Draw an ellipse with the distance of the focus from the directrix at 50mm and eccentricity = 2/3	1	3	5
	b	Draw the orthographic projections of the following points? (a.) Point P is 30 mm. above H.P and 40 mm. in front of VP (b.) Point Q is 25 mm. above H.P and 35 mm. behind VP (c.) Point R is 32 mm. below H.P and 45 mm behind VP (d.) Point S is 35 mm. below H.P and 42 mm in front of VP (e.) Point T is in H.P and 30 mm behind VP	1	2	5
OR					
2	a	Draw a parabola with the distance of the focus from the directrix at 50mm (Eccentricity method).	1	2	5
	b	Explain types of lines used in engineering drawing.	1	2	5
Section-II					
3	a	A line AB, 65mm long has its end A 20mm above H.P. and 25mm in front of VP. The end B is 40mm above H.P. and 65mm in front of V.P. Draw the projections of AB and shows its inclination with H.P.	2	4	5
	b	A regular pentagon of 30 mm sides is resting on HP, on one of it's sides with it's surface 45° inclined to HP. Draw it's projections when the side in HP makes 30° angle with VP?	2	2	5
OR					
4	a	The top view of a 75mm long line AB measures 65mm, while its front view measures 50mm. It's one end A is in HP and 12mm in front of VP. Draw the projections of AB and determine its inclination with HP and VP.	2	4	5
	b	A circle of 50 mm diameter is resting on HP on end A of it's diameter AC which is 30° inclined to HP while it's TV is 45° inclined to VP. Draw it's Projections?	2	4	5
Section-III					
5	a	A cone 40 mm diameter and 50 mm axis is resting on one of its generator on HP which makes 30° inclinations with VP. Draw it's projections?	3	4	5
	b	A cylinder 40 mm diameter and 50 mm axis is resting on one point of a base circle on VP while it's axis makes 45° with VP and FV of the axis 30° with	3	4	5

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MID SEM EVALUATION-I

Subject: Basic Electronics Engineering		Class/ Sem.: FY/ I Sem		
Name of the faculty: Prof. A. A. Magadum		Date: 30-11-2024		
Time: 10.30 am to 11.30 am		Total marks: 30		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. Explain the formation of depletion layer in PN junction diode in detail with diagram	1	2	5
	B. Explain the V-I characteristics of PN junction diode with diagram	1	2,5	5
	C. What is forward and reverse bias characteristics of Zener diode explain in detail	1	1,6	5
2	A. What is LED? Draw and explain V-I characteristics	2	1	5
	B. Explain half wave rectifier with circuit diagram and waveform	2	2,4	5
	C. Explain full wave rectifier with circuit diagram and waveform	2	2,4	5
3	A. Define Radix? Explain the following with example i) Binary number system ii) Decimal number system iii) Octal number system iv) Hexadecimal number system	6	1	5
	B. Solve the following i) $(89.625)_{10} = (?)_2$ iv) $(101101.10101)_2 = (?)_{10}$ ii) $(10.625)_{10} = (?)_2$ v) $(11011.101)_2 = (?)_{10}$ iii) $(163.875)_{10} = (?)_2$	6	3	5
	C. Explain basic gates with diagram and truth table	6	2,4	5

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MID SEM EVALUATION-I

Subject: Basic Electrical Engineering		Class/ Sem.: FY/ I Sem		
Name of the faculty: Prof. M. A. Bandi		Date: 30-11-2024		
Time: 01.00 pm to 02.00 pm		Total marks: 30		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	D. Define the terms and their units- i) E.M.F, ii) Potential Difference, iii) Current, iv) Resistance	1	1	5M
	E. State and explain Kirchoffs law.	1	2	5M
	F. Two batteries A & B are connected in parallel across a load resistance of 4 ohm. The emf & internal resistance of battery A & B are 20 volts, 2 ohm and 24 volts, 4 ohm respectively, using mesh or node analysis, Find (i) current in battery A, (ii) current in battery B (iii) current in load resistance.	1	3	5M
2	D. Distinguish between electric & magnetic circuit. (Any 5 points)	2	2	5M
	E. Explain the concept of magnetic leakage & fringing.	2	2	5M
	F. Obtain mathematical expression for series magnetic circuit for 3 numbers of materials.	2	3	5M
3	D. Derive the expression for RMS value by analytical method.	3	3	5M
	E. A resistance of 10 ohm is connected in series with inductance of 73 mH across 250 volts, 50 Hz ac supply. Find (i) Impedance, (ii) current, (iii) Power factor & Power	3	3	5M
	F. State & explain types of induced EMF's. Compare statically and dynamically induced EMF.	3	2	5M



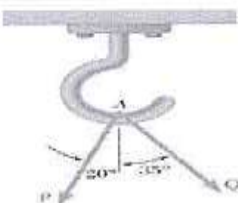
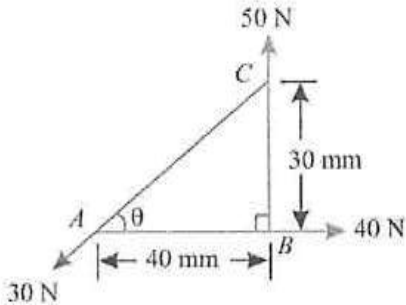
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Academic Year 2024-25
Department of General Sciences



Mid Term Examination

Subject: Applied Mechanics	Class/ Sem.: First Year Engg
Name of the faculty: Mr. Amit S Madakari	Date: 30/11/2024
Time: 01.00 pm to 02:00 pm	Total marks: 30

Note.: Answer any two from each question

Q. No.	Description of the question	CO	BL	Marks
1	<p>a) Two forces P and Q are applied as shown at point A of a hook support. Knowing that $P = 75 \text{ N}$ and $Q = 125 \text{ N}$, determine the magnitude and direction of their resultant using parallelogram law.</p> 	1	3	5M
	<p>b) A triangle ABC has its side $AB = 40 \text{ mm}$ along positive x-axis and side $BC = 30 \text{ mm}$ along positive y-axis. Three forces of 40 N, 50 N and 30 N act along the sides AB, BC and CA respectively. Determine magnitude and direction of the resultant of such a system of forces.</p> 		3	5M
	<p>c) State and Explain</p> <ul style="list-style-type: none"> Lamis theorem. Varignon's theorem. 		1	5M



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c) Explain in Brief a) Centre of gravity and b) Moment of Inertia.

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Unit Test II

Subject: Design of Steel Structures	Class/ Sem.: Third Year B. Tech/ V Sem
Name of the faculty: Mr. A.S.Madakari	Date: 25/10/2024
Time: 12.30pm – 1.30 pm	Total marks: 30

Note.: Answer any one question from each set



Q. No.	Description of the question	CO	BL	Marks
1A	Design the gusseted base for a column, consisting of an ISHB 250 section with two cover plates 300 x 25 mm shown in Figure 9.5. It carries an axial load of 2500 kN and is supported on a concrete pedestal. Permissible bearing pressure of concrete is 4 MPa.	4	6	10M

OR

1B	A column effectively restrained in position as well as direction at both ends carries an axial load of 1750 kN. The length of the column is 5.25 m. Design a compound column with double-lacing system.	4	6	10M
2A	A simply supported beam of span 10 m is carrying a uniformly distributed load of 30 kN/m. Design a beam using standard I-sections, if the compression flange of the beam is laterally supported throughout its length.	5	6	10M



OR

2B	A single angle beam supports a uniformly distributed vertical load of 20 kN/m over a span of 3 m. Assuming the loading to be parallel to the longer side and no lateral support provided, design a suitable angle section.	5	6	10M
3A	A hand operated 50 kN overhead crane is provided in a workshop. The details are given below: i) Centre to centre between gantry girders = 16 m ii) Span of the gantry girder = 6 m iii) Weight of the crane = 40 kN Gantry	6	5	10M

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Unit Test - II

Subject: Environmental Engineering - I		Class/Sem.: TY/V Sem		
Name of the Faculty: Prof. Vinayak S. Patil		Date: 25/10/2024		
Time: 03.00 PM to 04.00 PM		Total Marks: 30		
Note: Answer any Two Questions from each Question				
Q. No.	Description of the Question	CO	BL	Marks
1	A. What are different kinds of pipes available for use in water supply system? Discuss merits of each.	4	1	5M
	B. Give the advantages and disadvantages of cast-iron and R.C.C. pipes used for water supply scheme.	4	2	5M
	C. What is service reservoir? What is its importance in a distribution system?	4	1	5M
2	A. What are basic requirements of distribution system? How these are achieved.	5	1	5M
	B. Explain the concept of maintenance of distribution system.	5	1	5M
	C. Write a note on linear theory method network analysis.	5	2	5M
3	A. Sketch and explain: i)Air relief valve ii)Non-return valve	6	3	5M
	B. Explain importance of water audit in water supply system.	6	1	5M
	C. Write a short note on - a) Hydrants b) Pipe fittings	6	2	5M

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Unit Test – II

Subject: Geotechnical Engineering-I	Class/ Sem: T.Y. - B. Tech/VSem
Name of the faculty: Prof. Priyanka Telwekar	Date: 03.00pm to 04.00 PM
Time: 25/10/2024	Total Marks: 30

Note: Answer any two questions from each question

Q. No.	Description of the question	CO	BL	Marks
1	A. Explain Boussinesq's formula along with its assumptions. .	4	2	5M
	B. Explain Newmark's Influence chart.	4	2	5M
	C. Propose the intensity of vertical pressure and tangential stress at 0.5m directly below a 25kN point load acting on a horizontal ground surface. What will be the values at a point, 4.0m horizontally away from the axis of loading and at a depth 3.0m below ground surface.	4	5	5M
2	A. Using a Mohr's diagram derive a relationship between major & minor principal stress in a terms of shear parameters.	5	3	5M
	B. Explain Mohr-Coulomb theory for shear strength of soil.	5	2	5M
	C. Explain Unconfined compression test and vane shear test in detail	5	2	5M
3	A. Describe in detail the Culuman's graphical method for Active and passive earth pressure determination on retaining wall	6	1	5M
	B. What are the assumptions of Rankine's theory?	6	1	5M
	C. Explain in detail the main design considerations for retaining walls and check for stability .	6	2	5M

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Unit Test II

Subject: Waste Management	Class/ Sem.: Third Year/ VII Sem
Name of the faculty: Prof. Mr.R.V.Savyanavar	Date: 26/10/2024
Time: 12.30 PM to 01.30 PM	Total marks: 30

Note.: Answer any two questions from each question

Q. No.	Description of the question	CO	BL	Marks
1	A. Define reuse and disposal of construction and demolition waste	3,4	1	5M
	B.. Explain disposable methods for municipal waste.	3,4	2	5M
	C. Describe types of biomedical waste.	3,4	2	5M
2	A. Define classification of the hazardous waste.	6	1	5M
	B. Explain rules & regulation of hazardous waste.	6	2	5M
	C. Define thermal treatment process of hazardous waste.	6	1	5M
3	A. Explain E-Waste management rule 2016 in details.	3,4	2	5M
	B. Describe reuse and recycle of E-Waste.	3,4	2	5M
	C. Define segregation of E-waste.	3,4	1	5M



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Unit Test-II

Subject: Water Resource Engineering-I	Class/ Sem.: TY/ V Sem
Name of the faculty: Prof. S. R. Wadagule	Date: 25/10/2024
Time: 10.00 AM to 11.00 AM	Total marks: 30

Note.: Answer any two questions from each question.

Q. No.	Description of the question	CO	BL	Marks
1	A. Explain with a neat sketch Occurrence, Distribution and classification of ground water.	4	2	5M
	B. Define with a neat sketch. a) Aquifer b) Aquiclude c) Aquifuge d) Aquitard e) Perched Aquifer	4	1	5M
	C. Explain in detail constructional features of the tube well.	4	2	5M
2	A. What is mean by irrigation? Explain benefits and ill effects of irrigation.	5	2	5M
	B. Explain in detail general layout, main components & functioning of Percolation tanks.	5	2	5M
	C. Explain in detail general layout, main components & functioning of Bandhara Irrigation.	5	2	5M
3	A. Define Duty, Delta & Base period. Derive relation between.	6	1,3	5M
	B. Write a detailed note on crop pattern and crop rotation.	6	2	5M
	C. Explain in detail methods of improving duty.	6	2	5M



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Unit Test I

Subject: Solid Waste Management		Class/ Sem.: BE/ VII Sem		
Name of the faculty: Prof.Vaibhavee V.Chougule		Date:		
Time:		Total marks: 30		
Note.: Answer any two questions from each questions				
Q. No.	Description of the question	CO	BL	Marks
1	A.What are the different types and sources of Solid Waste? Explain.	1	1	5M
	B.With help of the flow diagram, explain the functional elements of MSW management.	1	1	5M
	C.Explain seggregation of Biomedical waste in detail.	1	2	5M
2	A.Explain on site handling, sorting, storage and processing of MSW.	2	2	5M
	B.Explain the different collection route methods.	2	2	5M
	C. List and explain the factors affecting MSW generation rate?	2	1	5M
3	A.Define Transfer station and explain its necessity.	3	1	5M
	B.Explain different factors considering while planning & designing of Transfer station	3	2	5M
	C.List the different collection vehicles with their suitability.	3	1	5M



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Unit Test II

Subject: Design of Concrete Structure-I	Class/ Sem.: Final (B. Tech)/ VII Sem
Name of the faculty: Prof. Pooja S. Shiragavi	Date: 25/10/2024
Time: 10.00 am – 11:00 pm	Total marks: 30

Note.: Attempt any two sub questions from each main question

Q. No.	Description of the question	CO	BL	Marks
1.	a) Design a simply supported one way slab from the following data: Width of support : 230mm Clear Span : 3.0m Live load : 4kN/m^2 Floor Finish: 1.5kN/m^2 Use concrete of grade M20 and Steel of grade Fe 415. Assume moderate environment.	4	6	5M
	b) The clear dimension of a staircase hall are 2.8mx 5m. The floor to floor height is 3.5m. The landing slabs span in the same direction as the stair and are supported by the walls at the ends. The stair is used in a residential building. Design a dog legged staircase. Use M20 concrete and Fe500 steel. Sketch the reinforcement details. Assume mild exposure condition.	4	6	5M
	c) Design a simply supported one way slab provided over a clear span of 3.30m. It carries a live load of 4kN/m^2 and floor finish of 1kN/m^2 . Width of supporting wall is 230mm. Use M20 concrete and Fe 415 steel. Assume moderate environment.	4	6	5M
2.	a) Design axially loaded column 500 mm X 500 mm for the service load of 2000 KN. Use M 20 and F415 steel.	5	6	5M
	b) Design a RCC column to the following particulars, i) Axial factored load: 1800kN ii) Effective length: 1.85m. iii) Grade of Concrete: M20 iv) Grade of Steel: Fe250	5	6	5M
	c) Explain the function of longitudinal and transverse reinforcement in RC column	5	2	5M



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Unit Test II

Subject: Earthquake Engg	Class/ Sem.: Final (B.Tech)/ VII Sem
Name of the faculty: Mr. Amit S Madakari	Date: 25/09/2024
Time: 12.30 pm — 1.30 pm	Total marks: 30

Note.: Answer any two from each question

Q. No.	Description of the question	CO	BL	Marks
1	a) Explain strong column and weak	4	4	5M
	b) Explain the term Liquefaction & Settlement in detail		4	5M
	c) Explain assessment of ductility.		3	5M
2	a) Compare and contrast the behaviour of reinforced and unreinforced masonry walls.	5	3	5M
	b) Specify the methods for strengthening of masonry buildings		3	5M
	c) Examine the plan configuration problems that affect the performance of masonry buildings during earthquake.		5	5M
3	a) Enlist the application of vibration control system.	6	5	5M
	b) Show the types of base isolation system.		5	5M
	c) List out the different types of seismic dampers. Explain each of them in detailed manner.		4	5M



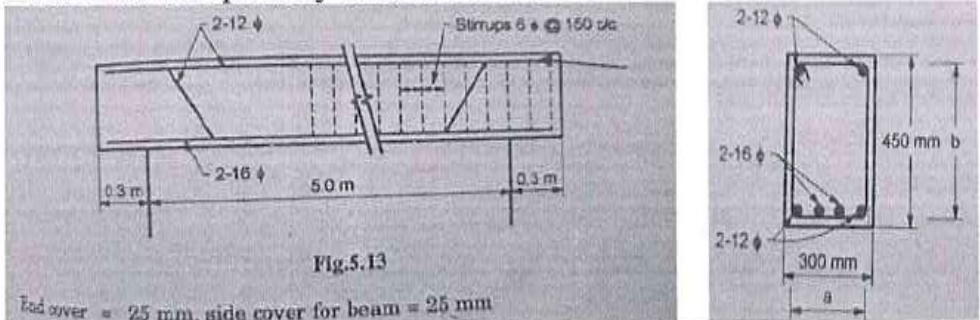
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Unit Test - II

Subject: Quantity Survey & Valuation	Class/Sem.: FY/VII Sem
Name of the Faculty: Prof. Parag S. Dawane	Date: 25/10/2024
Time: 03.00 PM to 04.00 PM	Total Marks: 30

Note: Answer any Two Questions from each Question

Q. No.	Description of the Question	CO	BL	Marks
1	A. (i) Write a note on bar bending schedule.	4	2	5M
	(ii) Write a note on detailed estimate.	4	2	5M
	OR			
	B. Work out the quantity of steel for the beam as shown below:  Fig. 5.13 End cover = 25 mm, side cover for beam = 25 mm	4	3	10M
2	A. What is mean by valuation? Write purpose of it.	5	1	5M
	B. Explain Following terms – 1) Book Value 2) Distress Value 3) Sentimental Value.	5	1	5M
	C. A property fetches a net annual income of Rs.900 deducting all outgoings. Workout the capitalized value of the property if the rate of interest is 6% per annum.	5	3	5M
3	A. Explain Belting method of valuation.	6	1	5M
	B. A Universal Testing Machine was purchased at Rs. 80,000. Assuming salvage value to be 10% after 10 years, Calculate Depreciation for each year up to 6 years only adopting Straight Line method.	6	3	5M
	C. Write a short note on - a) Depreciation b) Valuation on Profit basis	6	2	5M



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Unit Test II

Subject: Transportation Engineering-I	Class/ Sem.: Final Year/ VII Sem
Name of the faculty: Prof. Mr.R.V.Savyanavar	Date: 26/10/2024
Time: 10.00 AM to 11.00 \AM	Total marks: 30

Note.: Answer any two questions from each question

Q. No.	Description of the question	CO	BL	Marks
1	A. Explain construction steps for BBM in details.	4	2	5M
	B. What are the causes of pavement failure.	4	1	5M
	C. What do you mean of evolution of pavements explain structural and functional evaluation of pavements.	4	1	5M
2	A. Explain. i) Traffic Volume Study ii) O and D Study	3	2	5M
	B. Explain Regulatory Sign with neat sketch.	3	2	5M
	C. Explain surface and subsurface drainage of road with neat sketch.	3	2	5M
3	A. Explain. i) Shafts ii) Pilot tunnels.	2	2	5M
	B. Explain various shapes of tunnels.	2	2	5M
	C. Explain the shield method of tunneling.	2	2	5M



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Unit Test II



Subject: Design of Steel Structures	Class/ Sem.: Third Year B. Tech/ V Sem
Name of the faculty: Mr. A.S.Madakari	Date: 25/10/2024
Time:12.30pm – 1.30 pm	Total marks: 30

Note.: Answer any one question from each set

Q. No.	Description of the question	CO	BL	Marks
1A	Design the gusseted base for a column, consisting of an ISHB 250 section with two cover plates 300 x 25 mm shown in Figure 9.5. It carries an axial load of 2500 kN and is supported on a concrete pedestal. Permissible bearing pressure of concrete is 4 MPa.	4	6	10M
OR				
1B	A column effectively restrained in position as well as direction at both ends carries an axial load of 1750 kN. The length of the column is 5.25 m. Design a compound column with double-lacing system.	4	6	10M
2A	A simply supported beam of span 10 m is carrying a uniformly distributed load of 30 kN/m. Design a beam using standard I-sections, if the compression flange of the beam is laterally supported throughout its length.	5	6	10M
OR				
2B	A single angle beam supports a uniformly distributed vertical load of 20 kN/m over a span of 3 m. Assuming the loading to be parallel to the longer side and no lateral support provided, design a suitable angle section.	5	6	10M
3A	A hand operated 50 kN overhead crane is provided in a workshop. The details are given below: i) Centre to centre between gantry girders = 16 m ii) Span of the gantry girder = 6 m iii) Weight of the crane = 40 kN Gantry	6	5	10M

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	iv) Wheel spacing = 3 m v) Weight of the crab = 10 kN vi) Maximum edge distance = 1 m			
OR				
3B	<p>Two electrically operated overhead travelling cranes are to be used in a bay of an industrial building. Design the gantry girder for the following data:</p> i) Crane capacity = 200 kN ii) Bay width = 18 m iii) Spacing of columns = 4 m iv) Weight of each crane and crab = 200 kN v) Minimum approach of crane hook = 1 m vi) Wheel base = 3.5 m vii) Minimum distance between cranes = 1.6 m viii) Weight of trolley = 50 kN Assume any suitable missing data.	6	6	10M

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Unit Test II

Subject: Control Engineering		Class/ Sem.: TY/ V Sem		
Name of the faculty: Mr. S.P.Bagadi		Date:25/10/2024		
Time: 10.00 AM to 11.00 AM		Total marks: 30		
Note.: Answer any two questions from Q1 & Q3,Answer Any one in Q2				
Q. No.	Description of the question	CO	BL	Marks
1	a) Check the stability of the given characteristics equation using Routh's method $S^6+4S^5+3S^4-16S^2-64S-48=0$	4	03	5M
	b) Explain general steps to Solve the Root locus?	4	02	5M
	c) Explain Rules for Construction of Root Locus?	4	03	5M
2	a) For a unity feedback control system $G(S)=80/s(s+2)(s+20,)$ plot the bode plot and in above question find phase margin, gain margin.	5	2,3	10M
	b) For a unity feedback control system $G(s)=100/s(s+1)(s+5),$ plot the bode plot and in the above question find phase margin, gain margin	5	2,3	10M
3	a) What is state space analysis?	6	2	5M
	b) Determine the state space representation and computer diagram by using general programming. $y(t)=\frac{D+3}{D^3+9D^2+24D+20}f(t)$	6	3	5M
	c) Determine the state space representation and computer diagram by using series programming. $y(t)=\frac{2(D+5)}{(D+2)(D+3)(D+4)}f(t)$	6	3	5M

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Unit Test II

Subject: TOM-II	Class / Sem.: TY/ V Sem
Name of the faculty: Mr.G.M.KUMBAR	Date: 25/10/2024
Time: 12.30 PM to 1.30 PM	Total marks: 30

Note.: Answer any two questions from each questions

Q. No.	Description of the question	CO	BL	Marks
1	a) What conditions are to satisfied for a system to be dynamically equivalent to a given system.	4	02	5M
	b) Explain D-Alembert's Principle?	4	02	5M
	c) The crank and connecting rod of a steam engine are 0.3 m and 1.5 m in length. The crank rotates at 180 rpm clockwise. Determine the velocity and acceleration of the piston when the crank is at 40 degrees from inner dead Centre position Also determine the Position of the crank for Zero acceleration of the Piston.	4	03	5M
2	a) Discuss how a single revolving mass is balanced by two masses revolving in different planes.	5	02	5M
	b) Explain balancing of several masses rotating in different planes.	5	02	5M
	c) Four masses m_1 , m_2 , m_3 and m_4 are 200 kg, 300 kg, 240 kg and 260 kg respectively. The corresponding radii of rotation are 0.2 m, 0.15 m, 0.25 m and 0.3 m respectively and the angles between successive masses are 45° , 75° and 135° . Find the position and magnitude of the balance mass required, if its radius of rotation is 0.2 m.	5	03	5M
3	a) Explain coefficient of fluctuation of speed?	6	02	5M
	b) Give the reason why mass moment of inertia of the hub & arms is small?	6	02	5M
	c) The mass of flywheel of an engine is 6.5 tonnes and the radius of gyration is 1.8 metres. It is found from the turning moment diagram that the fluctuation of energy is 56 kN-m. If the mean speed of the engine is 120 r.p.m., find the maximum and minimum speeds	6	03	5M



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Department of Mechanical Engineering



Unit Test II

Subject: Heat & Mass Transfer		Class / Sem.: TY/ V Sem		
Name of the faculty: Dr. D V Ghewade		Date: 25/10/2024		
Time: 03.00 PM to 4.00 PM		Total marks: 30		
Note.: Answer any two questions from each questions				
Q. No.	Description of the question	CO	BL	Marks
1	a) What do you understand by convection ?State the types of heat convection and differentiate between them?	4	02	5M
	b) Give Physical significance of: i) Reynolds Number ii) Grashoffs number iii) Nusselt Number iv) Prandtl Number v)Stanton Number	4	02	5M
	c) A flat plate is 2 m long, 0.8 m wide and 3 mm thick . Density of plate= 3000 kg/m3.Specific heat of plate material =700J/kgK. Its initial temperature is 800C.A stream of air at 200C is blown over both surfaces of the plate along its width, at a velocity 2 m/s calculate rate of heat dissipation from the plate. $\rho=1.09 \text{ kg/m}^3$ $k=0.028 \text{ W/mK}$, $C_p=1.007 \text{ KJ/kgK}$, $\mu=2.03 \times 10^{-5} \text{ kg/ms}$, $Pr=0.698$, $Nu=0.664 Re^{0.5} Pr^{0.3333}$	4	03	5M
2	a) Define 1) Absorptivity 2) Reflectivity 3) Transmissivity 4) Black body 5) White body	5	02	5M
	b) Define radiation .State the range of wavelengths for ultraviolet, visible and thermal radiation.	5	02	5M
	c) Consider a blackbody at the temperature of 2000K 1) Calculate its total hemispherical emissive power. 2) Calculate the Wavelength at which maximum emissive power is available from this body.	5	03	5M
3	a) Define Heat Exchangers? Classify the heat exchangers according to heat transfer process.	6	02	5M
	b) Derive an expression for LMTD for parallel flow heat exchanger.	6	04	5M
	c) (a) A steam condenser consists of 3000 brass tubes of 20mm diameter. Cooling water enters the tube at 20°C with a mean flow rate of 3000 kg/s. heat transfer coefficient on the inner surface is 11270 W/m ² °C and that for condensation on the outer surface is 15500 W/m ² °C.the steam condenses at 50°C, and the condenser load is 230MW.the latent heat of steam is 2380 KJ/Kg. Assuming Counter flow arrangement, calculate the tube length per pass if two tube passes are used. (b)Explain why in steam condensers the LMTD is independent of flow arrangement?	6	03	5M



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Unit Test II

Subject: Machine Design - I	Class/ Sem.: TY/ V Sem
Name of the faculty: Mr. Aniruddha S. Bhoi	Date: 26/10/2024
Time: 10.00 AM to 11.00 AM	Total marks: 30

Note.: Answer any two questions from each questions

Q. No.	Description of the question	CO	BL	Marks
1	a. Explain design procedure eccentrically loaded bolted joints in shear.	4	2	5M
	b. Explain design procedure eccentrically load perpendicular to axis bolt.	4	2	5M
	c. An electric motor weighing 10 kg is lifted by means of an eye bolt. The eye bolt is crewed into the frame of the motor. The eye bolt has coarse thread. It is made of plain carbon steel 30C8 ($S_{yt}=400 \text{ N/mm}^2$) and factor of safety is 6. Determine the size of bolt.	4	5	5M
2	a. Define spring, types of springs and explain terminology of helical spring.	5	1	5M
	b. Write a note on stress and deflection equation.	5	2	5M
	c. A helical compression spring made of circular wire is subjected to an axial force which varies from 2.5 KN to 3.5 KN. Over this range of force the deflection of spring should be approximately 5 mm. The spring index can be taken as 5. the spring has square and ground end. The spring made of patented and cold drawn steel wire ultimate tensile strength of 1050 N/mm ² and modulus of rigidity of 81370 N/mm ² . The permissible shear stress for spring should be taken as 50% of ultimate tensile strength. Design the spring and calculate 1. wire diameter 2. mean coil diameter. 3. number of active coil 4. total number of coil 5. solid length of spring.	5	5	5M
3	a. Write down the parameter for selection of flat belt	6	2	5M
	b. Explain selection procedure for V - Belt.	6	2	5M
	c. It is required to select a flat belt drive for a compressor running at 720 rpm. Which is driven by 25 kW, 1440 rpm motor. Space is available for center distance of 3M. The belt is open type.	6	5	5M

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Unit Test II

Subject: Manufacturing Engineering	Class/ Sem.: TY/ V th Sem
Name of the faculty: Mr. I. T. Patel	Date: 26/10/2024
Time: 12.30 PM to 1.30 PM	Total marks: 30

Note: Answer any two sub questions from each main question.

Q. No.	Description of the question	CO	BL	Marks
1	A. Discuss the design considerations common to jigs and fixtures.	4	4	5M
	B. Explain various elements of jigs and fixture.	4	2	5M
	C. Explain 3-2-1 principle in jig and fixture with neat sketch.	4	3	5M
2	A. Explain different types of dies.	5	2	5M
	B. Differentiate Blanking and Piercing operation with the help of neat sketch.	5	2	5M
	C. A washer with 35 mm hole and 60 mm outside diameter is to be made from 3mm thick strip, ultimate shearing strength of material is 400 N/mm ² . Find force required for this operation and punch, die dimensions.	5	5	5M
3	A. Differentiate CNC machine against Conventional machine.	6	2	5M
	B. Explain CNC axes and drive.	6	2	5M
	C. Explain various coated and uncoated inserts available in CNC.	6	2	5M

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Unit Test II

Subject: Enterprise Resource Planning	Class/ Sem.: TE / V Sem
Name of the faculty: Dr. Sachin A Mehta	Date: 26/10/2024
Time: 3.00PM to 4.00PM	Total marks: 30

Note: Answer any two sub questions from each questions.

Q. No.	Description of the question	CO	BL	Marks
1.	A. Explain the HR module in ERP.	3	2	5M
	B. Explain the material management module in ERP	3	2	5M
	C. Explain the sales & distribution module in ERP.	3	2	5M
2.	A. Describe ERP; explain the different phases of ERP.	4	1,2	5M
	B. Describe ERP End-User Training & Post-Implementation phases.	4	1,2	5M
	C. Explain Service Oriented Architecture (SOA) in ERP.	4	2	5M
3	A. Explain SAP in ERP with practical examples.	5	2	5M
	B. Explain ERP implementation in India with companies	5	2	5M
	C. Explain the ERP implementation in Manufacturing case study.	5	2	5M

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Unit Test II

Subject: Refrigeration & Air Conditioning	Class/ Sem.: Final year/ VII Sem
Name of the faculty: Mr. Shripad P.Bagadi	Date:25/10/2024
Time: 10.00 AM to 11.00 AM	Total marks: 30

Note.: Answer any two questions from each questions

Q. No.	Description of the question	CO	BL	Marks
1	a. Explain what is meant by effective temperature in relation to human comfort.	4	2	5M
	b. With neat sketches explain psychometric chart and air washer?	4	3	5M
	c. The moist air is at 25 C DBT and 30% degree of saturation. pressure The total pressure is 1.01325 bar, calculate Enthalpy and volume of air per kg of dry air	4	3	5M
2	a. Explain the following terms 1. RSHF 2. GSHF 3. ESHF 4. Air conditioning systems	5	2	5M
	b. Explain in detail, cooling and heating load estimates.	5	2	5M
	c. Explain briefly with sketch A.D.P, B.F, capacity of cooling coil and factors affecting them?	5	2	5M
3	a. Explain methods of duct design.	6	2	5M
	b. Explain with neat sketches different types of ventilation systems.	6	2	5M
	c. Explain the concept of green building.	6	2	5M



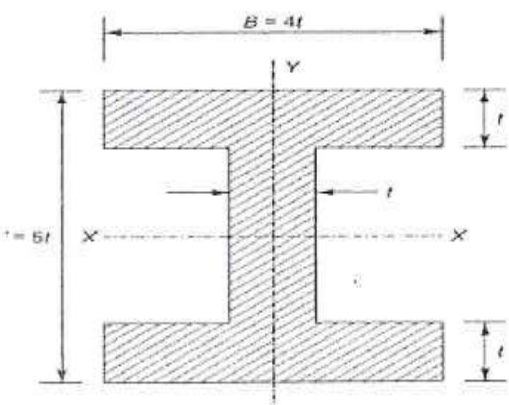
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Unit Test II

Subject: Mechanical System Design	Class / Sem : Final Year / VII Sem
Name of the faculty: Mr.G.M.KUMBAR	Date: 25/10/2024
Time: 12.30 PM to 1.30 PM	Total marks: 30

Note.: Answer any two questions from each questions

Q. No.	Description of the question	CO	BL	Marks
1	a) Write short notes on : (i) Band brake (ii) Auto frottage	03	02	5M
	b) Explain briefly various types of materials used for brakes?	03	02	5M
	c) A centrifugal clutch transmitting 20KW at 750 rpm consists of four shoes. The clutch is to be engaged at 500 rpm. The inner radius of the drum is 165 mm while the radius to the center of gravity the shoes in engaged position is 140 mm. The coefficient of friction is 0.3. Calculate the mass of each shoe.	03	03	5M
2	a) Explain step by step procedure for finding out the dimensions of the I-sections of the connecting rod.	05	02	5M
	b) Explain desirable properties of materials for cylinders and cylinder liners.	05	02	5M
	c) The following data is given for a connecting rod: Engine speed = 1800 rpm Length of connecting rod = 350 mm Length of stroke = 175 mm Density of material = 7800 kg/m ³ Thickness of web or flanges = 8 mm Assume the cross-section illustrated in the figure "I" section above. For this cross-section, Area of cross section (A) = $11t^2$, $I_{xx} = (419/12) t^4$ and $y = (5t/2)$ Calculate whipping stress in the connecting rod. 	05	03	5M



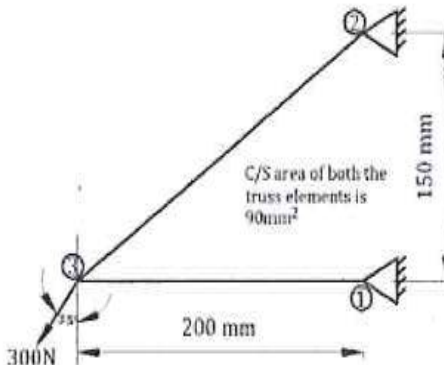
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Unit Test II

Subject: Finite Element of Analysis	Class / Sem : Final Year / VII Sem
Name of the faculty: Mr.K.S.JOSHI	Date: 25/10/2024
Time: 03.00 PM to 4.00 PM	Total marks: 30

Note.: Answer any one questions from each questions

Q. No.	Description of the question	CO	BL	Marks					
1	a) i) Explain how an axisymmetric triangular element is different than a CST ? ii) Discuss strain displacement relation for axisymmetric element?	03	02	(05M-05M)					
	b) A long cylinder of 80 mm internal diameter and 120 mm external diameter snugly fits in a hole over its full length. The cylinder is then subjected to an internal pressure of 2 MPa. Draw the sketch showing actual problem and also model the problem for a sample length of 10 mm using two axisymmetric triangular elements with proper forces and boundary conditions. Also show the element connectivity table and coordinates of all nodes.	03	03	10M					
2	a) i) Discuss Local and Global Coordinate System with respect to Truss? ii)Discuss the general steps involved in the analysis of truss?	05	02	(05M-05M)					
	b) Determine the Stiffness matrices for both the elements of truss shown below: <table border="1"><thead><tr><th>Element No.</th><th>Constituent nodes</th></tr></thead><tbody><tr><td>1</td><td>1-3</td></tr><tr><td>2</td><td>2-3</td></tr></tbody></table>  <p style="text-align: center;">fig 2(b)</p>	Element No.	Constituent nodes	1	1-3	2	2-3	05	02
Element No.	Constituent nodes								
1	1-3								
2	2-3								



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Unit Test II

Subject: Automobile Engineering	Class/ Sem.: Final Year / VII Sem
Name of the faculty: Mr. Aniruddha S. Bhoi	Date:26/10/2024
Time: 10.00 AM to 11.00 AM	Total marks: 30

Note.: Answer any two questions from each questions

Q. No.	Description of the question	CO	BL	Marks
1	a) Explain Electronic Brake Distribution (EBD).	4	2	5M
	b) Illustrate with neat sketch Air brake system.	4	3	5M
	c) What are various types of brakes? Compare drum brakes with disc brakes	4	2	5M
2	a) Explain Electronic Controlled Management (ECM) Systems	5	2	5M
	b) Explain the principle and operation of lead - acid battery	5	2	5M
	c) What is the function of Alternator explain with neat sketch	5	3	5M
3	a) Explain Air resistance, Rolling Resistance, Gradient Resistance to the vehicle motion	6	2	5M
	b) Explain Gradability, draw bar pull, Traction and Tractive effort	6	2	5M
	c) Explain different Sensors used in automobile	6	2	5M

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Unit Test II

Subject: Total Quality Management	Class/ Sem.: BE/ VII Sem
Name of the faculty: Dr. Sachin A Mehta	Date: 26/10/2024
Time: 12.30PM to 1.30PM	Total marks: 30

Note: Answer any two sub questions from each question.

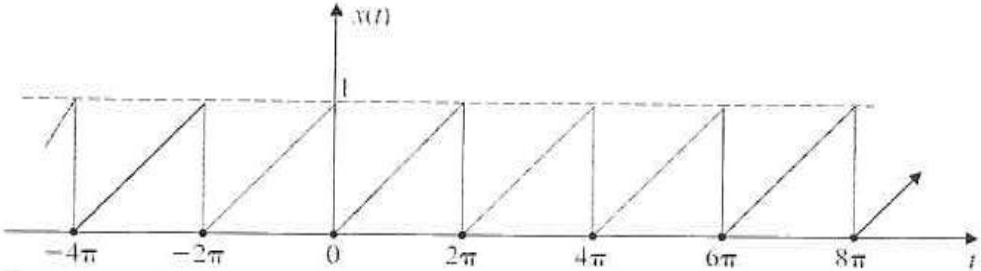
Q. No.	Description of the question	CO	BL	Marks
1.	A. Define TQM, list its objectives & explain its principles.	4	1,2	5M
	B. Explain the Crosby's approach with examples.	4	2	5M
	C. State the Deming's Approach, list the key principles & briefly discuss its 14 points.	4	1,2	5M
2	A. Define Customer perception of quality list & explain the Factors Influencing Perception with appropriate examples.	5	1,2	5M
	B. Define Quality Policy Deployment, explain the steps to understand the QPD	5	1,2	5M
	C. What is Kano model? How does it works.	5	1,2	5M
3	A. Explain the SERVQUAL model with a neat block diagram.	6	2	5M
	B. Define ISO 9001:2008. List & briefly discuss its different clauses.	6	1,2	5M
	C. List & explain the different National & International quality awards.	6	1,2	5M





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Unit Test II

Subject: Signals & Systems		Class/ Sem.: TY/ V Sem		
Name of the faculty: Prof.Abhijit Borganve		Date: 26/10/2024		
Time: 03.00PM to 04.00 PM		Total marks: 30		
Note.: Answer any two questions from each question.				
Q. No.	Description of the question	CO	BL	Marks
1	A. Mention any 5 properties of Z-transform.	4	1	5M
	B. Find Z transform and ROC of the given sequence $x(n) = -b^n u(-n-1)$	4	3	5M
	C. Mention properties of ROC of Z transform.	4	1	5M
2	A.Mention any 5 properties of Fourier transform.	5	1	5M
	B.Find the trigonometric Fourier series for the signal shown in Fig 	5	3	5M
	C. What is the connection between Fourier transform and Z transform.	5	2	5M
3	A. Explain Sampling Theorem.	6	2	5M
	B. Explain reconstruction of signal from its samples.	6	2	5M
	C. Explain any one method of Sampling	6	2	5M

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Unit Test II

Subject: Digital Electronics and Microcontroller		Class/ Sem.: TY/ VI Sem		
Name of the faculty: Mr. Basavaraj A. Angadi		Date: 25/10/2024		
Time: 10.00AM to 11.00AM		Total marks: 30		
Note.: Answer any two questions from each section of question.				
Q. No.	Description of the question	CO	BL	Marks
1	A. Explain full subtractor with NAND gate realization.	4	2	5M
	B. Write a short note on SR Flip-Flop with circuit diagram.	4	1	5M
	C. Draw and explain the BCD to seven segment decoder configurations.	4	2	5M
2	A. Draw and explain the general block diagram of microcontroller	5	2	5M
	B. Write difference between microcontroller and microprocessor.	5	2	5M
	C. Draw and explain Port 0 and Port 2 pin configuration of 8051.	5	1	5M
3	A. Write a program to transfer or copy a block of 8 bytes of data presently located from 60H to 67H	6	3	5M
	B. Write a program with algorithm to find checksum.	6	3	5M
	C. Draw and explain Architecture of microcontroller.	6	2	5M



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Unit Test II

Subject: AC MACHINES		Class/ Sem.: TY/ V th Sem		
Name of the faculty: Mr. Amar Ramesh Bandekar		Date: 25/10/2024		
Time: 3:00PM-4:00PM		Total marks: 30M		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. Explain the construction & working of BLDC motor	4	II	5M
	B. Explain the construction & working of stepper motor	4	II	5M
	C. Explain the construction & working of reluctance motor	4	II	5M
2	A. Explain the necessity of parallel operation of alternator	5	II	5M
	B. Explain the effect of armature reaction on the terminal voltage of an alternator 1.Unity P.F. 2.Zero Lagging P.F.	5	II	5M
	C. Explain the regulation in alternator	5	II	5M
3	A. Explain V and inverted V curves of synchronous motor	6	II	5M
	B. List the applications of synchronous motor	6	I, IV	5M
	C. Explain any two methods of starting of synchronous motor	6	II	5M



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Unit Test II

Subject: Power Systems-II		Class/ Sem.: TY/ V Sem		
Name of the faculty: Prof S. C. Gandh		Date: 25-10-2024		
Time: 10.00AM-11.00AM		Total marks: 30		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A.Derive Conductor for one conductor open Fault	4	2	5M
	B.Derive Expression for LLG Fault	4	2	5M
	C.Derive Expression for LG Fault	4	2	5M
2	A.Derive Expression of gauss seidel method. Mention advantages	5	2	5M
	B. Which Matrix is used for load flow study explain the same	5	2	5M
	C.Compare load flow methods	5	2	5M
3	A. Write a short Note on substation grounding	6	1	5M
	B. Write cause and disadvantages of low power factor	6	1	5M
	C. Explain power factor improvement method	6	2	5M



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Unit Test II

Subject: Domestic /Industrial Electrical Installation, Estimation and Costing	Class/ Sem.: TY/ V Sem
Name of the faculty: Dr. Vireshkumar G. Mathad	Date:25/10/2024
Time: 12.30PM to 1.30PM	Total marks: 30

Note.: Answer any three questions from each questions

Q. No.	Description of the question	CO	BL	Marks
1	A) Write the different types of service connection, list out advantages and disadvantages of each.	4	2	5M
	B) With neat diagram explain Underground service mains.	4	2	5M
	C) Prepare the material required for overhead service connection to home of 2 kW load for a 15M distance. Assume diversity factor as 1.66 and future expansion as 100 %.	4	3	5M
2	A) List the different types of line supports, explain any one of them.	5	2	5M
	B) With neat diagram explain different types of cross arms.	5	2	5M
	C) Write the main Components of overhead lines explain briefly.	5	2	5M
3	A) A pole for an overhead line 11 kV, 3 phase, 44V, 50 Hz line required to be stay. Make list of material required for staying.	6	3	5M
	B) Differentiate between overhead distribution & underground distribution system.	6	2	5M
	C) Write any 3 IE rules pertaining to distribution system.	6	2	5M



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Unit Test II

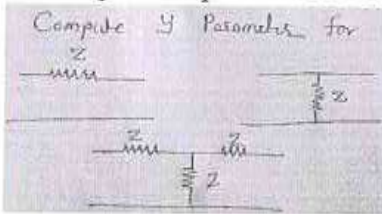
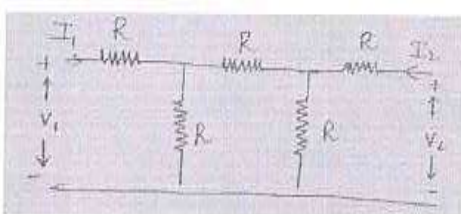
Subject: Advance controller system	Class/ Sem.: TY/ V Sem
Name of the faculty: Mr. Shivanand Killedar	Date: 26/10/2024
Time: 12.30PM to 1.30PM	Total marks: 30

Note.: Answer any two questions from each section of question.

Q. No.	Description of the question	CO	BL	Marks
1	A. Explain different types of modified PID controllers	4	2	5M
	B. Discuss different types of Compensators in details.	4	1	5M
	C. Explain feedback control system characteristics.	4	2	5M
2	A. Explain Z-transform Analysis of Sampled Data Control System.	5	2	5M
	B. Describe State Feedback Law.	5	2	5M
	C. Explain design procedure of lag compensator using bode plot.	5	1	5M
3	A. Consider the system whose open loop transfer function is $G(S)=2.66 / s(s+1)(s+4)$ Design a lag compensator to meet following specification i) Damping ratio $\zeta=0.5$ ii) Settling time $T_s = 10$ sec iii) velocity error constant $K_v= 5$ Sec-1	6	3	10M
	B. Find the Z transform for following functions. $F(s)= 2 / S(S^2+1).$	6	3	10M

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Unit Test II

Subject: Computer Methods in Power System		Class/ Sem.: BE / VII Sem		
Name of the faculty: Mr.Basavaraj A. Angadi		Date: 26/10/2024		
Time: 12.30PM to 01.30PM		Total marks: 30		
Q. No.	Description of the question	CO	BL	Marks
Note: Answer any two questions from each section				
1	A. Describe the procedure for load flow problem formulation with help of necessary question.	4	1	5M
	B. Compare Gauss-Seidel method and Newton Raphson method for load flow studies.	4	2	5M
	C. Derive and Explain Hybrid connection with neat diagram for two port networks.	4	2	5M
2	A. Derive the relationship to determine the system parameter for double line to ground fault [DLG Fault].	5	2	5M
	B. Compare two component method and three component method.	5	2	5M
	C. Derive question of single line to ground fault [LG fault].	5	1	5M
Note: Answer any one question				
3	A. Compute Z parameter of figure(a),  <p style="text-align: center;">Fig (a)</p>	6	2	10M
	B. Compute Y parameter figure(b),  <p style="text-align: center;">Fig (b)</p>			



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Department of Electrical Engineering



Unit Test II

Subject: Switch gear and protection		Class/ Sem.: BE/ VII Sem		
Name of the faculty: Prof. S. C. Gandh		Date: 25-10-2024		
Time: 10.00AM-11.00AM		Total marks: 30		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. Explain circulating current and opposed voltage scheme	4	2	5M
	B. Explain protection against magnetizing inrush current	4	2	5M
	C. Draw neat sketch of Buchholz relay and explain it	5	2	5M
2	A. Explain frame leakage protection	5	2	5M
	B. Explain problems associated with percentage differential protection	5	2	5M
	C. Explain protection against magnetizing inrush current in transformer	5	2	5M
3	A. Write a note on selection of distance relays	6	1	5M
	B. Explain generator protection for rotor overheating, earth fault protection & excitation failure	6	2	5M
	C. Explain stator earth fault & phase fault protection of alternator.	6	2	5M



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Unit Test - II

Subject: FLEXIBLE AC TRANSMISSION SYSTEM (FACTS)	Class/ Sem.: FINAL YEAR/ VII th Sem
Name of the faculty: Mr. Amar Ramesh Bandekar	Date: 25/10/2024
Time: 12:30PM-01:30PM	Total marks: 30M
Note: Answer any two questions from each question	

Q. No.	Description of the question	CO	BL	Marks
1	A. Explain working principle of GTO thyristor-controlled series capacitor	4	II	5M
	B. Explain the objectives of series compensation	4	II	5M
	C. Explain the working of static series synchronous compensator (SSSC) with neat diagram.	4	II	5M
2	A. Explain the use of phase angle regulator in power flow control.	5	II	5M
	B. Explain the objectives of phase angle and voltage regulator	5	II	5M
	C. Explain the two cases in equal area criteria transient stability margin for a two-machine system with and without PARs	5	II	5M
3	A. Explain the working principle of unified power flow controller (UPFC).	6	II	5M
	B. Explain the working principle of interline power flow controller (IPFC).	6	II	5M
	C. Compare UPFC & IPFC	6	II, IV	5M





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Unit Test II

Subject: Power Quality and Harmonics		Class/ Sem.: BE/ VII Sem		
Name of the faculty: Prof. Shivanand Killedar		Date: 25/10/2024		
Time: 03.00PM to 04.00 PM		Total marks: 30		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A.Explain DVR and its working principle with neat diagram	4	2	5M
	B.Explain the different grounding practices	4	2	5M
	C.Discuss about UPS and its type with neat block diagram	4	2	5M
2	A. Difference between Analog and Digital Methods in harmonics measurement	5	2	5M
	B. Short Note- a) TDD b) THD	5	2	5M
	C. State and explain the harmonic measurement techniques.	5	2	5M
3	A. Explain the features of power quality Analyzer.	6	2	5M
	B. Explain different power quality solution techniques in detail.	6	2	5M
	C. Explain the importance of power quality monitoring.	6	2	5M

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Unit Test II

Subject: ELECTIRC VEHICLE	Class/ Sem.: BE/ VII Sem
Name of the faculty: Prof.Abhijit Borganve	Date: 26/10/2024
Time: 10.00AM to 11.00 PM	Total marks: 30

Note.: Answer any two questions from each question

Q. No.	Description of the question	CO	BL	Marks
1	A. Explain lead acid batteries.	4	2	5M
	B. Explain ultra capacitors-based energy storage system.	4	2	5M
	C. Explain flywheel energy storage system.	4	2	5M
2	A. Explain the conversion of chemical energy into electrical energy in batteries.	5	2	5M
	B. Explain battery performance characteristics.	5	2	5M
	C. Explain battery design performance criteria for EV batteries.	5	2	5M
3	A. Explain battery charging and discharging methods.	6	2	5M
	B. Explain different battery testing methods.	6	2	5M
	C. Explain different recycling methods of Electrical vehicles	6	2	5M



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Department of Computer Science and Engineering





Unit Test II

Subject: Information Security	Class/ Sem.: TY/ V Sem
Name of the faculty: Prof. M. K. Hasabe	Date: 25/10/2024
Time: 10.00AM to 11.00 AM	Total marks: 30

Note: All questions are compulsory.

Q. No.	Description of the question	CO	BL	Marks
1	Solve any TWO questions from following			
	A. Write note on firewall design principles.	4	1	5M
	B. With neat diagram explain Secure Electronic Transaction.	4	2	5M
	C. Explain SSL & Transport layer Security.	4	2	5M
2	Solve any TWO questions from following			
	A. With neat diagram, explain DoS & DDoS	5	2	5M
	B. Write note on Session Hijacking & Spoofing.	5	1	5M
	C. Explain SQL Injection in detail.	5	2	5M
3	Solve any ONE question from following			
	A. Explain IP security architecture authentication header and encapsulating security payload with diagrams	6	2	10 M
	B. With neat diagram explain email security in details With PGP & S/MIME	6	2	10 M

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**Unit
Test II**

Subject: System Programming	Class/ Sem.: TY/ V Sem
Name of the faculty: Prof H. S. Naikwadi	Date: 25/10/2024
Time: 12.30 PM to 01.30 PM	Total marks: 30

Note.: Answer any two questions from each question.

Q. No.	Description of the question.	CO	BL	Marks
1	A. Explain code optimization in compilation. Brief about Local and Global code Optimization	4	2	5M
	B. Write short note on: Compilation of control structure.	4	2	5M
	C. Explain memory allocation in Block structured Language	4	2	5M
2	A. Explain design of Linker.	5	2	5M
	B. State and discuss linking for overlays.	5	2	5M
	C. Write short note on: Absolute Loader	5	2	5M
3	A. Explain steps in program development.	6	2	5M
	B. Explain the structure of UI with neat diagram	6	2	5M
	C. Write short note on: Text editors.	6	2	5M



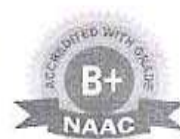
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Department Computer Science and Engineering



Unit Test II

Subject: Object Oriented Modeling & Design	Class/ Sem.: TY/ V Sem
Name of the faculty: Prof.P.B.Jangali	Date: 25/10/2024
Time: 03.00PM to 04.00 PM	Total marks: 30

Note.: Answer any three questions from each questions

Q. No.	Description of the question	CO	BL	Marks
1	A.Explain common mechanism for structural modeling.	4	2	5M
	B. Explain class diagram with its contents.	4	2	5M
	C..Explain relationship in UML	4	2	5M
2	A. Draw and explain State chart diagrams.	5	2	5M
	B.Draw and explain use case diagram.	5	2	5M
	C.Draw and explain interaction diagrams.	5	2	5M
3	A. Draw and explain Deployment diagram.	6	2	5M
	B. Draw and explain component diagram.	6	2	5M
	C.Define following terms 1.Framework 2.Patterns	6	1	5M



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Unit Test II

Subject: Computer Algorithm		Class/ Sem.: TY/ V Sem		
Name of the faculty: Prof. M. A. Nimbalkar		Date: 26/10/2024		
Time: 10.00AM to 11.00 PM		Total marks: 30		
Note.: Answer any three questions from each questions				
Q. No.	Description of the question	CO	BL	Marks
1	A.Explain solution to 0/1 knapsack problem using Backtracking method.	4	2	5M
	B.Draw and explain permutation tree generated for 4-Queens problems using backtracking.	4	2	5M
	C.Discuss Algorithm and conditions of 8 Queens problem.	4	3	5M
2	A.Explain the relationship between P, NP, NP-Complete, NP-Hard problems with neat diagram.	5	2	5M
	B.List and explain NP-Hard graph problems.	5	1,2	5M
	C.Write a note on flow shop scheduling.	5	1	5M
3	A.Write a note on Deterministic list ranking	6	1	5M
	B.List and explain Variants of PRAM.	6	2	5M
	C.Write a note on Amdahl's law.	6	2	5M

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Unit Test II

Subject: Signal and System	Class/ Sem.: TY/ V Sem
Name of the faculty: Prof. M. A. Bandi	Date: 25/10/2024
Time: 10:00 to 11:00 pm	Total marks: 30

Note.: Answer any two questions from each question.

Q. No.	Description of the question	CO	BL	Marks
1	A. Find the DFT of given signal. $X(n) = \{1,1,0,0\}$	4	3	5
	B. Obtain the DTFT of $x(n) = u(n)$ & $x(n) = a^n u(n)$	4	3	5
	C. Write a short note on Twiddle factor.	4	2	5
2	A. Obtain the Z transform of following finite duration. $X(n) = \{1,2,4,5,0,7\}$	5	3	5
	B. Find the Z transform of given signal using properties of Z.T. i) $u(n-3)$ ii) $a^n u(n)$	5	3	5
	C. Explain the properties of region of conversion.	5	2	5
3	A. Represent the following system in the hardware realization format. $y(n) = 3x(n) + 5x(n-1)$ & $y(n) = 2x(n) - 1/2y(n-1)$	6	1,2	5
	B. Realize the below equation in direct form 1 & direct form 2. $Y(n) = -0.5y(n-1) + 0.25y(n-2) + x(n) - 3x(n-1)$	6	3	5
	C. Develop direct form I realization of difference equation. $Y(n) = b_0x(n) + b_1x(n-1) + b_2x(n-2) + b_3x(n-3) - a_1y(n-1) - a_2y(n-2) - a_3y(n-3)$	6	3	5





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Unit Test II

Subject: Power Electronics		Class/ Sem.: TY/ V Sem		
Name of the faculty: Prof. S.S.Bhoi		Date: 25/10/2024		
Time: 12:00 to 01:00 pm		Total marks: 30		
Note.: Answer any two questions from each question.				
Q. No.	Description of the question	CO	BL	Marks
1	A. Give the Difference between half and full bridge inverter.	5	2	5M
	B. Explain sinusoidal pulse modulation used in PWM inverters.	5	2	5M
	C. Explain with waveforms single phase half bridge inverter.	5	2	5M
2	A. Explain with waveforms switched mode power supply.	6	2	5M
	B. Explain Triac ,diac light dimmers.	6	2	5M
	C. Explain with waveforms offline ups.	6	2	5M
3	A. Draw and explain circuit diagram of full bridge inverter.	5	2	5M
	B. Explain square wave pulse modulation write the important features of the same.	5	2	5M
	C.Explain the basic requirements for the successful firing of thyristors during one cycle.	2	2	5M

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Unit Test II

Subject: Computer Organization and Architecture		Class/ Sem.: TY/ V Sem		
Name of the faculty: Prof. A. A. Magadum		Date: 25-10-2024		
Time: 03:00 to 04:00 pm		Total marks: 30		
Note: Answer any two questions from each question.				
Q. No.	Description of the question	CO	BL	Marks
1	A. Explain process with state diagram in detail.	4	2	5M
	B. Explain Process Control Bock (PCB) with diagram	4	2	5M
	C. What is preemptive and non-preemptive scheduling? Explain FCFS with example.	4	1,2	5M
2	A. What is deadlock? Explain deadlock process.	5	1,2	5M
	B. What is parallel processing? Explain Flynn's classification.	5	1,2	5M
	C. What is pipelining explain with neat diagram & also mention the types of pipeline.	5	1,2	5M
3	A. Explain pipeline hazards in detail.	6	2	5M
	B. List out the points of disadvantages of pipeline hazards.	6	1	5M
	C. Explain superscalar architecture with diagram.	6	2	5M

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Unit Test II

Subject: Computer Network-II		Class/ Sem.: TY/ V Sem		
Name of the faculty: Prof. S. R. Pujari		Date: 26-10-2024		
Time: 10:00 to 11:00 am		Total marks: 30		
Note.: Answer any two questions from each question.				
Q. No.	Description of the question	CO	BL	Marks
1	A. Define TELNET protocol and explain how it implements local and remote login using concept of Network Virtual Terminal (NVT).	4	1,2	5M
	B. How file transfer can be done using FTP? Explain 3 types of file transfer in it.	4	1,2	5M
	C. Explain FTP command processing. List and describe at-least two commands from each FTP command group.	4	1,2	5M
2	A. Discuss header format of MIME and write its significance in E-Mail communication.	5	2	5M
	B. With neat labelled diagram explain the architecture of HTTP.	5	2	5M
	C. List and explain the types of web documents in detail.	5	1,2	5M
3	A. Write a short note on: i) RTP ii) RTCP	6	1	5M
	B. Discuss the challenges of real time interactive audio/video transmission.	6	2	5M
	C. Explain the Real Time Transport protocol and its purpose?	6	2	5M



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Unit Test-II

Subject: Sensors and Applications		Class/ Sem.: TY/ V Sem		
Name of the faculty: Prof. Irfan. M. Trasgar		Date: 26-10-2024		
Time: 12:30 to 01:30 pm		Total marks: 30		
Note: Answer any two questions from each question.				
Q. No.	Description of the question	CO	BL	Marks
1	A. Explain the construction and working of LVDT.	4	2	5M
	B. Compare photo-diode and photo-transistors in light detection applications.	4	2	5M
	C. Explain the working principle and signal conditioning of strain gauge Load cell.	4	2	5M
2	A. Define MEMS and explain bulk and surface micromachining processes.	5	1,2	5M
	B. Explain the working principle of Hall-Effect sensor and their applications.	5	2	5M
	C. Discuss the role of piezoelectric sensor in smart sensing technologies.	5	2	5M
3	A. Describe the functions and types of process control valves.	6	1	5M
	B. Explain Pneumatic and Hydraulic actuators in terms of their applications and working principle.	6	2	5M
	C. Explain the differences between mechanical switches, solid state switches and their applications in control systems.	6	2	5M



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Even Semester

Unit Test

Question Papers



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Unit Test I

Subject: Structural Engineering		Class/ Sem.: SY/ IV Sem		
Name of the faculty: Prof. Amit S Madakari		Date: 21/02/2025		
Time: 10.30 Am To 11.30 Am		Total marks: 30		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. Explain terms: a. Obliquity b. Resultant stress.	1	2	3
	B. An element is a stressed material has a tensile stress of 400 Mpa and compressive stress of 250 Mpa acting on two mutually perpendicular planes and equal shear stress of 80 Mpa on these planes. Find principal stresses and the position of principal planes. Find also maximum shear stresses. OR The stresses on two mutually perpendicular planes through a point in a body are 60 Mpa and 30 Mpa both tensile along with shear stress 50 Mpa. Find: a) Magnitude and direction of principal stress b) Location for plane of maximum shear c) Normal and shear stress on the plane of maximum shear	1	4	7
2	A. masonry dam is 4.5m, 1m wide at the top and 3.5m wide at the base retains water to the full height. The water face of the dam is vertical. Determine the extreme pressure intensities at the base. Take weight of water and masonry 9.810 N/m^3 and 22550 n/m^3 respectively. OR A masonry retaining wall of trapezoidal section is 10m high and retains earth which is level up to top. The width at the top is 2m and at bottom is 8m and the exposed face is vertical. Find maximum and minimum intensity of normal stress at the base. Take density of earth and masonry 16 KN/m^2 and 24 KN/m^2 respectively and angle of repose = 30.	2	4	10



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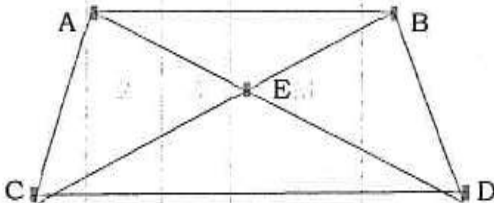
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3	<p>A beam ACB 10m long is fixed at A and is simply supported at B and is provided with an internal hinge at C 5m from A. Draw the ILD for the following</p> <p>a) B.M. at A b) Reaction at B c) Reaction at A</p> <p style="text-align: center;">OR</p> <p>A beam ACB 7m long is fixed at A and is simply supported at B and is provided with an internal hinge at C 4m from A. Draw the ILD for the following</p> <p>d) B.M. at A e) Reaction at B f) Reaction at A</p>	3	4	10
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Unit Test – I

Subject: Surveying-II						Class/ Sem: S.Y. - B. Tech/IV Sem			
Name of the faculty: Prof. P. S. Shiragavi						Date: 21/02/2025			
Time: 01.00PM to 02.00PM						Total Marks: 30			
Note: Answer any two questions from each question									
Q. No.	Description of the question						CO	BL	Marks
1	A. What are methods of Tacheometry? Explain anyone.						1	2	5M
	B.Explain tangential method of tacheometry when both angles of target are angles of elevation 7) Following observations were taken with Transit Theodolite .						1	4	5M
	Inst.station	Staff station	Target	Vertical Angle	Staff Reading	Remark			
	O	A	Lower	+ 4°30'	0.950	R.L of instrument axis=255.500			
			Upper	+ 6°30'	3.250				
Calculate the horizontal distance between the instrument station and staff and also the RL of station A.									
	C. Explain in brief about the principal of Stadia Method.						1	3	5M
2	A. What are Criteria for selection of station						2	2	5M
	B. Calculate the value of (D-C)/D for given triangulation net as shown in fig.						2	3	5M
									
	C. Explain principle of Triangulation.						2	4	5M
3	A. Explain reconnaissance, preliminary surveys for road project						3	4	5M
	B. Explain detailed survey for Road Project						3	4	5M
	C. Explain principle of EDM						3	4	5M



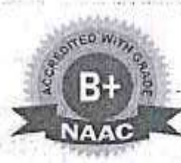
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Academic Year 20223-24

Department of Civil Engineering



Unit Test I

Subject: Concrete Technology	Class/ Sem.: SY/ VI Sem
Name of the faculty: Prof.Vaibhavee V.Chougule	Date: 21/02/2025
Time: 3.30PM - 4.30PM	Total marks: 30

Note.: Answer any two questions from each questions

Q. No.	Description of the question	CO	BL	Marks
1	A. Enlist the types of cement .Explain any two in detail.	1	1	5M
	B. Explain the classification of aggregates.	1	2	5M
	C. Explain detailed procedure to calculate aggregate impact value	1	2	5M
2	A. Explain factors affecting workability of concrete.	2	2	5M
	B. Enlist the steps of manufacturing of concrete. & Explain segregation and Bleeding of fresh concrete.	2	1	5M
	C. What are the methods of compaction of concrete used for making good quality concrete?	2	2	5M
3	A. Explain factors affecting strength of concrete.	3	2	5M
	B. What is the Creep and Shrinkage of concrete? List the factors affecting creep and shrinkage of concrete.	3	2	5M
	C. Explain maturity concept of concrete.	3	2	5M



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Department of Civil Engineering



Unit Test – I

Subject: Fluid Mechanics-II		Class/ Sem: S.Y. - B. Tech/IV Sem		
Name of the faculty: Prof. Vinayak S. Patil		Date: 10.30 to 11.30 AM		
Time: 22/02/2025		Total Marks: 30		
Note: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. What do you understand by open channel flow? How does it differ from the pipe flow?	1	2	5M
	B. Explain construction and working of current meter.	1	1	5M
	C. Show that $\frac{Q^2 T}{g A^3} = 1$	1	2	5M
2	A. Derive dynamic equation of GVF and give the assumptions.	2	2	5M
	B. Classify the channel bed slopes and show various zones.	2	1	5M
	C. The specific energy for a 5m wide rectangular channel is to be 6 Nm/N. If the rate of flow of water through the channel is 25m ³ /sec, Determine the alternate depths of flow.	2	3	5M
3	A. Define hydraulic jump and state its applications.	3	2	5M
	B. State the assumptions made in determination of hydraulic jump.	3	1	5M
	C. Give the classification of hydraulic jump and their Froude number.	3	2	5M



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Department of Civil Engineering



Unit Test I

Subject: Building Design & Drawing		Class/ Sem.: SY/ IV Sem		
Name of the faculty: Prof. Mr.R.V.Savyanavar		Date: 22/02/2025		
Time: 01.00 PM to 02.00 PM		Total marks: 30		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. List the Various factors to be considered in selection of good site for residential building.	1	1	5
	B.Explain the significance of sun path diagram.	1	6	5
	C.Write a short note on grouping principle of a building planning.	1	4	5
2	A.Explain the Bylaws. i)Building Line & Control Line ii) Height of Building	2	6	5
	B.Explain the Concept of F.S.I	2	2	5
	C.Illustrate significance of open spaces around a building.	2	4	5
3	A.Explain the various cost reduction method for low cost housing	4	6	5
	B. Write a short note on Maintenance of Building	4	2	5
	C.What is the concept of green building & state various benefits of it.	4	2	5



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Department of Civil Engineering



Unit Test I

Subject: Theory of Structure

Class/ Sem.: Third Year B. Tech/ VI Sem

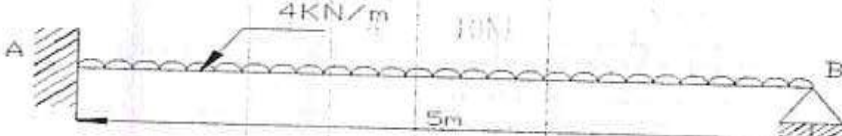
Name of the faculty: Prof. Amit S Madakari

Date: 21/02/2025


Time: 10.30 am – 11.30 am

Total marks: 30

Note: All the questions are compulsory

Q. No.	Description of the question	CO	BL	Marks
1	Analyze the propped cantilever beam loaded as shown in the figure 1 by using Consistent deformation method. Also draw SFD and BMD 	1	4	10M

OR

1	Analyse the propped cantilever beam loaded as shown in the figure 2 by using Consistent deformation method. Also draw SFD and BMD 	1	4	10M
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2	Draw SFD & BMD for 3 span continues beam ABCD with AB=BC=CD=4m UDL of 10kN/m is acting on span AB & a point load of 50 KN at mid point of CD. Use clapeyrons three moment theorem when EI is constant. Extra DE is 1m overhang with 10KN load is acting at E	2	2,5	10M
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OR


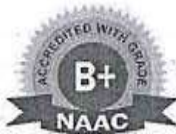


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Department of Civil Engineering



Unit Test I

Subject: Engineering Management		Class/ Sem.: TY/ VI Sem																																					
Name of the faculty: Prof. P. S. Shiragavi		Date: 21/02/2025																																					
Time: 01.00 PM to 02.00 PM		Total marks: 30																																					
Note.: Answer any two main questions.																																							
Q. No.	Description of the question	CO	BL	Marks																																			
1	A. Explain the principles of management by Henry Fayol.	1	1	5M																																			
	B. What are the functions of management? Explain in brief controlling function.	1	2	5M																																			
	C. Discuss the various Steps involved in planning function.	1	2	5M																																			
2	A. Differentiate between CPM & PERT Network.	2	2	5M																																			
	B. Explain the different Time estimates used in CPM.	2	1	5M																																			
	C. Draw the network, determine critical path, and find out project duration, by using the data.	2	3	5M																																			
	<table><tr><td>Activity</td><td>1-2</td><td>2-3</td><td>2-4</td><td>3-4</td><td>3-5</td><td>4-6</td><td>5-6</td></tr><tr><td>Duration</td><td>14</td><td>13</td><td>16</td><td>15</td><td>17</td><td>19</td><td>12</td></tr></table>	Activity	1-2	2-3	2-4	3-4	3-5	4-6	5-6	Duration	14	13	16	15	17	19	12																						
Activity	1-2	2-3	2-4	3-4	3-5	4-6	5-6																																
Duration	14	13	16	15	17	19	12																																
3	A. Explain time estimates in PERT.	3	1	5M																																			
	B. Explain in detail the concept of A-B-C Analysis.	3	1	5M																																			
	C. Draw the network for a construction project and find the project duration along with critical path.	3	3	5M																																			
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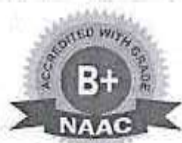
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Unit Test I

Subject: Environmental Engineering - II Sem		Class/ Sem.: T. Y. B. Tech/ VI Sem		
Name of the faculty: Miss. K. K. Gurav		Date: 21/02/2025		
Time: 03:30 AM - 04:30 AM		Total marks: 30		
Note: Answer any two from each question.				
No.	Description of the question	CO	BL	Marks
1	A. Enlist and explain types of sewers and collection system.	01	02	5M
	B. Enlist and explain wastewater sources and flow rates.	01	04	5M
	C. What are the parameters and components of waste water.	01	05	5M
2	A. Give the design parameter of bar rack and settling tank	02	06	5M
	B. Explain the concept of trickling filter.	02	02	5M
	C. Explain activated sludge process with its modifications.	02	06	5M
3	A. Explain in detail types of Reactors.	03	02	5M
	B. Explain the operation & design parameter oxidation ditch.	03	02	5M
	C. Explain in brief Operation of aerobic & anaerobic Lagoons.	03	02	5M



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Unit Test - I

Subject: Geotechnical Engineering-II		Class/ Sem: T.Y. - B. Tech/VI Sem		
Name of the faculty: Prof. Vinayak S. Patil		Date: 10.30 to 11.30 AM		
Time: 22/02/2025		Total Marks: 30		
Note: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. Explain in brief – Auger boring & Wash boring.	1	2	5M
	B. Explain with neat sketch – i) Area ratio ii) Outside clearance iii) Inside clearance	1	2	5M
	C. Describe the various modes of failure of rocks.	1	2	5M
2	A. State & explain Terzaghi's equation of bearing capacity?	2	1	5M
	B. Draw the diagram of pressure meter set up test.	2	3	5M
	C. A 500 mm square bearing plate settles by 10 mm in the plate load test on cohesionless soil, when the intensity of loading is 200 KN/m ² . Estimate the settlement of a shallow foundation of size 2.0 m × 2.0 m under the same intensity of loading.	2	5	5M
3	A. Explain floating foundation.	3	2	5M
	B. What is shallow foundation? Write the difference between shallow foundation & deep foundation.	3	2	5M
	C. Write notes on- i) Raft foundation ii) Tilt & angular distortion	3	1	5M



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Department of Civil Engineering



Unit Test I

Subject: Soil & Water Conservation Techniques		Class/Sem.: TY/ VI Sem		
Name of the faculty: Mr. Suraj R. Wadagule		Date: 22/02/2025		
Time: 01.00PM to 02.00PM		Total marks: 30		
Note.: Answer any two sub questions from each questions				
Q. No.	Description of the question	CO	BL	Marks
1	A. Explain the concept of soil erosion.	1	2	5M
	B. What are the causes of soil erosion? Explain briefly.	1	1	5M
	C. Short note - Erosion due to water.	1	2	5M
2	A. Explain in detail – Terraces for soil erosion control.	2	2	5M
	B. Explain bunding methods of soil conservation.	2	2	5M
	C. Explain maintenance of gully.	2	2	5M
3	A. Enlist the methods of river training work and explain in detail.	3	1	5M
	B. Explain mechanism of stream bank erosion.	3	2	5M
	A. Write note on bank scour.	3	2	5M



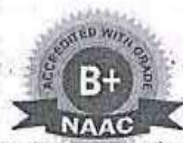
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Unit Test I

Subject: Design of Concrete Structure IIch/ VIII Sem		Class/ Sem.: Final Year B. Tech/ VIII Sem		
Name of the faculty: Prof. P. S. Shiragavi		Date: 21/02/2025		
Time: 10.30 AM to 11.30 AM		Total marks: 30		
Note.: All the questions are compulsory				
Q. No.	Description of the question	CO	BL	Marks
1 OR	Design a rectangular beam 450mm wide Subjected to factored bending moment of 100kNm, factored torsional moment of 48kNm & factored shear force of 56kN. Use concrete grade M20 & steel of grade Fe415	1	6	10M
	OR			
2 OR	Design a rectangular beam of cross section 300 mm x 550 mm subjected to factored bending moment, torsional moment and shear as 105kN-m, 50 KN-M and 90kN respectively. Use concrete grade M20 and steel of grade Fe 415	1	6	10M
	A three span continuous rectangular beam ABCD of 6 m 1 each is simply supported at A and D and continuous over B and C. It carries a dead load of 10kN/m and live load of 17 kN/m. Use concrete grade M20 and steel of grade Fe500. Design the beam using I.S. Code coefficient method for flexure at mid span of BC and for shear at support B only	2	2	10M
3 OR	OR			
	Design a Three span continuous rectangular beam ABCD of 7m each simply supported at A, and D and continuous over B and C. It carries a dead load of 11kN/m and live load of 15kN/m. Use concrete grade M20 and steel of grade Fe 415	6	2	10M
3 OR	Design a circular water tank resting on ground for 2 lakh liter of water. take height of water 4.8m including free board of 0.2m. Take 6cbc is 7N/mm ² , 6st is 150N/mm ² . Wall & base slab is rigid. Use IS code method of design Take m=13.	3	6	10M
	OR			
3 OR	a. Explain the design procedure of circular water tank resting on ground with rigid base IS code method..	3		5M
	b. Explain the design procedure of circular water tank resting on ground with rigid base Approximate method.	3		5M



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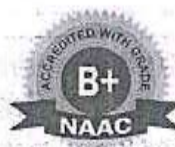


Unit Test – I

Subject: Water Resources Engineering-II		Class/ Sem: B. Tech/ VIII Sem		
Name of the faculty: Prof. Vaibhavee V. Chougule		Date: 21/02/2025		
Time: 1.00 to 2.00 PMs: 30		Total Marks: 30		
Note: Answer any two questions from each question.				
. No.	Description of the question	CO	BL	Marks
1	A. Describe in brief modes of failures in earthen dams.	1	2	5M
	B. Explain in detail the components & functions of earthen dams.	1	2	5M
	C. Explain silting of reservoirs? What factors influence it?	1	2	5M
2	A. Discuss step by step the analytical procedure that you will adopt for analyzing the stability of gravity dam.	2	2	5M
	B. Write a note on forces acting on gravity dam.	2	6	5M
	C. Describe various types of joints in gravity dam.	2	2	5M
3	A. What are the essential requirements of the spillway?	3	6	5M
	B. Enlist various types of spillways & explain chute spillway in detail.	3	2	5M
	C. Explain necessity of energy dissipation with various types of dissipaters.	3	2	5M



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Unit Test – I

Subject: Advance Foundation Engineering		Class/ Sem: B. Tech/ VIII Sem		
Name of the faculty: Prof. Vaibhavee V. Chougule		Date: 22/02/2025		
Time: 10.30 to 11.30 AM		Total Marks: 30		
Note: All Questions are Compulsary.				
No.	Description of the question	CO	BL	Marks
1	A. Write a Note on 1. Depth of foundation 2. Types of combined footing	1	2	6M
	B. Explain Terzaghis Bearing Capacity theory	1	2	4M
2	A. What are the advantages and disadvantages of raft foundations.	2	2	5M
	B. A building consist of 9 columns 0.4X0.4m in sizes arranged in three rows. Distance between the columns in both directions is 6 m each. The load carried by four corner columns is 700KN each, that carried by exterior column is 500KN each and that carried by central column is 1000KN. Allowable soil pressure is 100KN/m ² . Calculate the soil pressure under each column of raft foundation.	2	6	5M
3	A. What is the Negative Skin Friction? What its effect on pile?	3	6	5M
	B. A group of nine piles arranged in square pattern is to be proportioned in medium stiff clay. Assuming that the piles are 25cm diameter and 12m long, find the optimum spacing for the piles. Assume adhesion factor of 0.6 and Cu =40kN/m ²	3	2	5M

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Unit Test I

Subject: Transportation Engineering - II Sem	Class/ Sem.: Final Year/ VIII Sem
Name of the faculty: Prof.R.V.Savyanavar	Date: 21/02/2025
Time: 03.30 PM to 04.30 PM	Total marks: 30

Note.: Answer any two questions from each question.

Q. No.	Description of the question	CO	BL	Marks
1	A. Explain with a neat sketch Minimum Turning Radius & Minimum Circling Radius of an aircraft	3	4	5
	B. Draw a neat Sketch & describe component part of an aircraft.	3	3	5
	C. Write a note Zoning Laws.	3	6	5
2	A. Describe the various system of the aircraft parking.	2	2	5
	B. What are the requirement of airport drainage.	2	2	5
	C. Write a note Air Traffic Control.	2	6	5
3	A. Explain the concept of 'Littoral Drift'	3	4	5
	B. What are breakwaters? Explain the types of breakwaters with sketches.	3	1	5
	C. Write a note Transit Shade	3	6	5



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Unit Test - I

Subject: Advance Construction Techniques			Class/ Sem: Final Yr./ VIII Sem		
Name of the faculty: Prof. K.K.Gurav			Date: 22/02/2025		
Time: 1.00pm to 2:00pm			Total Marks: 30		
Note: Answer any two questions from each question					
Q. No.	Description of the question	Marks	CO	BL	Marks
1	A. Define and Explain Composite Construction.		1	1	5
	B. Explain behavior's of composite and non-composite material.		1	2	5
	C. Explain the cases of formwork.		1	2	5
2	A. Explain Polymer Composite with their Advantages and Disadvantages.		2	2	5
	B. Explain Geosynthetic. State benefits and barriers.		2	2	5
	C. Explain Polymer Composites with Their Advantages and Disadvantages.		2	2	5
3	A. Define MDF. State their Advantages and Disadvantages.		3	1	5
	B. State Important properties of FRC.		3	1	5
	C. What is Vibro-compaction? Explain the method of Vibro-compaction.		3	2	5



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Department of Electrical Engineering



Unit Test I

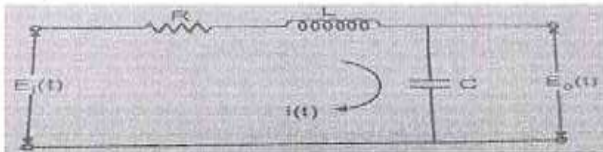
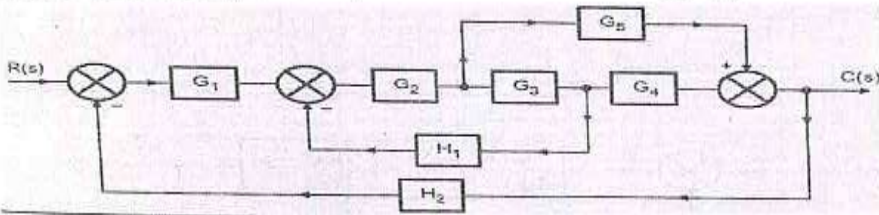
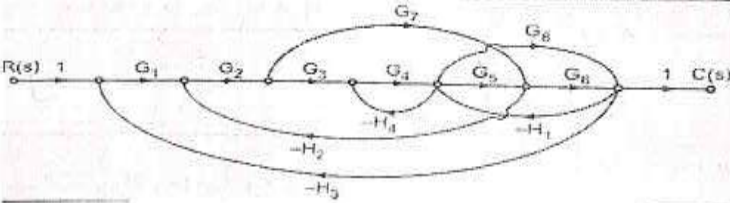
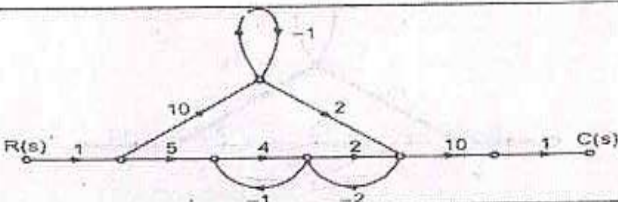
Subject: DCMT	Class/ Sem.: SY/ IV Sem
Name of the faculty: Mr. S. C. Gandh	Date: 21/02/2025
Time: 10.30AM to 11.30 AM	Total marks: 30

Note.: Answer any three questions from each main question

Q. No.	Description of the question	CO	BL	Marks
1	A. With neat diagram Explain parts of DC machines.	1	2	5M
	B. Derive the EMF equation for DC machines.	1	3	5M
	C. Explain the commutation Process in DC machine.	1	2	5M
2	A. Explain following Characteristics of DC shunt motor. i) T-Ia ii) N-Ia	2	2	5M
	B. Explain hopkinsons Test	2	2	5M
	C. Explain Series- parallel operation of motor	2	2	5M
3	A. Explain construction of universal motor	3	2	5M
	B. Explain operation of AC & DC Supply of Universal motor	3	2	5M
	C. List the applications of universal motor	3	1	5M



Unit Test I

Subject: Control System-I		Class/ Sem.: SY/ IV Sem		
Name of the faculty: Basavaraj A. Angadi		Date: 21/02/2025		
Time: 1.00PM to 2.00 PM		Total marks: 30		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. Write difference between open loop and close loop system	1	4	5M
	B. Write down the rules of block diagram reduction technique.	1	2	5M
	C. What is transfer function, Find the transfer function of given circuit diagram. 	1	1	5M
2	A. Derive the expression for steady state error.	2	2	5M
	B. Reduce the block diagram to simple form and hence obtain C(s)/R(s) 	2	3	5M
	C. Find transfer function for given signal flow graph by Mason's gain formula. 	2	3	5M
3	A. A unit feedback system has $G(s) = \frac{20(S+3)}{(S+1)(S+6)}$ Determine i) Type of System ii) Static error Coefficient iii) Error when subjected to step of magnitude 2.	3	3	5M
	B. The control system having unity feedback has $G(s) = \frac{20}{S(1+4S)(1+S)}$ Determine i) Type of System ii) Static error Coefficient iii) Steady state error if input $r(t) = 2 + 4t + t^2/2$.	3	3	5M
	C. Find transfer function for given signal flow graph by Mason's gain formula. 	3	3	5M



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Department of Electrical Engineering



Unit Test I

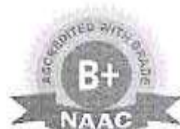
Subject: Power System-I	Class/ Sem.: SY/ IV th Sem
Name of the faculty: Mr. Amar Ramesh Bandekar	Date: 21/02/2025
Time: 3:30PM to 4:30PM	Total marks: 30M

Note.: Answer any two questions from each question

Q. No.	Description of the question	CO	BL	Marks
1	A. Compare the conductor material in overhead system of Two-wire DC system with one conductor earthed.	1	II,IV	5M
	B. State & prove Kelvin's law for size of conductor for transmission with its limitations.	1	I,V	5M
	C. Explain with neat sketch single line diagram of typical AC power supply scheme.	1	II	5M
2	A. A 3-phase,50Hz,132KV overhead line has conductors placed in a horizontal plane 4m apart. Conductor diameter is 2cm. If the line length is 100km.Calculate the charging current per phase assuming complete transpositions.	2	III,VI	5M
	B. Explain the concept of self-GMD & Mutual GMD.	2	II	5M
	C. Derive an expression for electric potential i) at a charged single conductor	2	III	5M
3	A. Explain any two types of Insulators.	3	II	5M
	B. Explain the following terms: - i) Critical disruptive voltage ii) Visual critical voltage iii) power loss due to corona	3	II	5M
	C. A 3-phase transmission line is being supported by three-disc insulators. The potentials across top unit (i.e. near to the tower) and middle unit are 8KV and 11KV respectively. Calculate i) The line voltage ii) String efficiency	3	III,VI	5M



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Unit Test I

Subject: Power Electronics		Class/ Sem.: SE/ IV Sem		
Name of the faculty: Prof.Abhijit Borganve		Date: 22/02/2025		
Time: 10.30AM to 11.30 AM		Total marks: 30		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. Draw the V-I Characteristics of MOSFET and explain.	1	2	5M
	B.Draw the V-I Characteristics of IGBT and explain .	1	2	5M
	C.Compare study of MOSFET and GTO	1	1	5M
2	A. Explain Single Phase Half Wave Rectifier with RL load, draw the circuit diagram and waveforms.	2	2	5M
	B. Explain Three Phase Full Wave Rectifier	2	2	5M
	C. Write the Mathematical Expressions for full bridge rectifier and draw the circuit diagram and waveforms.	2	2	5M
3	A. Explain three pulse-controlled converter.	3	2	5M
	B.Explain single phase full controlled thyristor converter	3	2	5M
	C.Explain operation of converter with freewheeling diode.	3	2	5M



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Department of Electrical Engineering





Unit Test I

Subject: Electromagnetic	Class/ Sem.: SY/ IV Sem
Name of the faculty:	Date: 22/02/2025
Time: 1.00 PM to 2.00 PM	Total marks: 30

Note.: Answer any two questions from each question.

No.	Description of the Question	CO	BL	Marks
1	A. Explain The Differential Element in Cylindrical Co-Ordinates System.	1	2	5M
	B. Obtain The Vector Equation for The Line PQ Between the Point P (1,2,3) m & Q (2, -2,1) m.	1	3	5M
	C. Obtain Unit Vector from Origin to G (2, -2, -1) m.	1	3	5M
2	A. Define and Derive 1. Coulomb's Law. 2. Gauss's Law	2	3	5M
	B. Explain Electric Field Intensity Due to Point Charge.	2	2	5M
	C. Explain 1. Line charge 2. Surface charge 3. Volume charge	2	2	5M
3	A. Explain Current and Current Density.	3	2	5M
	B. Explain The Properties of a Conductor.	3	2	5M
	C. Explain Energy Stored in Capacitors.	3	2	5M

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Unit Test I

Subject: EEAC	Class/ Sem.: TE/ VI Sem
Name of the faculty: Mr. S. C. Gandh	Date: 21/02/2025
Time: 10.30AM to 11.30 AM	Total marks: 30

Note.: Answer any three questions from each main question

Q. No.	Description of the question	CO	BL	Marks
1	A. List the difference between primary and detailed audit.	1	1	5
	B. Explain simple payback method with advantages.	1	2	5
	C. List the instrument used for energy audit.	1	1	5
2	A. State and explain types of pumps.	2	1,2	5
	B. Draw a curve for parallel and series operation of pumps.	2	2	5
	C. List applications of blowers.	2	1	5
3	A. Explain factors on which tariff depends.	3	2	5
	B. List Application of tariff to reduce energy audit.	3	1	5
	C. List advantages & Economic improvements achieved by improvement of power factor.	3	1	5





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Unit Test I

Subject: Power System Stability and Control		Class/ Sem.: TY/ VI Sem		
Name of the faculty: Dr. Vireshkumar G. Mathad		Date: 21/02/2025		
Time: 1.00 PM to 2.00PM		Total marks: 30		
Note.: Answer any two questions from each questions				
Q. No.	Description of the question	CO	BL	Marks
1	A. Give classification of power system stability.	1	2	5M
	B. Derive the swing equation of synchronous machine working on infinite bus	1	3	5M
	C. Explain the following concept a. Rotor angle stability b. Voltage stability	1	2	5M
2	A. Explain factors affecting transient stability.	2	2	5M
	B. Derive the Swing equation by point by point method.	2	3	5M
	C. Explain equal area criterion for stability assessment of power system.	2	3	5M
3	A. Give different methods of improving transient stability.	3	2	5M
	B. Write short note on reactive switching.	3	2	5M
	C. With neat diagram explain steam turbine fast valving	3	2	5M

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Unit Test I

Subject: Electrical Machine Design	Class/ Sem.: TE / VI Sem
Name of the faculty: Basavaraj A. Angadi	Date: 21/02/2025
Time: 03.30PM to 04.30 PM	Total marks: 30

Note.: Answer any two questions from each questions

Q. No.	Description of the question	CO	BL	Marks
1	A. What are the factors to be consideration for electrical machine design?	1	3	5M
	B. Which type of conducting material is used in machine design?	1	3	5M
	C. What are the properties to be considered for the magnetic material in machine design?	1	2	5M
2	A. How to classify the insulating material based on the thermal consideration?	2	2	5M
	B. Derive the output equations of DC machine.	2	2	5M
	C. What are the step to be consider while design of commutator in DC machine?	2	2	5M
3	A. What are the effects occurred in DC machine when select high value of q (magnetic loading)?		2	5M
	B. What happen to DC machine while selection of high value of B_{av} (air gap flux density)?	3	2	5M
	C. Explain the ventilations or cooling methods in electrical machine.	3	2	5M



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Unit Test I

Subject: ELECTRIC DRIVES-I		Class/ Sem.: TY/ VI th Sem		
Name of the faculty: Mr. Amar Ramesh Bandekar		Date: 22/02/2025		
Time: 10:30AM to 11:30AM		Total marks: 30M		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. Derive the fundamental torque equation. Estimate the equivalent values of drive parameters for load with translation motion.	1	III	5M
	B. State & explain the function of various converters.	1	I, II	5M
	C. Explain the quadrant operation of the motor drive system with hoist load.	1	II	5M
2	A. Explain single phase fully controlled rectifier control of DC separately excited motor.	2	II	5M
	B. A200V,875 rpm, 150 A separately excited DC motor has an armature resistance of 0.06 Ω . It is fed from a single phase fully controlled rectifier with an AC source voltage of 220 V,50 Hz. Assuming continuous conduction calculate: i) Firing angle for rated motor torque and 650 rpm. ii) Firing angle for 0.6 times the rated motor torque and (-500) rpm iii) Motor speed for $\alpha=160^\circ$ and rated torque.	2	II	5M
	C. Explain the following characteristics: i) N-T, ii) N-Ia, iii) T-Ia ...For DC series motor ii) N-T ii) N-Ia iii) T-Ia ...For DC shunt motor	2	II	5M
3	A. Explain types of Induction motor	3	II	5M
	B. Explain VSI fed Induction motor drives.	3	II	5M
	C. Explain closed loop of VSI fed Induction motor drives.	3	II	5M



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Unit Test I

Subject: Digital Signal Processing	Class/ Sem.: TE/ VI Sem
Name of the faculty: Prof. Abhijit Borganve	Date: 22/02/2025
Time: 01.00PM to 02.00 PM	Total marks: 30

Note.: Answer any two questions from each question

Q. No.	Description of the question	CO	BL	Marks
1	A. Find the circular convolution of the two finite duration sequences $x_1(n) = \{1, -1, -2, 3, -1\}$; $x_2 = \{1, 2, 3\}$.	1	2	5M
	B. Find the output $y(n)$ of a filter whose impulse response is $h(n) = \{1, 2\}$ and the input signal $x(n) = \{1, 2, -1, 2, 3, -2, -3, -1, 1, 1, 2, -1\}$ using overlap add method.	1	2	5M
	C. Find DFT of a sequence $x(n) = \{1, 2, 3, 4, 4, 3, 2, 1\}$ using DIF FFT algorithm.	1	2	5M
2	A. Explain different types of filters based on frequency response.	2	2	5M
	B. Explain Hamming window to design FIR filter in detail.	2	2	5M
	C. Obtain cascade form realization of system function $H(z) = 1 + 2Z^{-1} - 3Z^{-2} - 4Z^{-3} + 5Z^{-4}$	2	2	5M
3	A. Apply bilinear transformation to $H(s) = \frac{2}{(s+1)(s+2)}$ find $H(z)$ with $T=1$ sec	3	2	5M
	B. For the analog transfer function $H(s) = \frac{2}{(s+1)(s+2)}$ find $H(z)$ with $T=1$ sec using impulse invariance method.	3	2	5M
	C. Obtain parallel realization for the system $y(n) = -0.1y(n-1) + 0.2y(n-2) + 3x(n) + 3.6x(n-1) + 0.6x(n-2)$.	3	2	5M

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Unit Test I

Subject: Advanced micro controllers & applications	Class/ Sem.: BE/ VIII Sem
Name of the faculty: Mr. S. C. Gandh	Date: 21/02/2025
Time: 10.30AM to 11.30 AM	Total marks: 30

Note.: Answer any three questions from each main question

Q. No.	Description of the question	CO	BL	Marks
1	A. List the applications of micro controller.	1	1	5
	B. Write any five differences between microcontroller & Microprocessor.	1	1	5
	C. With neat block diagram explain architecture of micro controller.	1	2	5
2	A. Explain pin description with neat diagram of ARM7TDMI.	2	2	5
	B. Explain Switching between ARM and THUMB instructions.	2	2	5
	C. Explain Register Set of ARM cortex.	2	2	5
3	A. List the PIC16F877 Instructions Set.	3	1	5
	B. Explain Addressing modes of PIC16F877.	3	2	5
	C. Explain PIC16F877 PERIPHERALS ADC modules.	3	2	5



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Unit Test I

Subject: Electrical Generation and Utilization		Class/ Sem.: BE / VIII Sem		
Name of the faculty: Basavaraj A. Angadi		Date: 21/02/2025		
Time: 01.00PM to 02.00PM		Total marks: 30		
Q. No.	Description of the question	CO	BL	Marks
Note: Answer any one question				
1	A. Comment of increasing demand of electricity in INDIA, what is contribution of wind energy in it?	1	3	10M
	B. With neat diagram and principle of operation, explain gas turbine power plant.	1	3	10M
Note: Answer any two questions from each section				
2	A. Explain grid tie PV system and standalone PV system.	2	2	5M
	B. Explain any one application of solar energy in detail.	2	2	5M
	C. Draw and explain IV and PV curves of PV modules.	2	3	5M
3	A. Explain merits and demerits of wind mill.	3	2	5M
	B. Explain wind velocity duration and power duration characteristic	3	2	5M
	C. Explain horizontal axis wind turbine power plant.	3	2	5M



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Unit Test I

Subject: EHVAC		Class/ Sem.: FINAL YEAR/ VIII th Sem		
Name of the faculty: Mr. Amar Ramesh Bandekar		Date: 21/02/2025		
Time: 3:30PM to 4:30PM		Total marks: 30M		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. Explain properties of bundled conductor	1	II	5M
	B. Compare various EHVAC transmission lines on the basis of power handling capacity and losses for different voltages	1	II, IV	5M
	C. Explain the role of EHVAC transmission	1	II	5M
2	A. Derive the expression for voltage gradient on the surface of conductor in a bundle having two conductors in EHVAC line	2	III	5M
	B. Explain attenuation of traveling waves due to corona loss Audible noise	2	II	5M
	C. Explain the charge-voltage diagram of corona. Hence derive the expression for corona loss.	2	II	5M
3	A. Explain the principles of travelling wave protection for EHVAC lines	3	II	5M
	B. Draw and explain the Bewley Lattice diagram.	3	I,II,IV	5M
	C. Explain the concept of line energization with tapped charge voltage.	3	II	5M





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Unit Test I

Subject: Management and Entrepreneurship Development		Class/ Sem.:BE/VIII Sem		
Name of the faculty: Prof.Abhijit Borganve		Date: 22/02/2025		
Time: 10.30AM to 11.30 AM		Total marks: 30		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. Define management? Explain functions of management.	1	2	5M
	B. Explain the steps involved in decision making.	1	2	5M
	C. Explain objectives of planning and its characteristics	1	2	5M
2	A. Explain the process of an organization.	2	2	5M
	B. Explain the departmentalization.	2	2	5M
	C. What is Staffing and write its process in detail.	2	2	5M
3	A. Define Leadership? Explain the characteristics of leadership.	3	2	5M
	B.What is Controlling? Write its characteristics.	3	2	5M
	C.What do you understand by global leading? Explain the capabilities of global leaders.	3	2	5M



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Unit Test I

Subject: HVDC System	Class/ Sem.: FY/ VIII Sem
Name of the faculty:	Date: 22/02/2025
Time: 1.00 PM to 2.00 PM	Total marks: 30M

Note.: Answer any two questions from each question

Q. No.	Description of the question	CO	BL	Marks
1	A. What is the Trends in transmission Voltages, Hierarchical Levels in transmission and distribution.	1	2	5M
	B. What are the Types of DC Link?	1	2	5M
	C. What are the applications and merits of HVDC transmission system?	1	2	5M
2	A. Explain 6 Pulse Bridge Converter.	2	2	5M
	B. Explain Power Reversal in a DC Link & its Characteristics.	2	2	5M
	C. Explain Constant Current & Constant Voltage.	2	2	5M
3	A. What are the commutation failure, causes and remedies	3	2	5M
	B. Explain Protection of HVDC system	3	2	5M
	C. Explain 1.DC rectors 2.damper circuits 3.Over current protection	3	3	5M

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Unit Test I

Subject: Applied Numerical Method	Class/ Sem.: SY/ IV Sem
Name of the faculty: Miss. S.S.Nadaf	Date: 21/02/2025
Time: 10.30AM to 11.30AM	Total marks: 30

Note.: Answer any three questions from each questions

Q. No.	Description of the question	CO	BL	Marks												
1	A. Find roots of equation $x^3-2x-5=0$ lying between 2 and 3 using bisection method. Perform four iterations.	1	1	5M												
	B. Use Newton- Raphson method to solve the transcendental equation $e^X = 5x$. Initial guess is 0.4 two iterations.	1	1	5M												
	C. Use muller method with guesses 1, 1.2and 1.4 determine a root of the equation $X^3 -2x-5= 0$. perform one iteration	1	2	5M												
2	A. Find the double root of the equation $X^3 - X^2- X + 1=0$.	3	3	5M												
	B. Solve the following system of equations by Guass elimination method. $X + Y + Z = 9$, $X -2Y + 3Z =8$, $2X + Y- Z = 3$	3	3	5M												
	C .Solve the following system of equataions using Guass seidel Iteration , $10X +2Y + Z= 9$, $X+10Y - Z = -22$, $-2X + 3Y+ 10Z = 22$	3	3	5M												
3	A. Fit the parabola to the following data by least square method <table border="1"><tr><td>X</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr><tr><td>Y</td><td>1</td><td>1.8</td><td>1.3</td><td>2.5</td><td>6.3</td></tr></table>	X	0	1	2	3	4	Y	1	1.8	1.3	2.5	6.3	3	1	5M
	X	0	1	2	3	4										
	Y	1	1.8	1.3	2.5	6.3										
B. Find the positive root of $X^4 - X =10$ correct to three decimal places , using Newton – Raphson method.	2	4	5M													
C. Use Langranges formula to find the value of Y at X = 6 from the following data <table border="1"><tr><td>X</td><td>3</td><td>7</td><td>9</td><td>10</td></tr><tr><td>Y</td><td>168</td><td>120</td><td>72</td><td>63</td></tr></table>	X	3	7	9	10	Y	168	120	72	63	3	2	5M			
X	3	7	9	10												
Y	168	120	72	63												



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Unit Test I

Subject: Analysis of Mechanical Element		Class/ Sem.:IV Sem		
Name of the faculty: Prof. Pallavi T. Kokitakar		Date: 21/02/2025		
Time:01.00PM- 02.00PM		Total marks: 30		
Note.: Answer any two questions from Q.No 1 and 2(05 Mars Each) and One Question from Q.No 03(10)				
Q. No.	Description of the question	C O	B L	Mark
1	A. Explain the concept linear, Lateral and Shear Stress	1	3, 6	05 M
	B. With Neat Sketch explain Stress-Strain diagram for ductile material.	1	3, 6	05 M
	C. Explain Inter-relationship between elastic constants	1	3, 6	05 M
2	A. In tension test, specimen of 25 mm diameter, 200 ml gauge length stretched 0.0 975 mm under the tensile load of 50 kilo Newton. In a torsion test the same specimen twisted 0.025 radians over a length of 200 mm when the torque of 0.4 kilo Newton meter what's applied. Determine poisons ratio and other elastic module of a material	2	3	05 M
	B. The oil rig at A has just started to drill for an oil on the ocean floor at a depth of 1500 metres, knowing that the top of the 200 mm diameter steel drill pipe rotates through two complete revolutions before the drill bit at B start to operate. Determine the maximum shearing stress caused in the pipe by torsion. Take $G= 77\text{GPa}$.	2	3	05 M
	C. A hellow soft of 40 mm outer diameter runs at 500rpm against a load of 48 kw. Find the inner diameter of shaft so that shear strain does not exceed $\frac{1}{1000}$. Take $G= 80 \times 10^3 \text{ Mpa}$.	2	3	



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Unit Test I

Subject: Fluid And Turbo Machinery	Class/ Sem.: SY/ IV Sem
Name of the faculty: Miss. P.T.Kokitakar	Date: 21/02/2025
Time: 03.30PM to 04.30PM	Total marks: 30

Note.: Answer any two questions from each questions

Q. No.	Description of the question	CO	BL	Marks
1	A. Classify water turbine and Explain the Impulse water turbine	1	2	5M
	B. Explain the different efficiencies of turbine	1	2	5M
	C. A Pelton wheel develops 8421kw of shaft power under a head 320m speed of rotation of wheel is 700 rpm and its overall efficiency is 87% assuming C_v of jet 0.98 speed ratio as 0.45 and jet ratio as 6. Find the 1. Wheel dia. 2. Dia of jet 3. No. of jet required	1	3	5M
2	A. Explain Euler's equations rotodynamic machine.	2	2	5M
	B. Explain the analysis of Francis turbine with velocity triangle	2	2	5M
	C. The following data is given for Francis turbine net head = 60m Speed = 700rpm shaft power = 294.3kw overall efficiency = 84% hydraulic efficiency = 94% Flow ratio = 0.2 Breadth ratio = 0.1 outer Dia of runner is two times inner dia of runner. vel flow is constant at inlet & outlet discharge is radially at outlet find 1. Guide vane angle 2. Dia of runner inlet & outlet	2	3	5M
3	A. Draw a neat sketch and explain components of centrifugal pump.	3	2	5M
	B. What is Pump? Define Delivery Head, Static head and manometric head.	3	2	5M
	A. Double jet pelton turbine is require to generate 750 kw when available head to base of nozzle is 400m. The jet is deflected by 165° the relative velocity of jet reduced by 15% while passing over the bucket. Determine 1. Dia of jet 2. Total Flow Assume genretor efficiency is 95% and overall efficiency is 80% Speed ratio is 0.47 and C_v is 0.98	3	3	5M



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Unit Test I

Subject: Theory of Machines-I	Class/ Sem.: SY/ IV Sem
Name of the faculty: Mr.Gururaj.M.Kumbar	Date: 22/02/2025
Time: 10.30AM to 11.30AM	Total marks: 30

Note.: Answer any two questions from each questions

Q. No.	Description of the question	CO	BL	Marks
1	A. Define 1)Link 2)Kinematic Pair 3) Grashof 's law 4)Degrees of freedom 5) Inversion of mechanism	1	1	5M
	B. Define Constrained Motion? Explain Types of Constrained Motion	1	2	5M
	C. Sketch and explain elliptical trammel ?	1	3	5M
2	A. Explain Procedure to find out Relative velocity?	2	2	5M
	B. Explain Procedure for Analysis of 4-Bar Mechanism by instantaneous centre method?	2	2	5M
	C. Explain Procedure to find out Velocities in slider crank Mechanism?	2	2	5M
3	A. Define 1)Friction 2)Co-efficient friction 3)angle of friction 4)cone of friction 5) Force of friction	3	1	5M
	B. A conical pivot bearing supports a vertical shaft of 200 mm diameter. It is subjected to a load of 30 KN. The angle of the cone is 120° and the coefficient of friction is 0.025. Find the power lost in friction when the speed is 140 r.p.m., assuming 1. uniform pressure ; and 2. uniform wear.	3	4	5M
	C. Derive the Torque required to lower the load by a screw jack?	3	3	5M

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Unit Test I

Subject: Machine Tools & Processes	Class/ Sem.: SY/ IV Sem
Name of the faculty: Dr. Sachin A Mehta	Date: 22/02/2025
Time: 1.00PM to 2.00PM	Total marks: 30

Note.: Answer any two questions from each question.

Q. No.	Description of the question	CO	BL	Mark
1	A. Explain investment casting process with neat sketches.	1	2	5M
	B. Discuss the permanent mould casting & gravity die casting processes with neat sketches.	1	2	5M
	C. Define sand reclamation, state its functions & explain the different types of sand reclamation.	1	1,2	5M
2	A. Classify Rolling Mills & state the defects in rolling.	2	1,2	5M
	B. Explain the Open and Closed die Forging processes with neat sketches & state the defects in forging.	2	1,2	5M
	C. Define extrusion, explain the Tube extrusion & Impact extrusion with neat sketches.	2	1,2	5M
3	A. With neat sketches explain the blow moulding process.	3	2	5M
	B. With neat sketches explain the Calendaring process.	3	2	5M
	C. Discuss thermoforming process with neat sketches.	3	1,2	5M



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Unit Test I

Subject: Industrial Management & Operation Research	Class/ Sem.: TY/ VI Sem
Name of the faculty: Dr. Sachin A Mehta	Date: 21/02/2025
Time: 10.30AM to 11.30 AM	Total marks: 30

Note.: Answer any two questions from each question

Q. No.	Description of the question	CO	BL	Marks
1	A. Define management. State the objectives of management. Discuss the steps in the process of organizing.	1	1,2	5M
	B. Define the recruitment process & with a neat sketch explain the steps in recruitment process.	1	1,2	5M
	C. Explain briefly the Herzberg's two factor theory.	1	2	5M
2	D. Explain the concept of product mix with an appropriate example.	2	2	5M
	A. Discuss the Types of Market & explain the concept of Market Research.	2	2	5M
	B. Define Advertisement & explain the concept of Channel of Distribution with neat diagrams.	2	2	5M
3	A. State & explain the role of entrepreneur.	3	1,2	5M
	B. Define the feasibility report & briefly explain the key components of the feasibility report.	3	1,2	5M
	C. Define Management Information System (MIS), state its objectives, functions & benefits of MIS.	3	1	5M



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Unit Test II

Subject: Industrial Fluid Power	Class/ Sem.: Third Year/ VI Sem
Name of the faculty: Mr.S.P.Bagadi	Date: 21/02/2025
Time: 01.00 PM to 02.00 PM	Total marks: 30


Note: Answer any two questions from each question.

Q. No.	Description of the question	CO	BL	Marks
1	A. Difference between hydraulic and pneumatic systems?	1	2	5M
	B.Explain important properties of hydraulic fluids?	1	2	5M
	C.Give various application and uses of fluid power?	1	1	5M
2	A.Explain special type of cylinder used in hydraulics with neat sketch?	2	2	5M
	B. Explain working of internal and external gear pump?	2	2	5M
	C.Explain type of accumulators used in hydraulic system?	2	2	5M
3	A.Explain with neat sketch pressure relief valve and pressure reducing valve?	3	2	5M
	B.Explain the operation of check valve with symbol?	3	2	5M
	C.Explain the construction and working of a counterbalance valve with neat sketch?	3	2	5M

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Unit Test I

Subject: Metrology and Quality Control		Class/ Sem.: TY/ VI Sem		
Name of the faculty: Mr. I. T. Patel		Date: 21/02/2025		
Time: 03.30 PM to 04.30 PM		Total marks: 30		
Note: Answer any two questions from each question.				
Q. No.	Description of the question	CO	BL	Marks
1	A. Explain with neat sketch the types of fits and its application.	1	4	5M
	B. What is fundamental deviation? Explain with the net sketch Hole basis system and Shaft basis system.	1	4	5M
	C. Discuss the common types of errors encountered in measurement.	1	2	5M
2	A. State the advantages and disadvantages of mechanical comparator over pneumatic comparator.	2	2	5M
	B. State the essential requirements for accuracy in the construction of sine bar. How to use sine bar in angle measurement?	2	6	5M
	C. Explain construction, working and limitations of sigma comparator.	2	2	5M
3	A. Define straightness and flatness. Briefly explain how they are measured and specified.	3	3	5M
	B. Explain construction and working of Tomlinson's surface meter with neat sketch.	3	2	5M
	C. State the principle of interferometry and explain with neat sketch NPL interferometer.	3	2	5M



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Unit Test I

Subject: Machine Design - II	Class/ Sem.: Third Year / VI Sem
Name of the faculty: Mr. Aniruddha S. Bhoi	Date:22/02/2025
Time: 10.30 PM to 11.30 PM	Total marks: 30

Note.: Answer any two questions from each questions

Q. No.	Description of the question	CO	BL	Marks
1	A. Explain the endurance limit and its significance in design with the help of the S-N curve	1	2	5M
	B. Explain remedies of stress concentration.	1	2	5M
	C. Write a note on notch sensitivity.	1	1	5M
2	A. Explain the Life – Load relation.	2	1	5M
	B. A single row deep groove ball bearing is subjected to a pure radial force of 3 KN from a shaft that rotates at 600 rpm. The expected L_{10h} of the bearing is 30000h. The minimum acceptable diameter of suitable ball bearing for this application.	2	5	5M
	C. Explain the bearing with a probability of survival other than 90%.	2	2	5M
3	A. Write a note on tribological consideration in design.	3	5	5M
	B. Explain the sliding contact bearing's material and their properties.	3	5	5M
	C. What are the design consideration in hydrodynamics bearing?	3	5	5M



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Unit Test I

Subject: Internal Combustion Engines	Class/ Sem.: TY/ VI Sem
Name of the faculty: Miss. P.T.Kokitakar	Date: 22/02/2025
Time: 01.00PM to 02.00PM	Total marks: 30



Note.: Answer any three questions from each questions

Q. No.	Description of the question	CO	BL	Marks
1	A. Give the classification of I.C. Engines.	1	2	5M
	B. Write the note on 1. Combustion Chamber 2. Spark Plug 3. Cam Shaft	1	1	5M
	C. Explain the Otto cycle and diesel cycle with PV diagram.	1	2	5M
2	A. What is octane number? What are the additives used to improve the Octane number?	3	3	5M
	B. Explain the types of combustion chamber for S.I. Engine	3	2	5M
	C. Describe the stages in combustion in S.I. Engine with P- θ diagram.	3	2	5M
3	A. Explain with neat sketch simple carburetor.	2	1	5M
	B. Describe MPFI system for Petrol Engines with its merits and demerits	2	4	5M
	C. Explain the valve timing diagram for slow speed and high speed SI Engine.	2	2	5M

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Unit Test I

Subject: Computer Aided Design and Manufacturing		Class/ Sem.: Third Year / VI Sem		
Name of the faculty: Mr. Aniruddha S. Bhoi		Date:22/02/2025		
Time: 03.30 PM to 04.30 PM		Total marks: 30		
Note: Answer any two questions from each questions				
Q. No.	Description of the question	CO	BL	Marks
1	A. Explain Relationship between CAD/CAM.	1	2	5M
	B. Explain the scope of CAD/CAM/CIM in product cycle.	1	2	5M
	C. List out various stages in the life cycle of the product.	1	1	5M
2	A. Write down the difference between Hermit curve and Bezier curve.	2	2	5M
	B. Give differences between Bezier and B-Spline Curves.	2	2	5M
	C. Mention any four characteristics B-Spline curves.	2	1	5M
3	A. What are the applications of surface modeling?	3	1	5M
	B. What are the Requirements of Solid Modeling?	3	1	5M
	C. Explain Constructive Solid Geometry (CSG).	3	2	5M

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Unit Test I

Subject: Mechatronics		Class/ Sem.: Final Year/ VIII Sem		
Name of the faculty: Mr.S.P.Bagadi		Date: 21/02/2025		
Time: 10.30 AM to 11.30 AM		Total marks: 30		
Note: Answer any two questions from each question.				
Q. No.	Description of the question	CO	BL	Marks
1	A. Explain multidisciplinary approach of Mechatronics with suitable example	1	2	5M
	B. Explain various Mechatronics elements and systems used in developing material handling system	1	2	5M
	C.Suggest a suitable sensor for sensing following quantities; also state the transduction Principle 1.Force. 2.Temperature	1	1,2	5M
2	A.Explain Op-Amp as summing amplifier.	2	2	5M
	B. Explain polling and Interrupt.	2	2	5M
	C. Explain with suitable circuit the concept of Digital to Analog Conversion (DAC)	2	2	5M
3	A. What are Flip-Flop circuits? Explain JK flip-flop	3	1,2	5M
	B. Differentiate between microprocessor and microcontroller.	3	2	5M
	C. Write note on Arduino & Raspberry Pi microcontroller.	3	1	5M

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Unit Test I

Subject: Energy and Power Engineering	Class/ Sem.: Final Year/ VIII Sem
Name of the faculty: Dr. D. V. Ghewade	Date:21/02/2025
Time: 01.00 PM to 02.00 PM	Total marks: 30

Note: i) Answer any two questions from questions 1 and 2



ii) Figures to right indicate full marks

Q. No.	Description of the question	CO	BL	Mark
1	A. Which instruments are used to record radiation data?	CO1	2	5M
	B. What are different types of concentrating collectors?	CO1	2	5M
	C. Describe the applications of Solar Photovoltaic system	CO1	1	5M
2	A. Why there is a need of utilizing Solar energy?	CO2	2	5M
	B. Describe with neat sketch the Wind energy utilization system	CO2	2	5M
	C. What is fuel cell? Write its applications.	CO2	2	5M
3	A. Distinguish between Flat Plate Solar Collector and Evacuated tube Solar Collector	CO1	3	5M
	B. What are the disadvantages of Solar Power systems and How to Overcome these disadvantages?	CO2	3	5M

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Unit Test I

Subject: Noise and Vibration		Class/ Sem.: Final Year / VIII Sem		
Name of the faculty: Mr.Gururaj.M.Kumbar		Date: 21/02/2025		
Time: 03.30PM to 04.30 PM		Total marks: 30		
Note.: Answer any two Questions from each questions				
Q. No.	Description of the question	CO	BL	Marks
1	A. Define:1) Time Period 2) Natural Frequency 3) Degree of freedom 4) Resonance 5) Phase difference	1	1	5M
	B. Write Types Of Vibration? Explain Any One?	1	2	5M
	C. Derive Newton's Method for Finding Natural Frequency?	1	3	5M
2	A. Derive logarithmic Decrement?	2	3	5M
	B. A vibrating system consisting of a mass of 50Kg, A spring of stiffness 30KN/m & a damper damping is 20% of the critical value. Determine 1) Damping factor 2) critical damping coefficient 3) logarithmic decrement 4)ratio of two consecutive amplitude	2	4	5M
	C Write Types Of Excitation? Explain Any One?	2	2	5M
3	A. What is decibel scale? What is its importance?	6	2	5M
	A. Explain the following terms as used in hearing conservation a) Permanent Threshold shift b) Daily dose of noise	6	2	5M
	B. Explain sound pressure level and sound intensity level.	6	2	5M

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Unit Test I

Subject: Industrial Engineering		Class/Sem.: Final Year/ VIII Sem		
Name of the faculty: Mr. I. T. Patel		Date: 22/02/2025		
Time: 10.30 AM to 11.30 AM		Total marks: 30		
Note: Answer any two questions from each question.				
Q. No.	Description of the question	CO	BL	Marks
1	A. Describe briefly various functions of an Industrial Engineer.	1	4	5M
	B. What do you mean by productivity? How it differs from efficiency.	1	3	5M
	C. For a XYZ company, total inputs and outputs are converted into monetary values and are follows: Output- Rs. 5,00,000/-; Labour input- Rs. 1, 75,000/-; Material input- Rs. 1,00,000/-. Calculate the material productivity and labour productivity.	1	5	5M
2	A. Write short note on objectives of method study.	2	2	5M
	B. What is work study? What are the components of work study?	2	4	5M
	C. Draw two handed process chart for assembly of nut and bolt.	2	3	5M
3	A. Describe Micro Motion study. Give examples for its applications.	3	5	5M
	B. Write difference between operation flow diagram and string diagram.	3	2	5M
	C. What are Therbligs? Give the name, abbreviation and symbol of any 4 Therbligs.	3	2	5M

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Unit Test I

Subject: Industrial Automation and Robotics		Class/ Sem.: Final Year / VIII Sem		
Name of the faculty: Mr. Aniruddha S. Bhoi		Date:22/02/2025		
Time: 01.00 PM to 02.00 PM		Total marks: 30		
Note.: Answer any two questions from each questions				
Q. No.	Description of the question	CO	BL	Marks
1	A. Explain the Fixed / Programmable / Flexible automation.	1	2	5M
	B. Explain Need of automation	1	2	5M
	C. What are the levels in automation?	1	1	5M
2	A. Explain Industrial control system (ICS).	2	2	5M
	B. Write down note on fundamentals of transfer lines and transfer mechanism.	2	1	5M
	C. Write a note on storage buffers.	2	1	5M
3	A. Explain Assembly Automation with types.	3	2	5M
	B. Explain part delivery at workstation	3	2	5M
	C. Explain product design for automated assembly with general rules.	3	2	5M



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Academic Year 2024-25

Department of Computer Science and Engineering





A.Y: 2024-2025

Unit Test I

Subject: Automata Theory	Class/ Sem.: SY/ IV Sem
Name of the faculty: Poonam B. Jangali	Date: 21/02/2025
Time: 10.30AM to 11.30 AM	Total marks: 30

Note.: Answer any two questions from each questions

No.	Description of the question	CO	BL	Marks
1	1. A. Explain direct method of proof with the help of an example.	CO1	L2	5M
	B. What are regular languages? Explain with the help of examples.	CO1	L2	5M
	C. Write the regular expressions for the following languages: i) The set of strings of 0's and 1's with an odd number of 1's. ii) The set of strings of 0's and 1's with exactly one pair of consecutive 0's.	CO1	L4	5M
2	A.State and prove Kleen's theorem Part-I.	CO2	L5	5M
	B.What are the applications of finite automata? Explain in detail.	CO2	L2	5M
	C State and prove Kleen's theorem Part-II.	CO2	L5	5M
3	A. What is CFG(Context Free Grammer).	CO3	L1	5M
	B. Show the derivation tree for string "bbabb" with the following grammar. $S \rightarrow bSb \mid a \mid b$	CO3	L4	5M
	C. What is a derivation tree in the context of a CFG? Explain with an example.	CO3	L2	5M

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Unit Test I

Subject: Computer Network-II	Class/ Sem.: IV
Name of the faculty: Prof. M. A. Nimbalkar	Date: 21/02/2025
Time: 01:00 PM to 02:00 PM	Total marks: 30

Note.: Answer any two questions from each question

Q. No.	Description of the question	CO	BL	Marks
1	A. Explain in detail about Concurrent and Iterative server in detail.	1	2	5
	B. Explain in detail multiprotocol server and multiprocess server.	1	2	5
	C. Explain create(), sendto(), recvfrom(), listen() socket system call.	1	2	5
2	A. Write a short note on ICMPv6.	2	2	5
	B. Draw and explain IPV6 datagram format. Also explain Fragmentation in IPV6.	2	2,3	5
	C. Describe advantages of IPv6 over IPv4.	2	2	5
3	A. What is DNS? What is the need of it? Explain the types of records in DNS	3	2	5
	B. What are the components of DNS? Explain.	3	2	5
	C. Explain DHCP Packet format.	3	2	5



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Academic Year 2024-25

Department of Computer Science and Engineering





Unit Test I

Subject: Computer Organization and Architecture	Class/ Sem.: SY/IV
Name of the faculty: Prof. R. V. Patil	Date: 21/02/2025
Time: 03:30 PM to 04:30 PM	Total marks: 30

Note.: Answer any two questions from each question

Q. No.	Description of the question	CO	BL	Marks
1	A. Explain 1 st and 2 nd Generation of computers.	1	2	5
	B. Describe IAS Computer with neat labelled diagram.	1	2	5
	C. Differentiate between RISC and CISC.	1	4	5
2	A. Explain in detail mechanism used for interfacing I/O devices.	2	2	5
	B. Describe Synchronous bus with diagram.	2	2	5
	C. Describe Asynchronous bus with diagram.	2	2	5
3	A. Describe the concept of Signed and Unsigned numbers, 1's, 2's complement and overflow.	3	2	5
	B. Perform arithmetic operations on the given binary numbers 1. Addition: i) 110101, 101011 ii) 11111111, 11111111 2. Subtraction: i) 110110, 101101 ii) 111100, 101010 3. Multiplication: i) 1101, 1011	3	3	5
	C. Draw and Explain Carry Lookahead adder.	3	2,3	5



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Unit Test I

Subject: Operating System – I	Class/ Sem.: SY/IV
Name of the faculty: Prof. H.S.Naikwadi	Date: 22/02/25
Time: 10.30AM to 11.30AM	Total marks: 30

Note.: Answer any two questions from each question

Q. No.	Description of the question	CO	BL	Marks
1	A. Explain multiprogramming operating system	1	2	5
	B. Explain Microkernel based operating system	1	2	5
	C. Explain Distributed operating system	1	2	5
2	A. What is PCB? Why it is required and what are its contents.	2	2	5
	B. Explain the process state transitions of processes using a diagram	2	2	5
	C. Write short note on thread.	2	2	5
3	A. What are the different scheduling terminologies?	3	1	5
	B. Explain FCFS scheduling in detail.	3	2	5
	C. Explain SRN scheduling in detail.	3	2	5

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Unit Test I

Subject: Software Engineering		Class/ Sem.: SY/ IV Sem		
Name of the faculty: Prof. M. K. Hasabe		Date: 22/02/2025		
Time: 01.00 PM to 02.00 PM		Total marks: 30		
Note: All questions are compulsory.				
Q. No.	Description of the question	CO	BL	Marks
1	Solve any TWO questions from following			
	A. Define the term software: State and briefly explain software quality attributes.	1	1	5M
	B. Write a note on iterative model	1	1	5M
	C. List Software Development process models. With a neat diagram explain timebox model.	1	2	5M
2	Solve any TWO questions from following			
	A. What is requirement specification and explain desirable characteristics of an SRS.	2	2	5M
	B. What is software requirement specification document? Briefly explain the properties the requirement document should satisfy?	2	3	5M
	C. Write a short note on requirement process.	2	2	5M
3	Solve any ONE question from following			
	A. What is scheduling? Explain the skills of project manager.	3	2	5M
	B. Explain principles of CMM.	3	3	5M
	C. Write note on project monitoring plan. Write and explain different risk management activities.	3	3	5M

*****All The Best*****

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A.Y: 2024-2025

Unit Test I

Subject: Compiler Construction	Class/ Sem.: TY/ VI Sem
Name of the faculty: Poonam B. Jangali	Date: 21/02/2025
Time: 10.30AM to 11.30 AM	Total marks: 30

Note.: Answer any two questions from each questions

Q. No.	Description of the question	CO	BL	Marks
1	A. Define Compilers. Explain phases of a compiler	CO1	L1, L2	5M
	B. Explain different compiler construction tools.	CO1	L2	5M
	C . Explain following cousins of compiler: a. Linker b. Loader c. Assembler	CO1	L2	5M
2	A.Explain structure of Lexical Analyzer	CO2	L2	5M
	B. What is input buffering? Explain with example.	CO2	L2	5M
	C .What are tokens? Explain specification & recognition of tokens	CO2	L2	5M
3	A.What is syntax analysis (parsing)? Explain structure of a parser.	CO3	L2	5M
	B.What is top down parsing? Explain with example.	CO3	L2	5M
	C. How to calculate FIRST & FOLLOW sets?	CO3	L4	5M



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Department of Computer Science and Engineering



Unit Test I

Subject: Operating System – II		Class/ Sem.: TY/VI		
Name of the faculty: Prof. H.S.Naikwadi		Date: 21/02/25		
Time: 01.00PM to 02.00PM		Total marks: 30		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. Explain the architecture of UNIX System	1	2	5
	B. Draw and Explain Block diagram of UNIX kernel	1	1,2	5
	C. What is a buffer? Explain the structure of Buffer Header	1	2	5
2	A. Explain the structure of Regular file.	2	2	5
	B. What is super block? List and explain various fields of super block	2	1,2	5
	C. What is Inode? Summarize the fields from disk Inode.	2	2	5
3	A. Explain the dup () system call with example.	3	2	5
	B. Distinguish between Named pipe and Unnamed pipe.	3	4	5
	C. Explain the OPEN () system call	3	2	5



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Academic Year 2024-25

Department of Computer Science And Engineering





Unit Test I

Subject: Database Engineering	Class/ Sem.: VI
Name of the faculty: Prof. M. A. Nimbalkar	Date: 21/02/2025
Time: 03:30 PM to 04:30 PM	Total marks: 30

Note.: Answer any two questions from each question

Q. No.	Description of the question	CO	BL	Marks
1	A. Differentiate between Super Key, Candidate Key and Primary Key. Give appropriate example	1	4	5
	B. Define Database. List and explain the applications of Database.	1	1,2	5
	C. What is data model? Explain 2 data models in brief	1	2	5
2	A. Compare BCNF & 3NF	2	4	5
	B. List and explain the Extended Features of ER model	2	1,2	5
	C. Explain the rules for reduction of following notation in ERD, with appropriate examples. a. Weak Entity set b. Multivalued attribute in Strong Entity set c. Many to One relationship set	2	2	5
3	A. Consider the following Database design. Customer (cid, custname, custstreet, custcity) Account (accno, branchname, balance) Loan (loanno, branchname, amount) Borrower (cid, loanno) Branch (branchname, branchcity, asset) Depositor (cid, accno) Solve the following queries in SQL a. Update amount of loan to 10000 where loan number is "L-101". b. Change the column name custcity to ccity	3	3	5
	B. List and explain the types of Join in SQL	3	1,2	5
	C. List and explain the different DML statements in SQL	3	1,2	5

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Unit Test I

Subject: Machine Learning	Class/ Sem.: TY/ VI Sem
Name of the faculty: Prof. M. K. Hasabe	Date: 22/02/2025
Time: 10.30AM to 11.30 AM	Total marks: 30

Note: All questions are compulsory.

Q. No.	Description of the question	CO	BL	Marks
1	Solve any TWO questions from following			
	A. Draw and explain machine learning architecture.	1	1	5M
	B. With a neat diagram Explain the machine learning life cycle.	1	2	5M
	C. What is data visualization? Explain in detail.	1	3	5M
2	Solve any TWO questions from following			
	A. Explain the concept of minimizing the cost function with Gradient descent algorithm in Linear Regression	2	2	5M
	B. Describe hypothesis and Cost Function of Linear Regression with equations.	2	3	5M
	C. Explain multivariate linear regression.	2	2	5M
3	Solve any ONE question from following			
	A. Explain Regularized Logistic Regression.	3	2	5M
	B. Illustrate the working of KNN Classifier with example.	3	3	5M
	C. Illustrate the working of the Naive Bayes Classifier.	3	3	5M

*****All The Best*****

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Unit Test I

Subject: Cyber Security	Class/ Sem.: TY/VI
Name of the faculty: Prof. R. V. Patil	Date: 22/02/2025
Time: 01:00 PM to 02:00 PM	Total marks: 30

Note.: Answer any two questions from each question

Q. No.	Description of the question	CO	BL	Marks
1	A. What is cyber security? How Seriously Should You Take Threats to Network Security?	1	2	5
	B. Describe basic network utilities.	1	2	5
	C. Explain the three components of the CIA Triangle and why each is important for network security.	1	2	5
2	A. Explain the concept of Cyber Stalking in detail with examples.	2	2	5
	B. Explain in details Denial of Service (DoS) Attack.	2	2	5
	D. What is malware, and what are the different types of malwares? Explain how each type can impact a system.	2	2	5
3	A. List and explain basic security terminologies.	3	1,2	5
	B. Describe the Reconnaissance Phase	3	2	5
	C. Write short note on Penetration Testing.	3	2	5



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Department of Electronics & Computer Science



Unit Test I

Subject: ELECTRONIC CIRCUITS		Class/ Sem.: SY/ IV Sem		
Name of the faculty: Prof. S. S. Bhoi		Date: 21/02/2025		
Time: 10:30 to 11:30 am		Total marks: 30		
Note.: Answer any two questions from each question.				
Q. No.	Description of the question	CO	BL	Marks
1	A. Explain RC coupled amplifier with neat diagram and waveform. State advantages and disadvantages	1	2	5M
	B. Explain common source FET amplifier with circuit diagram and waveform.	1	2	5M
	C. Explain class AB amplifier with waveform.	1	2	5M
2	A. Explain types of negative feedback with diagram.	2	2	5M
	B. An op-amp used in non-inverting mode with $R_1=1k\Omega$, $R_F=12k\Omega$, $V_{CC}=15V$ calculate output voltage for 1. $V_{in}=250mv$ 2. $V_{in}=3V$.	2	3	5M
	C. In the non-inverting summing amplifier $V_1=2V$, $V_2=-4V$, $V_3=5V$. input resistors for all 3 input signals are same and are equal to $1k\Omega$. The feedback resistor $R_F=2K\Omega$. Determine the output voltage.	2	3	5M
3	A. Explain crystal oscillator with waveform.	3	2	5M
	B. Explain square wave generator with waveform.	3	2	5M
	C. Explain inverting comparator.	3	2	5M

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Unit Test I

Subject: Control And Instrumentation		Class/ Sem.: SY/ IV Sem		
Name of the faculty: Prof. M. A. Bandi		Date: 21-02-2025		
Time: 01:00 to 02:00 pm		Total marks: 30		
Note.: Answer any two questions from each question.				
Q. No.	Description of the question	CO	BL	Marks
1	A. Define transducer and sensor & give advantage & disadvantage of it.	4	1	5M
	B. Explain how to measure displacement using LVDT in detail.	4	2	5M
	C. Explain the working of RTD with diagram.	4	2	5M
2	A. Draw the block diagram of instrumentation system and explain its blocks.	5	2	5M
	B. What is data logger & classify its types in detail.	5	1	5M
	C. What are the communication protocols commonly used in SCADA systems for data transmission?	5	1	5M
3	A. What is telemetry and explain landline telemetry in detail.	6	1	5M
	B. What is the meaning of multiplexing and explain Time Division multiplexing.	6	2	5M
	C. Write a short note on MODBUS & HART communication protocols.	6	2	5M



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Unit Test I

Subject: Computer Network-I		Class/ Sem.: SY/ IV Sem		
Name of the faculty: Prof. S. R. Pujari		Date: 21-02-2025		
Time: 03:30 to 04:30 pm		Total marks: 30		
Note.: Answer any two questions from each question.				
Q. No.	Description of the question	CO	BL	Marks
1	A. Describe the types of transmission modes with suitable diagram and example.	1	1,2	5M
	B. List and explain physical topologies.	1	1,2	5M
	C. Explain OSI Reference model and explain each layer in detail.	1	2	5M
2	A. List and explain the design issues of the data link layer.	2	1,2	5M
	B. Discuss the types of error with suitable example.	2	2	5M
	C. List and explain different error detecting method.	2	1,2	5M
3	A. Explain the Static Channel Allocation and List the different Multiple Access Protocols.	3	2	5M
	B. List random access protocols. Explain Aloha protocol in detail.	3	1,2	5M
	C. Explain CSMA along with 1-persistent CSMA, non-persistent CSMA and p-persistent CSMA.	3	2	5M

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Unit Test I

Subject: Microprocessor & Microcontroller	Class/ Sem.: SY/ IV Sem
Name of the faculty: Prof. A. A. Magadam	Date: 22-02-2025
Time: 10.30 am to 11.30 am	Total marks: 30

Note.: Answer any two questions from each question

Q. No.	Description of the question	CO	BL	Marks
1	A. List out the features of 8086 microprocessor	1	1	5M
	B. Draw an architecture of 8086 and explain general purpose registers used in it.	1	6	5M
	C. Draw 8086 pin configuration and explain INTR, NMI and INTA.	1	6	5M
2	A. Draw a memory segmentation diagram and explain	1	2	5M
	B. List out the addressing modes in 8086 and explain register and immediate addressing modes.	1	2	5M
	C. Classify the different instructions sets used in 8086 and explain data transfer and arithmetic instruction sets with examples	2	6	5M
3	A. Differentiate between Minimum mode maximum mode 8086 microprocessor	3	2	5M
	B. Draw a minimum mode 8086 system and explain in brief.	3	6	5M
	C. Draw a minimum mode timing diagram of 8086 system.	3	6	5M



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Unit Test - I

Subject: Discrete Structure & Automata Theory		Class/ Sem.: SY/ IV Sem		
Name of the faculty: Prof. Irfan M T		Date: 22/02/2025		
Time: 1:00 to 2:00 pm		Total marks: 30		
Note: Answer any two questions from each question.				
Q. No.	Description of the question	CO	BL	Marks
1	A. Explain different laws of set theory.	1	2	5M
	B. Prove by mathematical Induction for all positive integers $n \geq 1; 1 + 2 + 3 + \text{-----} + n = \frac{1}{2}n(n + 1)$	1	3	5M
	C. Construct the Truth Table for the following Propositions: i) $p \wedge q \rightarrow (\sim r)$ ii) $p \rightarrow (q \wedge r) \Leftrightarrow (p \rightarrow q) \wedge (p \rightarrow r)$	1	3	5M
2	A. Let $A = \{1, 2, 3, 4\}$ and $R = \{(1, 1) (1, 2) (2, 3) (2, 2) (3, 4)\}$ be the relation 'A'. Find the Reflexive Closure, Symmetric Closure and Transitive Closure of 'R'.	2	3	5M
	B. Draw the Hasse diagram of the following POSETS; i) $P_1 = (\{1, 2, 3, 6\}; /)$ ii) $P_2 = (\{1, 2, 3, 4, 5, 6\}; /)$ iii) $P_3 = (\{2, 3, 6, 12, 24, 36\}; /)$ iv) D_{16} v) D_{12}	2	3	5M
	A. Explain types of functions with example?	2	2	5M
3	A. Define the following terms: i) Graph ii) Degree iii) Path iv) Cycle v) Subgraph	3	1	5M
	B. i) Draw the Bi-partite graph of the given graph	3	3	5M



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Unit Test - I

Subject: Digital Signal Processing		Class/ Sem.: TY/ VI Sem		
Name of the faculty: Prof. Irfan M T		Date: 21/02/2025		
Time: 10:30 to 11:30 pm		Total marks: 30		
Note: Answer any two questions from each question.				
Q. No.	Description of the question	CO	BL	Marks
1	A. Compute the DFT of $x(n) = \cos(\frac{n\pi}{2})$, where $N=4$ using DIF-FFT Algorithm.	1	3	5M
	B. Find the circular convolution of $x_1(n) = \{2,1,2,1\}$ $x_2(n) = \{1,2,3,4\}$ using Stockham's method.	1	3	5M
	C. Find $y(n)$ of given impulse response $h(n) = \{1,1,1\}$ and $x(n) = \{3, -1,0,1,3,2,0,1,2,1\}$ using Overlap Save Method.	1	3	5M
2	A. Differentiate between FIR and IIR filter.	2	2	5M
	B. Design an Ideal High Pass Filter with frequency response $H_d(e^{j\omega}) = \begin{cases} 1 & \text{for } \frac{-\pi}{4} \leq \omega \leq \pi \\ 0 & \text{for } \omega \leq \frac{\pi}{4} \end{cases}$ Find the value of $h(n)$ for $N=11$ and also find $H(Z)$.	2	3	5M
	C. Determine the filter co-efficient $h(n)$ obtained by sampling the given frequency response for $N=7$. $H_d(e^{j\omega}) = \begin{cases} e^{\frac{-j(N-1)\omega}{2}} & \text{for } 0 \leq \omega \leq \frac{\pi}{2} \\ 0 & \text{for } \frac{\pi}{2} < \omega \leq \pi \end{cases}$	2	3	5M
3	A. Explain mapping of S-Plane to Z-Plane.	3	2	5M
	B. Given an analog filter whose transfer function is $H(S) = \frac{10}{(S+10)}$ convert it to digital filter transfer function and find difference equation when sampling period is given as $T=0.01\text{sec}$ using Bilinear Transformation Method.	3	3	5M
	C. Design an analog Butterworth filter that has -2dB passband attenuation at frequency of 20 rad/sec and atleast -10dB stopband attenuation at 30 rad/sec.	3	3	5M



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Unit Test I

Subject: PLC And Automation	Class/ Sem.: TY/ VI Sem
Name of the faculty: Prof. S. S. Bhoi	Date: 21/2/2025
Time: 01:00 to 02:00 pm	Total marks: 30

Note.: Answer any two questions from each question.

Q. No.	Description of the question	CO	BL	Marks
1	A. Explain PLC Architecture.	1	2	5M
	B. Explain Classification of PLC.	1	2	5M
	C. Define PLC. Explain advantages and Disadvantages.	1	1,2	5M
2	A. Explain logical instruction with ladder diagram.	2	2	5M
	B. Develop ladder diagram for 4:1 multiplexer.	2	3	5M
	C. Draw the ladder diagram for Boolean expression $AB+CD+E=Y1$, $\bar{F}GH+IJ=Y2$, $Y1+Y2=Q$.	2	3	5M
3	A. Explain types of timer.	3	2	5M
	B. Define counter. Explain up counter with neat diagram.	3	1,2	5M
	C. Draw ladder program for two motor operation for following conditions. 1. Start push button starts motor M1 and motor M2. 2. Stop push button stops motor M1 first and after 10sec motor M2 stops.	3	3	5M



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Unit Test I

Subject: Software Engineering	Class/ Sem.: TY/ VI Sem
Name of the faculty: Prof. S. R. Pujari	Date: 21-02-2025
Time: 03:30 to 04:30 pm	Total marks: 30

Note.: Answer any two questions from each question.

Q. No.	Description of the question	CO	BL	Marks
1	A. Explain about components of software process	1	2	5M
	B. Define SDLC.What are the different SDLC models? Explain anyone.	1	1,2	5M
	C. Explain about project management process	1	2	5M
2	A. List and explain requirement process.	2	1,2	5M
	B. Define SRS.Explain content of SRS	2	1,2	5M
	C. Explain software analysis design tool	2	2	5
3	A. Explain responsibility of project manager	3	2	5M
	B. List and explain project planning	3	1,2	5M
	C. Write short note on: Project Scheduling.	3	1	5M

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Unit Test I

Subject: Python Programming		Class/ Sem.: TY/ VI Sem		
Name of the faculty: Prof. S.V.Solapure		Date: 22/02/2025		
Time: 10:30 to 11:30 pm		Total marks: 30		
Note.: Answer any two questions from each question.				
Q. No.	Description of the question	CO	BL	Marks
1	A. State and explain any 6 features of python.	1	2	5M
	B. Explain print command in python with suitable example	1	2	5M
	C. State and explain any 6 application of python.	1	2	5M
2	A. Explain range function in python.	2	2	5M
	B. Explain following operators of python with suitable example. <ul style="list-style-type: none">• Is• In• Not in	2	2	5M
	C. Explain arithmetic operators in python with example.	2	2	5M
3	A. Write a program to calculate factorial of a number. Take input from user.	3	1	5M
	B. Write a program to calculate area of triangle and circle and print the result. Take input from user.	3	1	5M
	C. Explain random module with its functions. (4 functions with example)	3	2	5M



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Department of Civil Engineering



Unit Test II

Subject: Structural Mechanics	Class/ Sem.: S.Y (B.Tech)/ IV Sem
Name of the faculty: Mr.Amit S Madakari	Date: 28/03/2025
Time: 10.30 AM to 11.30 AM	Total marks: 30

Note.: Answer any one sub-question from each question

Q. No.	Description of the question	CO	BL	Marks
1	a) A hollow cast iron column 200 mm outside diameter and 150 mm inside , 8 m long has both ends fixed. It is subjected to an axial compression load . Taking a factor of safety as 6 , $\sigma_c = 560\text{N/mm}^2$ Taking $\alpha = 1/1600$. Calculate the safe Rankines Laod OR b) Determine the crippling load for a T –section of dimensions 10cm x 10 cm x 2 cm and of length 5 m when it is used a strut with both ends hinged. Take Youngs Modulus $E = 2.0 \times 10^5 \text{ N/mm}^2$	4	3 3	10M
2	a) A beam of uniform rectangular section 200mm wide and 300 mm deep is simply supported at its ends. It carries a UDL of 9kN/m run over the entire span of 5m . if the value of E for the beam material is $1 \times 10^4 \text{ N/m}^2$.Deduce <ul style="list-style-type: none">• Slope at the support ends• Maximum Deflection OR b) Determine the expression for the deflection of a cantilever with a point load at the free end by Double Integration method.	5	3 1	10M
3	a) A solid steel shaft has to be transmit 75 kW at 200 rpm. Taking allowable shear stress as 70 N/mm^2 . Choose the suitable diameter for the shaft, if the maximum torque transmitted at each revolution exceeds the mean by 30 %. OR	6	3 3	10M



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Department of Civil Engineering



Unit Test – II

Subject: Surveying-II		Class/ Sem: S.Y. - B. Tech/IV Sem		
Name of the faculty: Prof. P. S. Shiragavi		Date: 28/03/2025		
Time: 01.00PM to 02.00PM		Total Marks: 30		
Note: Answer any two questions from each question				
Q. No.	Description of the question	C O	B L	Marks
1	A. Explain the compound curve with a neat sketch. Write the relationship between two parameters.	4	02	5M
	B. Derive the expression for calculating the ordinates from a long chord.	4	01	5M
	C. What is the transition curve? Enlist the methods available for calculating the length of the transition curve. Detail any one of them.	4	02	5M
2	A. State the advantages and disadvantages of air photography for mapping.	5	01	5M
	B. Define and explain. i. Flying height ii. Principal point	5	01	5M
	C. The photographic co-ordinates of two points A and B of respective elevation 250m and 350m on vertical photograph are $x_a=+100\text{mm}$, $y_a=+80\text{mm}$, $x_b=-80\text{mm}$, $y_b=-100\text{mm}$. taking the flying height of the camera as the 2500m and focal length of camera lens as 200mm, find the distance AB.	5	03	5M
3	A. What is G.P.S.? Explain its applications in civil engineering.	6	02	5M
	B. Write in detail applications of remote sensing in civil engineering.	6	02	5M
	C. What is the effect of the atmosphere on electromagnetic radiation?	6	02	5M



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Unit Test II

Subject: Concrete Technology	Class/ Sem.: SY/ VI Sem
Name of the faculty: Prof: Amit S Madakari	Date: 28/03/2025
Time: 03.30 AM to 04.30 PM	Total marks: 30

Note.: Answer any two sub questions from Q.2 and Q.3 and attempt any one question from Q.1

Q. No.	Description of the question	CO	BL	Marks
1	<p>Design a M30 concrete mix using IS method of Mix Design for the following data:</p> <ol style="list-style-type: none"> 1) Maximum size of aggregate - 20mm (Angular). 2) Degree of workability - 0.90 compaction factor. 3) Quality control - good 4) Type of exposure - severe 5) Specific Gravity: <ul style="list-style-type: none"> • Cement - 3.10 • Sand - 2.68 • Coarse aggregate - 2.69 6) Water absorption: <ul style="list-style-type: none"> • Coarse aggregate - 1.0% • Fine aggregate - 2.0% 7) Free surface moisture: <ul style="list-style-type: none"> • Coarse aggregate- Nil • Fine aggregate- 2.0% 8) Sand confirms to zone III grading. <p style="text-align: center;">Assume any other data required suitably</p> <p style="text-align: center;">OR</p> <p>Design a M35 concrete mix using IS method of Mix Design for the following data:</p> <ol style="list-style-type: none"> 1) Maximum size of aggregate - 20mm (Angular) 2) Degree of workability - 0.90 compaction factor. 3) Quality control – good 4) Type of exposure - mild 5) Specific Gravity <ul style="list-style-type: none"> • Cement - 3.12 • Sand - 2.63 	4	3	10M

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Unit Test – II

Subject: Fluid Mechanics-II Tech./IV Sem		Class/ Sem: S.Y. - B. Tech/IV Sem			
Name of the faculty: Prof. Vinayak S. Patil		Date: 10.30 to 11.30 AM			
Time: 29/03/2025 : 30		Total Marks: 30			
Note: Answer any two questions from each question					
Q. No.	Description of the question	CO	BL	Marks	
1	A. Give the classification of notches and weir.	4	1	5M	
	B. Derive an expression for the discharge over a rectangular weir.	4	1	5M	
	C. Show that the error in Discharge measurement due to error in measuring head over Triangular notch is given by $\frac{dQ}{Q} = 2.5 \frac{dH}{H}$	4	1	5M	
2	A. State & explain impulse momentum principle.	5	1	5M	
	B. Derive the equation for force exerted on Fixed Plate with Jet normal to plate.	5	1	5M	
	C. A jet of water of dia. 10cm strikes a flat plate normally with a velocity of 15m/sec. The plate is moving with a velocity of 6m/sec in the direction of the jet and away from the jet. Find i) The force exerted by the jet on the plate ii) Work done by the jet on the plate per sec	5	3	5M	
3	A. Distinguish between Impulse Turbine and Reaction Turbine.	6	2	5M	
	B. Draw a schematic sketch of centrifugal pump. Name its parts.	6	2	5M	
	C. Write short note on - i) Priming of a centrifugal pump ii) Draft tubes	6	1	5M	



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Department of Civil Engineering



Unit Test II

Subject: Theory of Structures

Class/ Sem.: T.Y (B.Tech)/ VI Sem

Name of the faculty: Mr. Amit S Madakari



Date: 28/03/2025

Time: 10.30 AM to 11.30 AM

Total marks: 30

Note.: Answer any one sub question from each question

Q. No.	Description of the question	CO	BL	Marks
1	<p>a) Determine the moments of the beam using slope deflection method and draw SFD and BMD</p> <p>OR</p> <p>b) Determine the moments for the following frame by slope deflection method and draw SFD and BMD</p>	4	3	10M
2	<p>a) Determine the moments continuous beam by Moment Distribution Method and deduce relevant data for SFD and BMD</p>	5	4	10M



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Unit Test II

Subject: Engineering Management	Class/ Sem.: TY/ VI Sem
Name of the faculty: Prof. P. S. Shiragavi	Date: 28/03/2025
Time: 01.00 PM to 02.00 PM	Total marks: 30



Note.: Answer any two main questions.

Q. No.	Description of the question	CO	BL	Marks
1	A. Explain A-B-C analysis of inventory control with a neat sketch.	4	2	5M
	B. What are the objectives of material management?	4	2	5M
	C. Explain the objectives of inventory control.	4	2	5M
2	A. Explain the concept of time value of money.	5	2	5M
	B. What do you mean by engineering economics?	5	1	5M
	C. Explain benefit cost ratio and payback period method.	5	2	5M
3	A. Write the advantages of a good site layout.	6	1	5M
	B. Explain work study with respect to building construction project.	6	2	5M
	C. Explain the measures for preventing accidents in the construction industry.	6	2	5M

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Unit Test-II

Subject: Environmental Engineering-II		Class/ Sem.: T. Y. B. Tech/ VI Sem			
Name of the faculty: Miss. K. K. Gurav		Date: 28/03/2025			
Time: 3:30 PM to 4:30 PM		Total marks: 30			
Note: Answer any two from each main questions.					
Q. No.	Description of the question	CO	BL	Marks	
1	A. Explain the self-purification of stream.	04	02	5M	
	B. With the neat sketch explain the DO sag curve.	04	02	5M	
	C. Mention the MPCB standard for safe disposal of sewage.	04	02	5M	
2	Explain the process of incineration of hazardous waste with neat sketch.	05	02	5M	
	Describe the hazardous waste management.	05	02	5M	
	Explain the solid waste collection methods.	05	02	5M	
3	Explain with neat diagram working principal of electrostatic precipitation.	06	02	5M	
	Explain the importance of atmospheric stability and height in the dispersion of air pollutants.	06	02	5M	
	Write a short note on any one of the following terms. Effect of air pollution on human life. Bag house filter Cyclone separators	06	01	5M	

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Unit Test – II

Subject: Geotechnical Engineering-II		Class/ Sem: T.Y. - B. Tech/VI Sem		
Name of the faculty: Prof. Vinayak S. Patil		Date: 10.30 to 11.30 AM		
Time: 29/03/2025		Total Marks: 30		
Note: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. Draw the figure of under-reamed pile foundation.	4	2	5M
	B. Explain pile load test with sketch.	4	2	5M
	C. A concrete pile weighing 35 kN is driven by a drop hammer weighing 50 kN and having an effective fall of 1.0 m. The average set per blow is 15 mm. The total temporary elastic compression is 20 mm. Assume the coefficient of restitution as 0.30 and a factor of safety of 2.0. Determine the allowable load for pile using Hiley's formula.	4	3	5M
2	A. Discuss the forces acting on a well foundation during under water construction.	5	1	5M
	B. What are different shapes of wells? Discuss the characteristics of each type.	5	2	5M
	C. Write notes on- (i) Shift & tilt in well sinking. (ii) Open caisson.	5	1	5M
3	A. Write the concept of friction circle method in slope stability analysis.	6	2	5M
	B. Explain the stability number and its applications in the stability analysis.	6	2	5M
	C. A canal is to be excavated through a soil with $c = 15 \text{ kN/m}^2$, $\phi = 20^\circ$, $e = 0.9$ and $G = 2.67$. The side slope is 1 in 1. The depth of the canal is 6 m. Determine the factor of safety with respect to cohesion when the canal runs full. What will be the factor of safety if the canal is rapidly emptied?	6	3	5M

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Unit Test II

Subject: Design of Concrete Structures	Class/ Sem.: Final Year/ VIII Sem
Name of the faculty: Prof. P. S. Shiragavi	Date: 28/03/2025
Time: 10.30 AM to 11.30 AM	Total marks: 30

Note.: Answer any two main questions.

Q. No.	Description of the question	CO	BL	Marks
1	A. A simply supported concrete beam of rectangular 200mm x 600 mm is loaded with UDL of 20 kN/m including self weight over a span of 6 m. Find the stresses at midspan and endspan sections if the prestressing force is 960 kN and the tendons are Eccentrically located at 150 mm above the bottom fiber. cross section.	4	3	5
	B. Explain in detail the load balancing method for analysis of prestressed concrete sections.	4	2	5
	C. Explain in detail different types of prestressing.	4	2	5
2	A. Explain in detail all the losses occurring in prestress concrete.	5	2	5
	B. Distinguish between pretensioned and post-tensioned methods of prestressing.	5	1	5
	C. A post tensioned Prestressed concrete beam of 30 m span is subjected to a prestressing force of 2500 kN. The cable profile is parabolic with a max. eccentricity of 200mm at mid-span and Zero eccentricity at the ends. The beam has a C/S of 500 mm x 800 mm. Determine the percentage of prestress 500 mm X 800 due to friction. Take, $E_s=210 \text{ kN/mm}^2$; $E_c=35 \text{ kN/mm}^2$. Coefficients of friction = 0.3 and Coefficient of wave effect = 0.0015kN/m	5	3	5
3	A. Design the rectangular beam of prestressed concrete to support a dead load moment 18 kN.m (inclusive of its own weight) and live load moment 30 kN.m at its mid section Take- i) Allowable initial compressive stress – 16 N/mm ² ii) Allowable final compressive stress – 13 N/mm ² iii) Allowable initial and final tensile stress N/mm ² iv) Permissible tensile stress in steel -900 N/mm ² v) Loss in prestressing - 15%	6	3	5
	B. A prestressed concrete beam of uniform rectangular cross section and span-15 m supports a UDL of 18 kN/m, excluding the self weight.	6	6	5





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Unit Test – II

Subject: Water Resources Engineering-II		Class/ Sem: B: Tech/ VIII Sem		
Name of the faculty: Prof. Vaibhavi V.Chougule		Date: 28/03/2024		
Time: 3.30 PM to 4.30 PM		Total Marks: 30		
Note: Answer any two questions from each question.				
Q. No.	Description of the question	CO	BL	Marks
1	A. What is Barrage? How does it differ from weir? Describe with neat sketches types of weir.	4	1	5
	B. Explain Khosla & Bligh's theory.	4	2	5
	C. What are the causes of failure of weirs.	4	1	5
2	A. Classify different types of canals. Describe briefly the various considerations made in the alignment of canal.	5	2	5
	B. What are the various types of canal lining? Explain shotcrete lining.	5	1	5
	C. Discuss advantage & disadvantage of canal lining with various types of lining.	5	1	5
3	A. Write notes on- (i) Groyne – Function & classification. (ii) Interlinking of rivers.	6	2	5
	B. What do you mean by meandering type, aggrading type, degrading type of rivers? What are the causes of meandering of rivers?	6	1	5
	C. Draw a layout of hydropower plants & explain with neat sketch functions of all components.	6	3	5

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Unit Test II

Subject: Transportation Engineering - II		Class/ Sem.: Final Year/ VIII Sem		
Name of the faculty: Prof.R.V.Savyanavar		Date: 29/03/2025		
Time: 03.30 PM to 04.30 PM		Total marks: 30		
Note.: Answer any two questions from each question.				
Q.No.	Description of the question	CO	BL	Marks
1	A. Write a short note on Permanent way & its component parts.	1,3	2	5
	B. Enlist the elements & necessity of geometric design of track.	1,3	1	5
	C. Define points & crossing and draw sketch of right-hand turnout.	1,3	2	5
2	A. State object of signaling enlist advantages of automobile signaling.	5	1	5
	B. Write a note on Modern trends in Railways.	5	2	5
	C. What are the safety measures conducted in railways?	5	2	5
3	A. What are the factor considered for selecting a site of a bridge.	4	2	5
	B. Enlist the different types of loading used for designing of bridge.	4	1	5
	C. Explain Bridge Hydrology.	4	2	5

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Unit Test – II

Subject: Advance Foundation Engineering		Class/ Sem: B. Tech/ VIII Sem		
Name of the faculty: Prof. Vaibhavee V. Chougule		Date: 29/03/2025		
Time: 10.30 to 11.30 AM		Total Marks: 30		
Note: All Questions are Compulsory.				
Q. No.	Description of the question	CO	BL	Marks
1	A. Define following with respect to Machine Foundation i. Free vibrations and forced vibrations ii. Resonance	4	1	5M
	B. Explain design criteria for foundations of reciprocating machines.	4	2	5M
2	A. Discuss the procedure for checking the stability of cantilever sheet pile.	5	1	5M
	B. Explain the types and uses of cofferdams and its applicability.	5	2	5M
3	A. Explain in detail damage and vibrations due to constructional operations.	6	2	5M
	B. Write a note on i. Shoring and underpinning ii. Mechanical stabilization.	6	1	5M

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Unit Test – II

Subject: Advance Construction Techniques		Class/ Sem: B. Tech/ VIII Sem		
Name of the faculty: Prof. K. K. Gurav		Date: 29/03/2025		
Time: 03:30 PM to 04:30 PM		Total Marks: 30		
Note: Answer any two questions from each question.				
Q. No.	Description of the question	CO	BL	Marks
1	A. What are the requirements of coffer dam.	4	1	5M
	B. What is the main purpose of coffer dam.	4	1	5M
	C. What is caisson? What are the type of caissons?	4	2	5M
2	A. Explain the necessity of bridge rehabilitation.	5	2	5M
	B.Explain in brief the concept of prevention of bridge?	5	1	5M
	C.Write note on diaphragm walls.	5	2	5M
3	A.State the mechanism of Re-vibration of concrete.	6	2	5M
	B. Explain with neat sketch the vaccum Dewatering.	6	2	5M
	C. Explain fiber reinforced concrete & write their advantages.	6	2	5M



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Unit Test II

Subject: Soil & Water Conservation Techniques		Class/Sem.: TY/ VI Sem		
Name of the faculty: Mr. Suraj R. Wadagule		Date: 29/03/2025		
Time: 01:00PM TO 02:00PM		Total marks: 30		
Note.: Answer any two sub questions from each questions				
Q. No.	Description of the question	CO	BL	Marks
1	A. Discuss the benefits of water harvesting.	4	2	5M
	B. Enlist water harvesting techniques. Explain Flood water harvesting.	4	2	5M
	C. Write a short note on- percolation tank.	4	2	5M
2	A. Explain benefits of watershed management.	5	2	5M
	B. Differentiate between physically based watershed models and empirical watershed models.	5	1	5M
	C. Classify watershed models based on the nature of the algorithms.	5	1	5M
3	A. What are the zones of groundwater? Explain anyone.	6	2	5M
	B. Define – Porosity and Permeability of soil.	6	1	5M
	C. Elaborate effects of groundwater level depletion.	6	2	5M



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Unit Test - II

Subject: Building Design & Drawing IV Sem	Class/ Sem: S.Y B. Tech/ IV Sem
Name of the faculty: Prof. R.V.Savyanavar	Date: 29/03/2024
Time: 1.00 pm to 2.00 pm	Total Marks: 30



Note: Answer any two questions from each question

Q. No.	Description of the question	CO	BL	Marks
1	A. Explain the various system of wiring	4	2	5
	B. Explain Concept of Earthing.	4	2	5
	C. Explain the function of trap.	4	2	5
2	A. Explain sound insulation.	5	2	5
	B. State & Necessity of Air Conditioning.	5	1	5
	C. What is the necessity ventilation.	5	1	5
3	A. Explain characteristics of good Paints	6	2	5
	B. What is the Objectives of Plastering.	6	1	5
	C. Explain the types of Pointing.	6	2	5

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Unit Test II

Subject: DCMT		Class/ Sem.: SY/ IV Sem		
Name of the faculty: Mr. S. C. Gandh		Date: 28/03/2025		
Time: 10.30AM to 11.30 AM		Total marks: 30		
Note.: Answer any three questions from each main question				
Q. No.	Description of the question	CO	BL	Marks
1	A. With neat diagram, explain the working of the transformer.	4	2	5
	B. Derive the EMF equation of transformer.	4	3	5
	C. List the type of the transformer.	4	1	5
2	A. With neat diagram explain the working of CT & PT.	5	2	5
	B. With neat diagram explain polarity test of transformer.	5	2	5
	C. Draw vector grouping of three phase transformers. i) YD ₁ ii) YD ₁₁ iii) DY ₁ iv) DY ₁₁	5	3	5
3	A. Define harmonics. How these affect the transformers.	6	2	5
	B. With neat diagram explain sumpners test.	6	2	5
	C. With neat explain heat run test.	6	2	5

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Unit Test II

Subject: Control System-1		Class/ Sem.: SY/ IV Sem		
Name of the faculty: Mr. Basavaraj A. Angadi		Date: 28/03/2025		
Time: 1.00PM to 2.00 PM		Total marks: 30		
Q. No.	Description of the question	CO	BL	Marks
1	Answer any two questions.			
	A. What are the necessary and Sufficient condition of Routh's Criterion?	4	1	5M
	Determine the stability of given system using Routh's criterion, B) $S^4+4S^3+2S^2+2S+2=0$	4	3	5M
	C) $S^4+2S^2+1=0$	4	3	5M
2	Answer Any one Question			
	A. Draw the approximate Root-Locus Diagram for close loop system whose transfer function is given by $G(s) H(s) = \frac{K}{s(s+5)(s+10)}$	5	3	10M
	B. Draw the Root-Locus for the unity feedback system with transfer function $G(s) = \frac{K}{(s^3+9s^2+18s)}$, $H(s) = 1$	5	3	10M
Answer any two questions.				
3	A.Explain the concept of lead compensator.	6	2	5M
	B. What are the rules involved in construction of Root-Locus, Explain with necessary formulas	6	1	5M
	C.Explain the concept of lag compensator	6	2	5M





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Unit Test II

Subject: Power System-I		Class/ Sem.: SY/ IV th Sem		
Name of the faculty: Mr. Amar Ramesh Bandekar		Date: 28/03/2025		
Time: 03:30PM-04:30PM		Total marks: 30M		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. Derive the expression for sending end voltage and current for long transmission line	4	III	5M
	B. Derive the expression for voltage regulation of a short transmission line, giving the vector diagram	4	III	5M
	C. Explain the classification of overhead transmission line	4	II	5M
2	A. List the properties of insulating materials used in cable.	5	I,IV	5M
	B. Explain with a neat diagram various parts of a high voltage single core cable.	5	II	5M
	C. Derive an expression for the capacitance of single-core cable	5	III	5M
3	A. Explain the terms: i) Feeder ii) Distributor iii) Service Mains	6	II	5M
	B. Explain the following system of distribution with neat diagram i) Radial System ii) Ring Main System iii) Interconnected System	6	II	5M
	C. Explain AC Distribution	6	II	5M

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Unit Test II

Subject: Power Electronics		Class/ Sem.: SE/ IV Sem		
Name of the faculty: Prof.Abhijit Borganve		Date: 29/03/2025		
Time: 10.30AM to 11.30 AM		Total marks: 30		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. Explain working principle of single-phase half-controlled thyristor converter.	4	2	5M
	B. Explain operation of step-up converter.	4	2	5M
	C. Explain working principle of multiphase chopper.	4	2	5M
2	A. What is pulse width modulation? Discuss different PWM techniques to control output voltage of inverter?	5	2	5M
	B. With the help of neat circuit diagram and waveform explain working of 180-degree conduction mode three phase inverter with resistive load?	5	2	5M
	C. Explain the working of single phase full bridge Inverter with necessary circuit diagram and waveform?	5	2	5M
3	A. Describe the basic principle of working of Three phase Cyclo-Converter.	6	2	5M
	B. Explain the operation and control methods of Matrix converter?	6	2	5M
	C. Describe the topologies of Matrix converter?	6	2	5M

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Unit Test II

Subject: Electromagnet	Class/ Sem.: SY/ IV Sem
Name of the faculty:	Date: 29/03/2025
Time: 1.00 PM to 2.00 PM	Total marks: 30

Note.: Answer any three questions from each main question

Q. No.	Description of the question	CO	BL	Marks
1	A. Explain Stoke's theorem.	4	2	5
	B. Explain BiotSavert's law.	4	2	5
	C. Explain Ampere's circuital law	4	2	5
2	A. Explain Faraday's law.	5	2	5
	B. Explain Modified Amper's Law.	5	2	5
	C. Derive Boundary Condition for the electric field using Maxwell's equations.	5	2	5
3	A. Derive wave equation for free space.	6	2	5
	B. Explain state equation for lossy media.	6	2	5
	C. Write short note on Skin effect.	6	1	5



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Unit Test-II

Subject: Environmental Studies		Class/ Sem.: SY/ IV Sem		
Name of the faculty: Prof. S.T.Dundage		Date: 29/03/25		
Time: 3.30 am to 04.30 am		Total marks: 30		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. Multiple choice question a. A Poisonous gas given out of a vehicle exhaust is----- i)Methane ii) Ethane iii) Carbon dioxide iv) Carbon Monoxide b. The ozone layer is becoming thin due to the gas----- i)CO ii) CFCS iii) CO2 iv) NO ₂ c. “El Nino” this phenomenon is associated with ----- i)Climate change ii) Air Pollution iii) Water pollution iv) Radiation Effect d. “Smog” is a mixture of ---- i)dust and gas ii) smoke and dust iii) snow and fog iv) smoke and fog e. Environmental studies dripline has ----scope i)Multiple and multilevel ii) Unilateral iii) Important iv) Natural	1 to 6	2	5
	B. Describe the structure of pond ecosystem	3	2	5
	C. Define deforestation and list causes of deforestation	2	1	5
2	A. Explain in detail wildlife protection act 1972	6	2	5
	B. Describe the various kind of ecological Pyramids with Suitable Diagram.	3	2	5
	C. Explain world food problem and not on effect of modern agriculture practice on environment.	2	2	5
3	A. Explain in detail definition, causes, effects, and control measures of Noise pollution	4	2	5
	B. Define environment and explain its scop and importance as multi-disciplinary subject.	1	1	5
	C. What is disaster management? Explain with foods and earthquake.	5	1	5



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Unit Test II

Subject:EEAC	Class/ Sem.: TY/ VI Sem
Name of the faculty: Mr. S. C. Gandh	Date: 28/03/2025
Time: 10.30AM to 11.30 AM	Total marks: 30

Note.: Answer any three questions from each main question

Q. No.	Description of the question	CO	BL	Marks
1	A. Differentiate between energy conservation and energy efficiency.	4	1	5
	B. Differentiate between energy conservation and energy efficiency.	4	1	5
	C. Define Primary and Secondary Energy with three examples.	4	1	5
2	A. Explain the energy conservation techniques in an induction motor	5	2	5
	B. What are the various types of motors used and their relative applications, advantages	5	1	5
	C. Explain the need for use of energy efficient motors .	5	3	5
3	A. Explain the concept of conservation of mechanical energy .	6	2	5
	B. Why is conservation of mechanical energy needed.	6	2	5
	C. Explain the flywheel energy storage system with diagram and equation .	6	2	5

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Unit Test II

Subject: Power System Stability and Control	Class/ Sem.: TY/ VI Sem
Name of the faculty: Dr. Vireshkumar G. Mathad	Date: 28/3/2025
Time: 11.00AM to 12.00PM	Total marks: 30

Note.: Answer any two questions from each questions

Q. No.	Description of the question	CO	BL	Marks
1	A). With neat sketch explain working principle of automatic voltage regulator	4	2	5M
	B). Describe with schematic diagram turbine speed governing system.	4	3	5M
	C). Analyse steady state response of automatic load frequency control system for isolated power system.	4	2	5M
2	A). Explain load factor and diversity factor.	5	2	5M
	B). Derive the condition of economic load dispatch considering the transmission losses.	5	3	5M
	C). Explain following terms i) Load forecasting ii) Optimal Unit commitment	5	3	5M
3	A). Explain different steps for carrying out for contingency analysis.	6	2	5M
	B). Write a note on security analysis of power system.	6	2	5M
	C). Explain factors affecting power system security.	6	2	5M



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Unit Test II

Subject: Electrical Machine Design		Class/ Sem.: TE / VI Sem		
Name of the faculty: Mr. Basavaraj A. Angadi		Date: 28/03/2025		
Time: 03.30PM to 04.30 PM		Total marks: 30		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. What are different types of winding in transformer? and explain any one.	4	1	5M
	B. Derive the expression of bar current and end ring current for rotor of a three-phase squirrel cage induction motor along with necessary diagram.	4	2	5M
	C. What are the factors that affect the choice of average flux density for synchronous machine.	4	1	5M
2	A. Explain on synthesis method of solving electrical machine using CAD with a flow chart.	5	2	5M
	B. Derive the output equation of three phase induction in terms of its specific loadings.	5	2	5M
	C. What is computer aided design? How does it help in designing electrical machine	5	2	5M
3	A. Explain the factor thar affecting the choice of average flux density in the airgap and choice of the ampere conductors per meter.	6	2	5M
	B. What are the guiding factor for choice of armature slots?	6	1	5M
	C. Write a note on the modern trend in the design of electrical Machines.	6	2	5M



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Academic Year 2024-25
Department of Electrical Engineering





Unit Test II

Subject: Electrical Drives-I	Class/ Sem.: TY/ VI th Sem
Name of the faculty: Mr. Amar Ramesh Bandekar	Date: 29/03/2025
Time: 10:30AM-11:30AM	Total marks: 30M

Note.: Answer any two questions from each question

Q. No.	Description of the question	CO	BL	Marks
1	A. Explain (v/f) control method of Induction motor drives	4	II	5M
	B. Explain principle, procedure, application areas & advantages of static scherbuis drive	4	II	5M
	C. Explain with suitable diagram, Static Kramer system of speed control of induction motor	4	II	5M
2	A. Explain the modes of speed control of synchronous motor on the basis of frequency.	5	II	5M
	B. Explain synchronous motor drive with closed loop control	5	II	5M
	C. Explain load commutated inverter fed synchronous motor drive	5	II	5M
3	A. Explain V-I characteristics of solar panel	6	II	5M
	B. Explain principle of operation of switched reluctance motor drive.	6	II	5M
	C. Explain block diagram of MPPT	6	II	5M

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Unit Test II

Subject: Digital Signal Processing		Class/ Sem.: TY/ VI Sem		
Name of the faculty: Prof.Abhijit Borganve		Date: 29/03/2025		
Time: 01.00PM to 02.00 PM		Total marks: 30		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Mark
1	A. What are types of DSP processors? Explain in brief.	4	2	5M
	B. Explain VLIW architecture.	4	2	5M
	C. What are the different parameters that influence selection of digital signal processors.	4	2	5M
2	A. What is Amplitude Modulation? Explain in brief.	5	2	5M
	B. What are the types of communication systems? Explain in brief.	5	2	5M
	C. Explain super heterodyne AM receiver.	5	2	5M
3	A. Explain in brief about the interferences in angle modulated systems.	6	2	5M
	B. Explain FM receiver in brief.	6	2	5M
	C. Write a note on: Demodulation of FM waves	6	1	5M



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Unit Test II

Subject: AM&A	Class/ Sem.: BE/ VIII Sem
Name of the faculty: Mr. S. C. Gandh	Date: 28/03/2025
Time: 10.30AM to 11.30 AM	Total marks: 30

Note.: Answer any three questions from each main question

Q. No.	Description of the question	CO	BL	Marks
1	A. Explain UART.	4	2	5
	B. Explain I2C.	4	2	5
	C. Explain Different oscillator modes.	4	2	5
2	A. Explain PSP.	5	2	5
	B. Explain EPROM.	5	2	5
	C. Explain interfacing of RPM meter.	5	2	5
3	A. Explain interfacing of event counter.	6	2	5
	B. Write a short note on temperature interfacing.	6	1	5
	C. Write a assembly program for event counter.	6	3	5



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Unit Test II

Subject: Electrical Generation, Utilization and Traction		Class/ Sem.: FY/ VIII Sem		
Name of the faculty: Mr. Basavaraj A. Angadi		Date: 28/03/2025		
Time: 1.00 PM to 2.00 PM		Total marks: 30		
Note.: Answer any two questions from each questions				
Q. No.	Description of the question	CO	BL	Marks
1	A. List out advantages of electrical heating over the other system of heating.	4	1	5M
	B. Explain the dielectric heating and its application.	4	2	5M
	C. What is Arc heating? And explain direct arc heating.	4	2	5M
2	A. Explain the different type of current collectors used in traction.	5	2	5M
	B. Explain booster transformer used in AC electrification.	5	2	5M
	C. Explain different types of track electrification system.	5	3	5M
3	A. Explain brief about negative booster.	6	3	5M
	B. An electrical train is to have acceleration and braking retardation of 0.8Km/h/s and 3.2Km/h/s respectively. If the ratio of maximum to average speed is 1.3 & time for stops 26 seconds, find schedule speed for a 1.5Km. Assume simplified trapezoidal speed-time curve	6	3	5M
	C. Explain about current collecting equipment.	6	2	5M



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Unit Test II

Subject: EHVAC		Class/ Sem.: Final Year/ VIII th Sem		
Name of the faculty: Mr. Amar Ramesh Bandekar		Date: 28 /03/2025		
Time: 03:30PM-04:30PM		Total marks: 30M		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. Explain impact of Lightning strokes on lines and mechanism of lighting strokes	4	II	5M
	B. Write a short note on following: i) Gapless Metal Oxide Arrester ii) Gap Type Sic Arresters	4	II	5M
	C. Explain in detail Voltage withstands levels of protected equipment's and insulation condition based on the lighting	4	II	5M
2	A. Explain causes of over voltage in EHV system	5	II	5M
	B. Explain the calculations of switching surges along with single phase equivalents for finding i) Single frequency lumped parameter circuit ii) Step response of L-R-C circuit	5	II	5M
	C. Explain how over voltages are generated when interrupting low capacitive current	5	II	5M
3	A. Explain Voltage control shunt and series components in EHVAC system	6	II	5M
	B. Explain sub synchronous resonance in series capacitor	6	II	5M
	C. Explain the advantages of static VAR compensation and different schemes	6	II	5M



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Unit Test II

Subject: Management and Entrepreneurship Development	Class/ Sem.: BE/VIII Sem
Name of the faculty: Prof.Abhijit Borganve	Date: 29/03/2025
Time: 10.30AM to 11.30 AM	Total marks: 30

Note.: Answer any two questions from each question

Q. No.	Description of the question	CO	BL	Marks
1	A. Define entrepreneurship? Explain the importance of entrepreneurship.	4	2	5M
	B. What are the differences between entrepreneur and professional manager.	4	1	5M
	C. Explain the role of entrepreneur in economic development.	4	2	5M
2	A. Explain the government policy and development of the small-scale sector in India.	5	2	5M
	B. How do small scale industries contribute to the socio-economic development of India.	5	2	5M
	C. State the objectives of small business in rural India.	5	2	5M
3	A. Explain the project management process and project identification.	6	2	5M
	B. What are criteria for selecting a particular project.	6	1	5M
	C. Explain Product Planning and Development process.	6	2	5M

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Unit Test II

Subject: HVDC		Class/ Sem.: BE/ VIII Sem		
Name of the faculty: Mr. S. C. Gandh		Date: 29/03/2025		
Time: 1.00 PM to 2.00 PM		Total marks: 30		
Note.: Answer any three questions from each main question				
Q. No.	Description of the question	CO	BL	Marks
1	A. Define the Harmonics. State the causes of harmonics.	1	1	5
	B. Explain the characteristics harmonics	1	1	5
	C. What are the types of filters?	1	2	5
2	A. Explain role of reactive power in HVDC converters.	2	2	5
	B. Explain reactive power compensation techniques	2	2	5
	C. Explain the effect of low reactive power in HVDC substation.	2	2	5
3	A.Explain voltage margin control method in MTDC system in detail.	3	1	5
	B. Explain configuration of MTDC system.	3	2	5
	C. Explain types of MTDC system.	3	2	5



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Academic Year 2024-25**Department of Mechanical Engineering****Unit Test II**

Subject: Applied Numerical Method	Class/ Sem.: SY/ IV Sem
Name of the faculty: Miss. S.S.Nadaf	Date: 28/02/2025
Time: 01.00PM to 02.00PM	Total marks: 30

Note.: Answer any three questions from each questions

Q. No.	Description of the question	CO	BL	Mark																								
1	A. The velocity v (km/min) of a moped which starts from rest is given at a fixed interval of time t (min) as follow Use Simpson's 1/3 Rule to estimate distance covered in 20 minutes. <table><tr><td>t</td><td>0</td><td>2</td><td>4</td><td>6</td><td>8</td><td>10</td><td>12</td><td>14</td><td>16</td><td>18</td><td>20</td></tr><tr><td>v</td><td>0</td><td>10</td><td>18</td><td>25</td><td>29</td><td>32</td><td>20</td><td>11</td><td>5</td><td>2</td><td>0</td></tr></table>	t	0	2	4	6	8	10	12	14	16	18	20	v	0	10	18	25	29	32	20	11	5	2	0	4	3	5M
	t	0	2	4	6	8	10	12	14	16	18	20																
	v	0	10	18	25	29	32	20	11	5	2	0																
	B. Find the first derivative an derivate at $x=0.01$ <table><tr><td>x</td><td>0.01</td><td>0.02</td><td>0.03</td><td>0.04</td><td>0.05</td><td>0.06</td></tr><tr><td>y</td><td>0.1023</td><td>0.1047</td><td>0.1071</td><td>0.1096</td><td>0.1122</td><td>0.1148</td></tr></table>	x	0.01	0.02	0.03	0.04	0.05	0.06	y	0.1023	0.1047	0.1071	0.1096	0.1122	0.1148	4	3	5M										
x	0.01	0.02	0.03	0.04	0.05	0.06																						
y	0.1023	0.1047	0.1071	0.1096	0.1122	0.1148																						
C. Apply Picard's method to find approximate value of y when $x=0.2$ given that $dy/dx = x+y$ and $y= 1$ when $x=0$	4	2	5M																									
2	A. find largest eigen value and eigen vector of $\begin{bmatrix} 5 & 4 \\ 1 & 2 \end{bmatrix}$ by power method	5	3	5M																								
	B. Fit a polynomial of 2 nd degree for the following data by least square method . <table><tr><td>X</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr><tr><td>Y</td><td>1</td><td>0</td><td>3</td><td>10</td><td>21</td></tr></table>	X	0	1	2	3	4	Y	1	0	3	10	21	5	4	5M												
	X	0	1	2	3	4																						
	Y	1	0	3	10	21																						
C. Using Taylor method calculate $y(0.2)$ correct up to 4 th decimal place given $dy/dx = 1-2xy$ and $y(0) =1$	5	3	5M																									
3	A. Fit the parabola to the following data by least square method <table><tr><td>X</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr><tr><td>Y</td><td>1</td><td>1.8</td><td>1.3</td><td>2.5</td><td>6.3</td></tr></table>	X	0	1	2	3	4	Y	1	1.8	1.3	2.5	6.3	6	3	5M												
	X	0	1	2	3	4																						
	Y	1	1.8	1.3	2.5	6.3																						
	B. Using Newton's divided difference formula evaluate $f(9)$ <table><tr><td>X</td><td>-4</td><td>-1</td><td>0</td><td>2</td><td>5</td></tr><tr><td>Y</td><td>1245</td><td>33</td><td>5</td><td>9</td><td>1335</td></tr></table>	X	-4	-1	0	2	5	Y	1245	33	5	9	1335	6	4	5M												
X	-4	-1	0	2	5																							
Y	1245	33	5	9	1335																							
C. Fit a least square curve $y= ax^b$ to the following data <table><tr><td>X</td><td>1</td><td>2</td><td>3</td><td>4</td></tr><tr><td>Y</td><td>0.5</td><td>2</td><td>4.5</td><td>8</td></tr></table>	X	1	2	3	4	Y	0.5	2	4.5	8	6	3	5M															
X	1	2	3	4																								
Y	0.5	2	4.5	8																								



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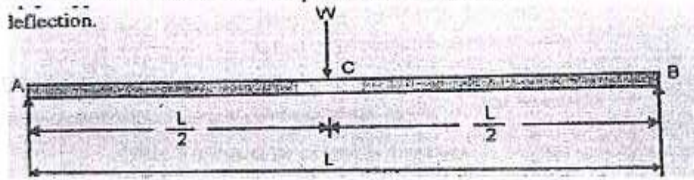
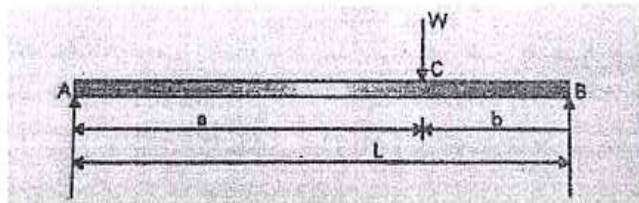
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Academic Year 2024-25

Department of Mechanical Engineering



Unit Test II

Subject: Analysis of Mechanical Element		Class/ Sem.: SY/ IV Sem		
Name of the faculty: Prof.PallaviT. Kokitakar		Date: 28/03/2025		
Time: 01.00-02.00 pm		Total marks: 30		
Note.: Answer any one from each question				
Q. No.	Description of the question	CO	BL	Marks
1	<ul style="list-style-type: none">At a point in a strained material, the principle tensile stresses across two perpendicular planes are 80 N/mm^2 and 40 N/mm^2. Determine normal stress, shear stress and resultant stress on a plane inclined at 20° with major principle plane. Determine also the obliquity. What will be the intensity of stress which acting alone will produce the same maximum strain if Poisson's ratio = $\frac{1}{4}$	4	3	10M
	OR			
2	<ul style="list-style-type: none">Derive Equation for Member subjected to axial stresses	5	3	10M
	<ul style="list-style-type: none">A simply Supported beam subjected to the central point load W. Determine maximum slope and deflection. <p>deflection.</p>  <p>OR</p> <ul style="list-style-type: none">A simply supported beam with point load W at a distance "a" from support A. Determine slope at support, deflection under load and find maximum deflection 			
3	<ul style="list-style-type: none">Derive equation Euler's critical load for column which have both ends pinned.	6	3	10 M
	<ul style="list-style-type: none">Derive equation for column with one end fixed and other end hinged.			



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Unit Test II

Subject: Fluid And Turbo Machinery		Class/Sem.: SY/IV Sem			
Name of the faculty: Miss. P.T.Kokitakar		Date: 28/03/2025			
Time: 03.30PM to 04.30PM		Total marks: 30			
Note.: Answer any two questions from each questions					
Q. No.	Description of the question	CO	BL	Marks	
1.	A. Write Short notes Importance of Multi staging of reciprocating compressors and how it reduces the required work to run the compressor.	4	2	5	
	B. Derive expression for work done by reciprocating compressor with clearance volume.	4	1	5	
	C. In single stage air compressor the index of compression and expansion may be taken as 1.2. The clearance volume is 1/19th of the swept volume. A compressor of this type is required capable of compressing 7.6 cubic meters free air per minute from 100 kPa to 900 kPa. It runs at 240 rpm with a mean piston speed 220 m/min. Find the Volumetric efficiency and Diameter of piston.	4	3	5	
2.	A. Explain terms Surging, Chocking, and Stalling for centrifugal air compressor	5	2	5	
	B. Describe briefly with a neat sketch the axial flow compressor. Also define degree of reaction for axial flow compressor and draw the velocity diagram for 50% degree of reaction.	5	2	5	
	C. A rotary air compressor working between 2 and 4 bar has internal and external diameters of impeller as 250 mm and 500 mm respectively. The vane angle at inlet and outlet are 30° and	5	3	5	



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Unit Test II

Subject: Theory of Machines-I	Class/ Sem.: SY/ IV Sem
Name of the faculty: Mr.Gururaj.M.Kumbar	Date: 29/03/2025
Time: 10: 30AM to 11 : 30AM	Total marks: 30

Note.: Answer any two questions from each questions

Q. No.	Description of the question	CO	BL	M
1	A) with neat diagram Define the following terms with respect to a Cam Profile i) Base Circle ii) prime circle iii) Pitch point	CO4	1	
	B) with neat diagram Classify the Cams & Followers?	CO4	2	
	C) Draw Displacement, Velocity and Acceleration Diagrams when the Follower Moves with Simple Harmonic Motion	CO4	2	
2	A) For Smaller pulley Derive the Equation for Centrifugal Tension?	CO5	1	
	B) Derive the Equation for length of an open belt drive?	CO5	1	
	C) Two pulleys, one 450 mm diameter and the other 200 mm diameter are on parallel shafts 1.95 m apart and are connected by a crossed belt. Find the length of the belt required and the angle of contact between the belt and pulley. What power can be transmitted by the belt when the larger pulley rotates at 200 rpm, if the maximum permissible tension in the belt is 1 kN, and the coefficient of friction between the belt and pulley is 0.25.	CO5	3	
3	A) Explain with neat sketch of Hartnell speed controller Governor?	CO6	2	
	B) In an engine governor of the Porter type, the upper and lower arms are 200 mm and 250mm respectively and pivoted on the axis of rotation. The mass of the central load is 15kg, the mass of each ball is 2 kg and friction of the sleeve together with the resistance of the operating gear is equal to a load of 25 N at the sleeve. If the limiting inclinations of the upper arms to the vertical are 30° and 40°, find, taking friction into account, range of speed of the governor.	CO6	3	
	C) State the different types of governors. What is the difference between centrifugal and inertia type governors?	CO6	1	



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Unit Test II

Subject: Machine Tools & Processes	Class/ Sem.: SY/IV Sem
Name of the faculty: Dr. Sachin A Mehta	Date: 29/03/2025
Time: 1.00PM to 2.00PM	Total marks: 30

Note.: Answer any two questions from each questions

Q. No.	Description of the question	CO	BL	Marks
1	A. Explain the construction & working of Radial drilling machine.	4	2	5M
	B. Draw the block diagram of lathe & explain function of each part.	4	3,4	5M
	C. Compare capstan lathe with turret lathe.	4	2	5M
2	A. With neat sketch, explain the construction & working of a shaper machine.	5	2	5M
	B. Explain with neat sketches, the different milling operations.	5	2	5M
	C. Explain the Gear shaving & Gear burnishing process with neat sketches.	5	2	5M
3	A. With neat sketch, explain the Ultra sonic machining.	6	2	5M
	B. List the applications of Laser beam machining	6	1	5M
	C. Explain the Electrical Discharge Machining process, list their advantages, disadvantages & applications.	6	1,2	5M



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MID SEM EVALUATION

Subject: Environmental Studies	Class/ Sem.: SY/ IV Sem
Name of the faculty: Prof. H.R. Patil	Date: 28/03/2025
Time: 03.30 pm to 04.30 pm	Total marks: 30

Note.: Answer any two questions from each question

Q. No.	Description of the question	CO	BL	Mark
1	A. Multiple choice question a. A Poisonous gas given out of a vehicle exhaust is----- i) Methane ii) Ethane iii) Carbon dioxide iv) Carbon Monoxide b. The ozone layer is becoming thin due to the gas----- i) CO ii) CFCs iii) CO ₂ iv) NO ₂ c. "El Nino" this phenomenon is associated with ----- i) Climate change ii) Air Pollution iii) Water pollution iv) Radiation Effect d. "Smog" is a mixture of ---- i) dust and gas ii) smoke and dust iii) snow and fog iv) smoke and fog e. Environmental studies discipline has ---- scope i) Multiple and multilevel ii) Unilateral iii) Important iv) Natural	1 to 6	2	5
	B. Describe the structure of pond ecosystem	3	2	5
	C. Define deforestation and list causes of deforestation	2	1	5
2	A. Explain in detail wildlife protection act 1972	6	2	5
	B. Describe the various kind of ecological Pyramids with Suitable Diagram.	3	2	5
	C. Explain world food problem and not on effect of modern agriculture practice on environment.	2	2	5
3	A. Explain in detail definition, causes, effects, and control measures of Noise pollution	4	2	5
	B. Define environment and explain its scope and importance as multi-disciplinary subject.	1	1	5
	C. What is disaster management? Explain with floods and earthquake.	5	1	5



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Unit Test II

Subject: Industrial Management & Operation Research	Class/ Sem.: TY/ VI Sem
Name of the faculty: Dr. Sachin A Mehta	Date: 28/03/2025
Time: 10.30AM to 11.30 AM	Total marks: 30

Note.: Answer any two questions from each questions

Q. No.	Description of the question	CO	BL	Marks																							
1	A. A small scale industry produces 3 rubber products. These products are processed on 3 different machines. The time required in manufacturing one unit of each of the 3 products & the daily capacity of the three machines is given below. <table border="1"><thead><tr><th rowspan="2">Machine</th><th colspan="3">Time per unit (min.)</th><th rowspan="2">Machine capacity (minutes/Day)</th></tr><tr><th>Product 1</th><th>Product 2</th><th>Product 3</th></tr></thead><tbody><tr><td>M1</td><td>1</td><td>2</td><td>3</td><td>460</td></tr><tr><td>M2</td><td>3</td><td>-</td><td>2</td><td>425</td></tr><tr><td>M3</td><td>3</td><td>4</td><td>-</td><td>450</td></tr></tbody></table> <p>It is required to determine the daily number of units to be manufactured for each product. The profit per unit of products 1, 2 & 3 are Rs4, Rs3 & Rs6 respectively. It is assumed that all the quantities are consumed in the market. Formulate this as an LPP.</p>	Machine	Time per unit (min.)			Machine capacity (minutes/Day)	Product 1	Product 2	Product 3	M1	1	2	3	460	M2	3	-	2	425	M3	3	4	-	450	4	3	5M
	Machine		Time per unit (min.)				Machine capacity (minutes/Day)																				
		Product 1	Product 2	Product 3																							
	M1	1	2	3	460																						
M2	3	-	2	425																							
M3	3	4	-	450																							
B. Solve the following problem graphically Max $Z = 4x_1 + 3x_2$, Subject to $4x_1 + 3x_2 \leq 24$ $x_1 \leq 4.5$ $x_2 \leq 6$, & $x_1, x_2 \geq 0$	4	3	5M																								
C. Solve the following problem of maximization by simplex method. Max $Z = 2x_1 + 10x_2 + x_3$ Subject to $5x_1 + 2x_2 + x_3 \leq 15$ $2x_1 + x_2 + 7x_3 \leq 20$ $x_1 + 3x_2 + 2x_3 \leq 25$ & $x_1, x_2, x_3 \geq 0$	4	3	5M																								
2	A. Three jobs are to be done on four machines. Each job can be assigned to one & only one machine. The cost of each job on each machine is given in the following table (Unbalanced Assignment Problem) <table border="1"><thead><tr><th></th><th>M_1</th><th>M_2</th><th>M_3</th><th>M_4</th></tr></thead><tbody><tr><td>J_1</td><td>18</td><td>24</td><td>28</td><td>32</td></tr><tr><td>J_2</td><td>8</td><td>13</td><td>17</td><td>19</td></tr><tr><td>J_3</td><td>10</td><td>15</td><td>15</td><td>22</td></tr></tbody></table>		M_1	M_2	M_3	M_4	J_1	18	24	28	32	J_2	8	13	17	19	J_3	10	15	15	22	5	3	5M			
	M_1	M_2	M_3	M_4																							
J_1	18	24	28	32																							
J_2	8	13	17	19																							
J_3	10	15	15	22																							



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Department of Mechanical Engineering



Unit Test II

Subject: Metrology and Quality Control	Class/ Sem.: TY/ VI Sem
Name of the faculty: Mr. I. T. Patel	Date: 28/03/2025
Time: 3.30 PM to 4.30 PM	Total marks: 30

Note: Answer any two questions from each question.

Q. No.	Description of the question	CO	BL	Marks																										
1	A. Explain with neat sketch construction and working of screw thread micrometer.	4	2	5M																										
	B. Describe the gear tooth vernier calliper and explain its use for checking tooth thickness with neat sketch.	4	2	5M																										
	C. Enumerate various errors in screw threads and describe the methods to reduce them.	4	2	5M																										
2	A. What is quality assurance? Discuss the various steps involved in it.	5	2	5M																										
	B. Discuss the specifications of quality and cost of quality.	5	2	5M																										
	C. Enlist seven quality control tools. Explain any two of them.	5	2	5M																										
3	A. Explain the importance of statistical method in quality control.	6	2	5M																										
	B. Discuss advantages and limitations of sampling inspection.	6	2	5M																										
	C. A machine is working to a specification 12.58 ± 0.05 mm, a study of 25 consecutive pieces shows the following measurements construct the \bar{X} and R chart. Calculate the process capability and comment on the process.	6	3	5M																										
	<table><tr><th>1st day</th><th>2nd day</th><th>3rd day</th><th>4th day</th><th>5th day</th></tr><tr><td>12.54</td><td>12.58</td><td>12.61</td><td>12.57</td><td>12.57</td></tr><tr><td>12.58</td><td>12.57</td><td>12.60</td><td>12.61</td><td>12.60</td></tr><tr><td>12.62</td><td>12.60</td><td>12.64</td><td>12.56</td><td>12.62</td></tr><tr><td>12.56</td><td>12.60</td><td>12.58</td><td>12.59</td><td>12.61</td></tr><tr><td>12.59</td><td>12.61</td><td>12.64</td><td>12.59</td><td>12.58</td></tr></table>				1 st day	2 nd day	3 rd day	4 th day	5 th day	12.54	12.58	12.61	12.57	12.57	12.58	12.57	12.60	12.61	12.60	12.62	12.60	12.64	12.56	12.62	12.56	12.60	12.58	12.59	12.61	12.59
1 st day	2 nd day	3 rd day	4 th day	5 th day																										
12.54	12.58	12.61	12.57	12.57																										
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Department of Mechanical Engineering



Unit Test II

Subject: Machine Design - II	Class/ Sem.: TY/ VI Sem
Name of the faculty: Mr. Aniruddha S. Bhoi	Date:29/03/2025
Time: 10.30 AM to 11.30 AM	Total marks: 30

Note.: Answer any two questions from each questions

Q. No.	Description of the question	CO	BL	Marks
1	A. Explain gear terminology of spur gear with neat diagram.	4	2	5M
	B. Derive Lewis equation for beam strength of spur gear.	4	1	5M
	C. Explain the term static and dynamic load on gear tooth.	4	2	5M
2	A. Explain with the help of neat sketch force analysis of helical gear.	5	2	5M
	B. A pair of parallel helical gears consists of a 20 teeth pinion meshing with a 100 teeth gear. The pinion rotates at 720 rpm the normal pressure angle is 20° while the helix angle is 25° the face width is 40 mm and the normal module is 4mm the pinion as well as the gear is made of steel ($S_{ut} = 600 \text{ N/mm}^2$) and heat treated to a surface hardness of 300 BHN. The service factor and factor of safety are 1.5 and 2 respectively. Assume that the velocity factor accounts for the dynamic load and calculate the power transmitting capacity of gears.	5	3	5M
	C. A pair of bevel gears transmitting 7.5 kW at 720 rpm. The pressure angle is 20° determine the component of the resultant gear tooth force and draw a free body diagram of force acting on the pinion and gear.	5	3	5M
3	A. Explain gear terminology of worm gear with neat diagram.	6	2	5M
	B. A pair of worm and worm wheel is designated as 3/60/10/6 the worm is transmitting 5kw power at 1440 rpm to the worm wheel. The coefficient of friction is 0.1 and the normal pressure angle is 20° . Determine the components of the gears tooth force acting on the worm and worm wheel.	6	3	5M
	C. A pair of worm gear is designated as 1/30/10/8 calculate i) the center distance ii) speed reduction iii) diameter of the worm iv) diameter of the worm wheel.	6	3	5M

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Unit Test II

Subject: Internal Combustion Engines	Class/ Sem.: TY/ VI Sem
Name of the faculty: Miss. P.T.Kokitakar	Date: 29/03/2025
Time: 01.00PM to 02.00PM	Total marks: 30

Note.: Answer any two questions from each questions

Q. No.	Description of the question	CO	BL	Marks
1	A. Classify the C.I. engine combustion chambers.	4	2	5M
	B. Explain requirements of good combustion chambers for C I Engine.	4	1	5M
	C. Explain the combustion stages in C I engines with the help of P-V Curve.	4	2	5M
2	A. Explain Morse Test	5	3	5M
	B. Define 1) Brake thermal efficiency 2) Volumetric efficiency 3) Brake specific fuel consumption	5	2	5M
	C. The following observations were recorded in a test of one hour duration single cylinder oil engine working on 4-stroke cycle. Bore 300mm, stroke-450mm, fuel used 8.8 Kg. CV of fuel - 41800 K.J/Kg. Revolutions 12000, mep 5.8 bar, Brake load 1860 N, Cooling water 650 Kg. Temperature rise 22°C, Diameter of the brake load-1.22 m Calculate-1) Mechanical Efficiency 2) Brake thermal efficiency 3) Heat balance sheet	5	5	5M
3	A. Explain Bio-Fuels & its suitability for engine.	6	1	5M
	B. Write a short note on Super-Charging in SI Engines	6	2	5M
	C. Write a short note on Turbo-Charging Methods & Limitations	6	4	5M



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Unit Test II

Subject: Computer Aided Design and Manufacturing	Class/ Sem.: Third Year / VI Sem
Name of the faculty: Mr. Aniruddha S. Bhoi	Date:29/03/2025
Time: 03.30 PM to 04.30 PM	Total marks: 30

Note: Answer any two questions from each questions

Q. No.	Description of the question	CO	BL	Mark:
1	A. Explain co-ordinate transformation matrix with neat sketch.	4	2	5M
	B. Explain homogeneous 2D transformations.	4	2	5M
	C. Discuss the application of various geometric transformation using suitable examples.	4	2	5M
2	A. Write a short note on DNC/CNC System.	5	1	5M
	B. Write short note on canned cycle.	5	1	5M
	C. Give the advantages of CNC over NC Machine.	5	1	5M
3	A. Write down the advantages and disadvantages of rapid prototyping.	6	1	5M
	B. What are the factors influencing accuracy in Rapid Manufacturing Process Optimization?	6	1	5M
	C. What are Different techniques of Rapid prototyping?	6	1	5M

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Unit Test II

Subject: Mechatronics		Class/Sem.: Final Year/ VIII Sem		
Name of the faculty: Mr.S.P.Bagadi		Date: 28/03/2025		
Time: 10.30 AM to 11.30 AM		Total marks: 30M		
Note: Answer any two questions from each question.				
(Q. No.	Description of the question	CO	BL	Marks
1	A. Explain-input-output-updating w.r.t. programmable logic controllers	4	2	5M
	B. Explain Scan-Update-Scan cycle with respect to PLC	4	2	5M
	C. Compare PLC with conventional relay control system	4	2	5M
2	A. Write Selection criteria for PLC	5	1	5M
	B. For a PLC based traffic control light application explain			
	a. Internal relay	5	2	5M
	b. Counter			
	c. Timer			
	C. Draw a physical wiring diagram and Ladder diagram for AND,OR & AND and OR logic.	5	2	5M
3	A. Explain principle of working of SCADA system ?	6	2	5M
	B. What is meant by RFID?	6	1	5M
	C. Explain Distributed Control & centralized control system?	6	2	5M

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Unit Test II

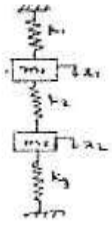
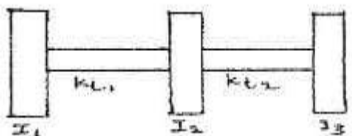
Subject: Energy and Power Engineering	Class/ Sem.: Final Year/ VIII Sem
Name of the faculty: Dr. D. V. Ghewade	Date: 28/03/2025
Time: 01.00 PM to 02.00 PM	Total marks: 30 PM

Note.: Answer any two questions from questions 1 and 2

Q. No.	Description of the question	CO	BL	Marks
1	A. Explain Various Tariff Methods?	CO4	2	5M
	B. Explain Load curve & load duration curve?	CO4	2	5M
	C. Explain magnetic wind method for measurement of oxygen in flue gases?	CO4	2	5M
2	A. Explain the supply chain in energy sector in India?	CO3	2	5M
	B. Explain the Procedure for detailed energy Audit?	CO3	2	5M
	C. Explain in brief power grid, railway grid and international grid?	CO3	2	5M
3	A. Discuss the role of NTPC in power development and present status of thermal power generation in India?	CO4	3	5M
	B. Explain the Procedure for detailed energy Audit?	CO3	3	5M

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Unit Test I

Subject: Noise and Vibration		Class/ Sem.: Final Year / VIII Sem		
Name of the faculty: Mr.Gururaj.M.Kumbar		Date: 23/03/2025		
Time: 03.00PM to 4.30 PM		Total marks:30		
Note.: Answer any two questions from each questions				
Q. No.	Description of the question	CO	BL	Marks
1	A). Explain dynamic vibration absorber?	3	2	5M
	B) Derive the expression of natural frequencies for the system shown in below fig no 1(b) & hence calculate natural frequencies for the following system Take $k_1=k_2= k_3 = k$ and $m_1 = m_2 = m$  Fig no:1(b)	3	3	5M
	C). Define 1) Co-ordinate coupling 2) principal co-ordinates. 3) Harmonic excitation, 4) Vibration Dampers 5)Vibration absorbers.	3	1	5M
2	A). State & Explain Maxwell reciprocal theorem?	4	2	5M
	B). Using Holzer method find natural frequency of system as shown in fig: Take, $I_1 = I_2 = I_3 = 1$ and Take $K_{t1} = K_{t2} = 1$. 	4	3	5M
	C). Write short note on flexibility and stiffness influence coefficients?	4	2	5M
3	A).Explain vibration measurement scheme with neat sketch?	5	2	5M
	B). Explain with neat sketch different types of exciters used in FFT analyzer.	5	2	5M
	C). Explain with neat sketch principle of working of Frahm's reed tachometer	5	2	5M



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Unit Test II

Subject: Industrial Engineering	Class/Sem.: Final Year/ VIII Sem
Name of the faculty: Mr. I. T. Patel	Date: 29/03/2025
Time: 10.30 AM to 11.30 AM	Total marks: 30

Note: Answer any two questions from each question.

Q. No.	Description of the question	CO	BL	Marks																			
1	A. Explain the various allowances used in determination of standard time.	4	2	5M																			
	B. Describe the principles and techniques of work measurement.	4	2	5M																			
	C. The two steps in preparing chocolate candy bars are molding and packaging. Personal fatigue and delay allowances are set at 15%. The molding machine operator is rated at 110% and the packer is rated at 80%. Determine the normal time and standard time for both tasks. Observed times per batch are as follows:	4	3	5M																			
	<table border="1" style="width: 100%; text-align: center;"><thead><tr><th></th><th colspan="4">Observed time in minutes</th></tr><tr><th>Task</th><th>1</th><th>2</th><th>3</th><th>4</th></tr></thead><tbody><tr><td>Molding</td><td>26</td><td>30</td><td>29</td><td>31</td></tr><tr><td>Packaging</td><td>45</td><td>50</td><td>35</td><td>30</td></tr></tbody></table>		Observed time in minutes				Task	1	2	3	4	Molding	26	30	29	31	Packaging	45	50	35	30		
	Observed time in minutes																						
Task	1	2	3	4																			
Molding	26	30	29	31																			
Packaging	45	50	35	30																			
2	A. What are the various types of plant layouts? State the application of each.	5	2	5M																			
	B. Discuss the various tools used in layout planning.	5	1	5M																			
	C. Which type of layout do you recommend for gear manufacturing of company? Give reasons.	5	4	5M																			
3	A. Describe the various steps involved in value analysis.	6	2	5M																			
	B. Explain objectives of merit rating.	6	2	5M																			
	C. Write job specification for a supervisor of machine shop.	6	3	5M																			

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Unit Test II

Subject: Industrial Fluid Power	Class/ Sem.: Third Year/ VI Sem
Name of the faculty: Mr.S.P.Bagadi	Date: 28/03/2025
Time: 01.00 PM to 02.00 PM	Total marks: 30

Note: Answer any two questions from each question.

Q. No.	Description of the question	CO	BL	Marks
1	A. . Classify compressors and draw sketch of two stage reciprocating compressor	4	1	5M
	B. Describe different types of piping layouts used in pneumatic systems.	4	2	5M
	C. What are selection criteria for air compressor	4	1	5M
2	A.Explain the rapid traverse and feed circuit used in hydraulic system?	5	2	5M
	B. What is a regenerative circuit in a hydraulic system? Explain it with a neat sketch.	5	2	5M
	C. Explain use of counterbalance valve in a hydraulic system?	5	2	5M
3	A. Explain various types of speed control circuits?	6	2	5M
	B. Explain sequence circuit in pneumatic system?	6	2	5M
	C. Explain circuit for actuation of double acting cylinder.	6	2	5M

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Unit Test II

Subject: Industrial Automation and Robotics		Class/ Sem.: Final Year / VIII Sem		
Name of the faculty: Mr. Aniruddha S. Bhoi		Date:29/03/2025		
Time: 01.00 PM to 02.00 PM		Total marks: 30		
Note.: Answer any two questions from each questions				
Q. No.	Description of the question	CO	BL	Marks
1	A. Describe the power transmission system in pick and place robots.	4	2	5M
	B. What's the specification are required to be considered at the time of selection of robot?	4	1	5M
	C. Write a note on dynamic properties of robots?	4	1	5M
2	A. Explain the working of remote center compliance device in robot assembly.	5	2	5M
	B. Explain the factors to be considered in design and selection of gripper.	5	2	5M
	C. Write short note on force and torque sensors.	5	1	5M
3	A. Explain a robot program as a path in space.	6	2	5M
	B. Write a short note on versatile assembly language (VAL II).	6	1	5M
	C. Describe minimum two applications of robot in processing industry?	6	2	5M

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Unit Test II

Subject: Cyber Security	Class/ Sem.: TY/VI
Name of the faculty: Prof. R. V. Patil	Date: 29/03/2025
Time: 01:00 PM to 02:00 PM	Total marks: 30

Note.: Answer any two sub-questions from each question

Q. No.	Description of the question	CO	BL	Marks
1	A. What is Firewall? Explain types of Firewalls.	4	2	5
	B. Explain Digital Certificates.	4	2	5
	C. Explain Secure socket layer (SSL)/Transport layer security (TLS).	4	2	5
2	A. Write Objectives of IT Act.	5	2	5
	B. Explain roles of international law in IT Act.	5	2	5
	C. Explain terms General Data Protection Regulation (GDPR) and Health Insurance Portability and Accountability Act (HIPAA).	5	2	5
3	A. What are the general guidelines followed in forensic investigations?	6	2	5
	B. How does forensic investigators extract evidence from a PC and system logs?	6	2	5
	C. Explain the term mobile forensics.	6	2	5



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Unit Test II

Subject: Automata Theory	Class/ Sem.: SY/ IV Sem
Name of the faculty: Poonam B. Jangali	Date: 28/03/2025
Time: 10.30AM to 11.30 AM	Total marks: 30

Note.: Answer any two sub questions from each questions.

Q. No.	Description of the question	CO	BL	Marks
1	A Explain the concept of bottom-up parsing with an example.	CO4	2	5M
	B. Explain deterministic Pushdown Automata(PDA) with an example.	CO4	2	5M
	C . If G is a grammar $S \rightarrow SbS, S \rightarrow a$, show that G is ambiguous	CO4	3	5M
2	A. State and prove the Pumping Lemma for context-free languages.	CO5	2	5M
	B. What are the closure properties of Context Free Language(CFL)? Which operations preserve CFLs?	CO5	2	5M
	C. Define CFL. How is it different from Regular Languages?	CO5	2	5M
3	A. Define and Explain Turing Machine (TM).	CO6	1	5M
	B. Design a TM for $a^n b^n$ where $n \geq 1$.	CO6	3	5M
	C. Differentiate between Push Down Automata (PDA) and Turing Machine (TM).	CO6	2	5M

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Unit Test II

Subject: Computer Network II	Class/ Sem.: SY/IV
Name of the faculty: Prof. M. A. Nimbalkar	Date: 28/03/2025
Time: 01:00PM to 02:00PM	Total marks: 30


Note.: Answer any two questions from each question

Q. No.	Description of the question	CO	BL	Marks
1	A.Explain Read Request(RRQ) or (Write Request) WRQ message?	4	2	5
	B.Explain flow control and error control mechanism of TFTP (Trivial File Transfer Protocol).	4	2	5
	C.Define any 2 modes of operations in TELNET (Trivial File Transfer Protocol) and their efficiency.	4	2	5
2	A. With neat diagram explain architecture of E-mail system.	5	2	5
	B. Draw and Explain browser Architecture.	5	2	5
	C. Write short note on MIME (Multipurpose Internet Mail Extensions).	5	2	5
3	A. Draw and Explain architecture of H.323	6	2	5
	B. Discuss in detail about RTP(Real-Time Transport Protocol) and RCTP (Real-time Transport Control Protocol).	6	2	5
	C. Explain Session Initiation Protocol in detail.	6	2	5

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Unit Test II

Subject: Computer Organization and Architecture		Class/ Sem.: SY/IV		
Name of the faculty: Prof. R. V. Patil		Date: 28/03/2025		
Time: 03:30 PM to 04:30 PM		Total marks: 30		
Note.: Answer any two sub-questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. For the single bus organization, write the complete control sequence for the instruction: ADD (R1), R3 with explanation.	4	3	5
	B. Draw and explain multiple bus organization	4	2	5
	C. Differentiate between hardwired control and microprogrammed control.	4	2	5
2	A. Explain in detail pipeline performance in computer architecture.	5	2	5
	B. Explain use of operand forwarding for avoiding data hazard.	5	2	5
	C. What is instruction hazard? explain unconditional branches.	5	2	5
3	A. Write different types of mapping functions and explain any two of them.	6	2	5
	B. What is ROM? Explain PROM, EPROM & EEPROM	6	2	5
	C. Explain LRU replacement algorithm with example.	6	3	5

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Unit Test II

Subject: Operating System – I	Class/ Sem.: SY/IV
Name of the faculty: Prof. H.S.Naikwadi	Date: 29/03/2025
Time: 10:30 AM to 11:30 AM	Total marks: 30

Note.: Answer any two sub-questions from each question

Q. No.	Description of the question	CO	BL	Marks
1	A. What is deadlock? Explain the concept of deadlock with an example.	4	2	5
	B. Explain events related to resource allocation and conditions for resource deadlock.	4	2	5
	C. Explain the deadlock prevention approach.	4	2	5
2	A. Explain “managing the memory hierarchy”.	5	2	5
	B. What is memory binding? explain dynamic binding.	5	2	5
	C. Differentiate between contiguous and noncontiguous memory allocation.	5	1	5
3	A. Explain the file system and Input/Output Control System (IOCS).	6	2	5
	B. Explain implementation of file operations by the Input/Output Control System (IOCS).	6	2	5
	C. Explain operations performed on files.	6	2	5

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Unit Test II

Subject: Software Engineering	Class/ Sem.: SY/ IV Sem
Name of the faculty: Prof. M. K. Hasabe	Date: 29/03/2025
Time: 01.00 PM to 02.00 PM	Total marks: 30

Note: Answer any 2 sub questions from each question.

Q. No.	Description of the question	CO	BL	Marks
1	A. Define structure chart. With a proper example explain structure chart.	4	2	5M
	B. Define coupling. State and explain different factors affecting coupling.	4	2	5M
	C. Write a short note on Object Oriented Design of software	4	2	5M
2	A. Define and explain white box & black box testing.	5	2	5M
	B. Explain the terms: i) Test Case, ii) Test Suite, iii) Test Plan, iv) Test activity.	5	2	5M
	C. Describe Coding & Code Review	5	2	5M
3	A. Define and Explain CMM (Capability Maturity Model)	6	2	5M
	B. Write a short note on ISO 9000	6	2	5M
	C. Write a note on Six Sigma approach of QC	6	2	5M

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Unit Test II

Subject: Compiler Construction	Class/ Sem.: TY/ VI Sem
Name of the faculty: Poonam B. Jangali	Date: 28/03/2025
Time: 10.30AM to 11.30 AM	Total marks: 30

Note.: Answer any two sub questions from each questions

Q. No.	Description of the question	CO	BL	Marks
1	A. Explain Syntax Directed Definition?	CO4	2	5M
	B. Differentiate between synthesized & inherited attributes.	CO4	2	5M
	C . Explain briefly the intermediate code generation?	CO4	1	5M
2	A . Explain the main objectives of code optimization in compilers?	CO5	2	5M
	B. Distinguish between local and global optimization?	CO5	2	5M
	C . What is a flow graph in compiler design? How is it constructed?	CO5	2	5M
3	A. What is code generation? Explain basic blocks & flow graphs?	CO6	2	5M
	B. Explain three address codes with example	CO6	2	5M
	C. Explain quadruples & triples with examples.	CO6	2	5M



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Unit Test II

Subject: Operating System-II	Class/ Sem.: TY-Sem-VI
Name of the faculty: Mrs. R.M.Jadhav	Date: 28/03/2025
Time: 01:00 PM to 02:00 PM	Total marks: 30



Note.: Answer any two sub questions from each question

Q. No.	Description of the question	CO	BL	Marks
1	A. Draw and explain the complete process state transition diagram.	4	2	5
	B. What is region? Describe algorithm for allocating region?	4	2	5
	C. Explain with diagram the context of a process in detail.	4	2	5
2	A. Explain different functions of clock interrupt handler.	5	2	5
	B. What is the use of signal? Explain the types of signals?	5	2	5
	C. What is the fork system call? Explain the sequence of operations kernel for fork?	5	2	5
3	A. What is demand paging? Explain data structure used for demand paging?	6	2	5
	B. Write a short note on: Streams	6	2	5
	C. Explain the page stealer process.	6	2	5

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Unit Test II

Subject: Database Engineering		Class/ Sem.: VII		
Name of the faculty: Prof. M. A. Nimbalkar		Date: 28/03/2025		
Time: 03:30AM to 04:30PM		Total marks: 30		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. Explain the ways of organization of records in files.	4	2	5
	B. Explain how variable length records are represented in file.	4	2	5
	C. Illustrate multiple key access with appropriate example.	4	2	5
2	A. What is transaction? Explain its ACID properties of transaction.	5	2	5
	B. Draw and explain the transaction state diagram.	5	2	5
	C. List and explain the variants of two phase lock protocol.	5	2	5
3	A. Explain Shadow paging in detail.	6	2	5
	B. Define and explain various classes of failure in database system.	6	2	5
	C. Difference between deferred database modification and immediate database modification.	6	2	5

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Unit Test II

Subject: Machine Learning	Class/ Sem.: TY/ VI Sem
Name of the faculty: Prof. M. K. Hasabe	Date: 29/03/2025
Time: 10.30AM to 11.30AM	Total marks: 30

Note: Answer any 2 sub questions from each question.

No.	Description of the question	CO	BL	Marks
1	A. What is decision tree? State the advantages, and limitations.	4	2	5M
	B. What is SVM and Kernel Trick? State the advantages, and limitations.	4	2	5M
	C. What is random forest? Explain with example	4	2	5M
2	A. Explain Elbow Method in K Means clustering.	5	2	5M
	B. Construct Agglomerative Hierarchical clustering by mentioning all the steps with a neat diagram.	5	3	5M
	C. Explain Association Rule mining technique.	5	2	5M
3	A. What is Recommendation System? Explain in detail.	6	2	5M
	B. Explain collaborative filtering recommendation engines with one example.	6	2	5M
	C. What is Artificial Neural Networks (ANN)? Provide the applications of ANN	6	2	5M

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UNIT TEST-II

Subject: Environmental Studies		Class/ Sem.: SY/ IV Sem		
Name of the faculty: Prof. H. R. Patil		Date: 29/03/2025		
Time: 03.30 pm to 04.30 pm		Total marks: 30		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. Multiple choice question a. A Poisonous gas given out of a vehicle exhaust is----- i)Methane ii) Ethane iii) Carbon dioxide iv) Carbon Monoxide b. The ozone layer is becoming thin due to the gas----- i)CO ii) CFCS iii) CO2 iv) NO ₂ c. “EI Nino” this phenomenon is associated with ----- i)Climate change ii) Air Pollution iii) Water pollution iv) Radiation Effect d. “Smog” is a mixture of ---- i)dust and gas ii) smoke and dust iii) snow and fog iv) smoke and fog e. Environmental studies dripline has ----scope i)Multiple and multilevel ii) Unilateral iii) Important iv) Natural	1 to 6	2	5
	B. Describe the structure of pond ecosystem	3	2	5
	C. Define deforestation and list causes of deforestation	2	1	5
	A. Explain in detail wildlife protection act 1972	6	2	5
2	B. Describe the various kind of ecological Pyramids with Suitable Diagram.	3	2	5
	C. Explain world food problem and not on effect of modern agriculture practice on environment.	2	2	5
3	A. Explain in detail definition, causes, effects, and control measures of Noise pollution	4	2	5
	B. Define environment and explain its scop and importance as multi-disciplinary subject.	1	1	5
	C. What is disaster management? Explain with foods and earthquake.	5	1	5



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Unit Test II

Subject: PLC and Automation	Class/ Sem.: TY/ VI Sem
Name of the faculty: Prof. S. S. Bhoi	Date: 28/3/2025
Time: 01:00 to 02:00 pm	Total marks: 30

Note.: Answer any two questions from each question.

Q. No.	Description of the question	CO	BL	Marks
1	A. Explain installation of PLC.	4	2	5M
	B. Explain steps of troubleshooting in PLC.	4	2	5M
	C. Explain PLC maintenance.	4	2	5M
2	A. With neat diagram Explain SCADA Architecture.	5	2	5M
	B. Explain communication architecture of SCADA.	5	2	5M
	C. Explain any five applications of SCADA.	5	2	5M
3	A. Explain types of communication protocols.	6	2	5M
	B. Explain TCP/IP protocols.	6	2	5M
	C. Explain advantages of communication system in PLC.	6	2	5M

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Unit Test II

Subject: ELECTRONIC CIRCUITS	Class/ Sem.: SY/ IV Sem
Name of the faculty: Prof. S. S. Bhoi	Date: 28/03/2025
Time: 10:30 to 11:30 am	Total marks: 30

Note.: Answer any two questions from each question.

Q. No.	Description of the question	CO	BL	Marks
1	A. Define the terms. i. Differential gain (A_d) ii. common mode gain (A_c) iii. CMRR iv. V_d	4	1	5M
	B. Explain differential amplifier with its waveform.	4	2	5M
	C. Explain differential amplifier DC characteristics.	4	2	5M
2	A. Explain op-amp with block diagram.	5	2	5M
	B. Explain practical characteristics of op-amp.	5	2	5M
	C. Explain with pin diagram IC 741.	5	2	5M
3	A. Explain briefly internal block diagram of IC555.	6	2	5M
	B. Explain monostable multivibrator.	6	2	5M
	C. Explain interfacing of ADC 0808.	6	2	5M



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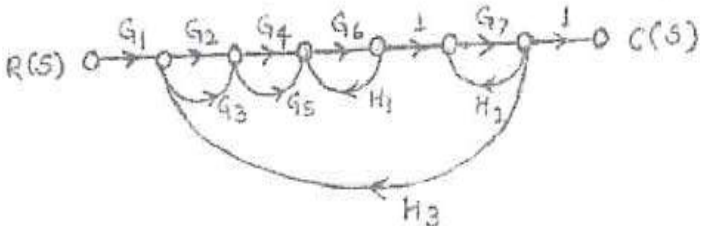
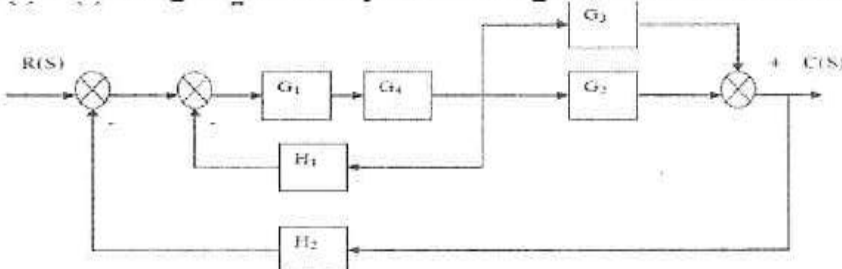
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Unit Test II

Subject: Control And Instrumentation	Class/Sem.: SY/ IV Sem
Name of the faculty: Prof. M. A. Bandi	Date: 28/03/2025
Time: 01.00 To 02.00 pm	Total marks: 30

Note.: Answer any three questions from each question

Q. No.	Description of the question	CO	BL	Marks
1	A. Explain signal flow graph in detail with the help of Mason gain formula.	1	2	5M
	B. Obtain the overall transfer function of following system. 	1	3	5M
	C. Determine the transfer function $C(s) / R(s)$ of the system shown in Figure below by block diagram reduction method. 	1	3	5M
2	A. What is steady state error? Derive the formula and explain K_p , K_v & K_a .	2	1	5M
	B. What is root locus & state the steps for root locus.	2	1	5M
	C. Obtain the rise time, peak time, maximum peak overshoot and settling time of unit step response of closed loop system given by, $C(s) / R(s) = 1/(S^2+S+1)$	2	3	5M
3	A. What is Bode plot & state the steps for Bode plot.	3	2	5M
	B. For given system having open loop transfer function of $G(s)H(s) = 10 / s (s+1) (s+10)$ then determine the stability using bode plot.	3	3	5M
	C. Explain adaptive control system with block diagram and state advantages and limitations of it.	3	2	5M


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Unit Test II

Subject: Computer Network-I	Class/ Sem.: SY/ IV Sem
Name of the faculty: Prof. S. R. Pujari	Date: 28-03-2025
Time: 03:30 to 04:30 pm	Total marks: 30

Note.: Answer any two questions from each question.

Q. No.	Description of the question	CO	BL	Marks
1	A. Discuss the design issues of Network Layer	4	1	5M
	B. Write short note on: Load shedding	4	1	5M
	C. Explain the link state routing algorithm used to find the shortest path.	4	2	5M
2	A. Draw and explain IP datagram format	5	2	5M
	B. Explain IGMP Messages in internet protocol.	5	2	5M
	C. Draw and explain Address resolution protocol (ARP) packet format.	5	2	5M
3	A. Explain the different types of Transmission Control Protocol (TCP) services in detail.	6	2	5M
	B. Draw and explain user datagram format.	6	2	5M
	C. Explain the functions of socket system calls.	6	2	5M

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Unit Test II

Subject: Microprocessor & Microcontroller	Class/ Sem.: SY/ IV Sem
Name of the faculty: Prof. A. A. Magadum	Date: 29-03-2025
Time: 10.30 am to 11.30 am	Total marks: 30

Note.: Answer any two questions from each question

Q. No.	Description of the question	CO	BL	Marks
1	A. Explain peripheral interface 8255 with block diagram.	4	2	5M
	B. Explain different operating modes of 8255.	4	2	5M
	C. Draw a block diagram and explain 8259 programmable interrupt control.	4	2	5M
2	A. Differentiate between microprocessor and microcontroller.	5	2	5M
	B. List the 8051 Logical instructions set and explain any two.	5	2	5M
	C. List the addressing modes of 8051 and explain any two with examples	5	1,2	5M
3	A. Write an ALP for 8 bit addition and subtraction using 8051	6	3	5M
	B. Write a test program for the 8051 chip to toggle all the bits of P0, P1 and P2 after a delay.	6	3	5M
	C. Write a program to create square wave of 50% duty cycle on P1.5bit use Timer 0 to generate the time delay.	6	3	5M



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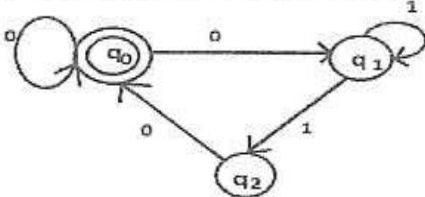
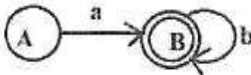
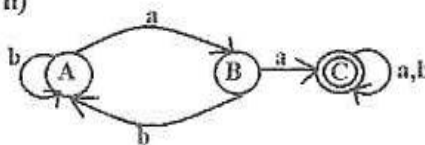
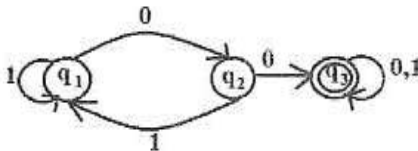
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Unit Test II

Subject: Discrete Structure & Automata Theory		Class/ Sem.: SY/ IV Sem		
Name of the faculty: Prof. Irfan M Trasgar		Date: 29/03/2025		
Time: 01:00 pm to 02:00 pm		Total marks: 30		
Note.: Answer any two questions from each question.				
Q. No.	Description of the question	CO	BL	Mark
1	A. Construct a DFA that accepts set of all strings over {a,b} of strings, i) Starting with ab ii) Starting with abb as substring iii)Ends with ab	4	3	5M
		4	3	5M
	B. Design DFA from given NFA			
	C. Differentiate between Moore Machine and Mealy Machine.	4	2	5M
2	A. Design Regular Expression for the following conditions, i)Accepts all possible combinations of 1's and 0's over $\Sigma = \{0,1\}$ which starts with 1 and ends with 0. ii) Accepts one a followed by atleast one b followed by atleast one c. iii) Accepts $\Sigma = \{a,b\}$ and should contains two or more b's. iv) PT $(1 + 00^*1) + (1 + 00^*1) (0 + 10^*1)^* (0 + 10^*1) = (10^* (0 + 10^*1)^*)$	5	3	5M
	B. Derive the Regular Grammar for given transition diagrams, i)  ii) 	5	3	5M
	C. Convert Finite Automata to Regular expression 	5	3	5M
3	A. Explain Chomsky Hierarchy in detail.	6	2	5M
	B. Write a short note on Context Free Grammar.	6	2	5M
	C. Define Left most derivation and Right most derivation. Consider a grammar $X \rightarrow X+X \mid X^*X \mid X \mid a$, obtain $a+a^*a$ using Left most derivation along with its derivation tree.	6	1,3	5M



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MID SEM EVALUATION

Subject: Environmental Studies	Class/ Sem.: SY/ IV Sem
Name of the faculty: Prof. H.R.Patil	Date: 28/03/2025
Time: 03.30 pm to 04.30 pm	Total marks: 30

Note.: Answer any two questions from each question

Q. No.	Description of the question	CO	BL	Marks
1	A. Multiple choice question	1 to 6	2	5
	a. A Poisonous gas given out of a vehicle exhaust is----- i)Methane ii) Ethane iii) Carbon dioxide iv) Carbon Monoxide			
	b. The ozone layer is becoming thin due to the gas----- i)CO ii) CFCS iii) CO ₂ iv) NO ₂			
	c. "El Nino" this phenomenon is associated with ----- i)Climate change ii) Air Pollution iii) Water pollution iv) Radiation Effect			
	d. "Smog" is a mixture of ---- i)dust and gas ii) smoke and dust iii) snow and fog iv) smoke and fog			
2	e. Environmental studies dripline has ----scope i)Multiple and multilevel ii) Unilateral iii) Important iv) Natural			
	B. Describe the structure of pond ecosystem	3	2	5
	C. Define deforestation and list causes of deforestation	2	1	5
3	A. Explain in detail wildlife protection act 1972	6	2	5
	B. Describe the various kind of ecological Pyramids with Suitable Diagram.	3	2	5
	C. Explain world food problem and not on effect of modern agriculture practice on environment.	2	2	5
	A. Explain in detail definition, causes, effects, and control measures of Noise pollution	4	2	5
	B. Define environment and explain its scop and importance as multi-disciplinary subject.	1	1	5
	C. What is disaster management? Explain with foods and earthquake.	5	1	5



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Unit Test II

Subject: Software Engineering	Class/ Sem.: TY/ VI Sem
Name of the faculty: Prof. S. R. Pujari	Date: 28-03-2025
Time: 03:30 to 04:30 pm	Total marks: 30



Note.: Answer any two sub questions from each question.

Q. No.	Description of the question	CO	BL	Marks
1	A List and Explain levels of software design.	4	2	5M
	B Explain object-oriented design of software.	4	2	5M
	C Explain software verification in detail.	4	2	5M
2	A. Explain the following term i)coding ii) code review.	5	2	5M
	B. Write short note on: Black box testing.	5	1	5M
	C. Explain step by step process of software testing.	5	2	5M
3	A. Discuss software quality management system.	6	1	5M
	B. Explain Agile project management process.	6	2	5M
	C. Explain ISO 9000 quality standard.	6	2	5M

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Unit Test II

Subject: Python Programming		Class/ Sem.: TY/ VI Sem		
Name of the faculty: Prof. S.V. Solapure		Date: 29/03/2025		
Time: 10:30 to 11:30 am		Total marks: 30		
Note.: Answer any two sub questions from each question.				
Q. No.	Description of the question	CO	BL	Marks
1	A. Define string and explain about string slicing with example.	4	2	5M
	B. Explain any 5 string operators in python.	4	2	5M
	C. Explain regular expression and pattern matching with suitable example.	4	2	5M
2	A. Differentiate between list and tuple. Also give example of both.	5	2	5M
	B. Explain set operations of python programming.	5	2	5M
	C. Explain dictionary functions in python programming.	5	2	5M
3	A. Explain dir() function with example	6	2	5M
	B. Explain how to import “* (all)” from a package.	6	2	5M
	C. Explain what is module in python programming with example.	6	2	5M

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Unit Test II

Subject: Internet of Things		Class/ Sem.: TY/ V Sem		
Name of the faculty: Mr. Abhishek A. Magadum		Date: 29/03/2025		
Time: 2.00 PM – 3.00 PM		Total marks: 30		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. Write a short note on Raspberry Pi	1	2	5M
	B. Explain operating system of Cor C++	1	2	5M
	C. Write a simple program for temperature reading with C language for an application using IoT.	1	3	5M
2	A. With neat diagram explain ZigBee protocol stack	2	2	5M
	B. Write any five types of standards of IEEE 802.15 family, explain briefly.	2	2	5M
	C. With neat diagram explain universal mobile telecommunication system.	2	2	5M
3	A. Explain with diagram Advanced Metering Infrastructure.	3	2	5M
	B. With suitable example explain e-health/body area networks.	3	2	5M
	C. Explain any two case studies of city automation.	3	2	5M



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Academic Year 2024-25

Department of Electronics & Computer Science



Unit Test II

Subject: Digital Signal Processing	Class/ Sem.: TY/ VI Sem
Name of the faculty: Prof. Irfan M Trasgar	Date: 28/3/2025
Time: 10:30 am to 11:30 am	Total marks: 30

Note.: Answer any two questions from each question.

Q. No.	Description of the question	CO	BL	Marks
1	A. Draw the architecture of TMS3200C67XX DSP Processor and write any 4 features of TMS3200C67XX DSP Processor.	4	1,2	5M
	B. Obtain the cascade form realization of given transfer function, $H(Z) = \left(\frac{(Z-1)(Z-2)(Z+1)Z}{(Z-\frac{1}{2}-\frac{1}{2}j)(Z-\frac{1}{2}+\frac{1}{2}j)(Z-\frac{1}{4}j)(Z+\frac{1}{4}j)} \right)$	4	3	5M
	C. Obtain the Parallel form realization of given transfer function, $H(Z) = \left(\frac{1}{(1-\frac{1}{4}Z^{-1})(1+\frac{1}{4}Z^{-1})} \right)$	4	3	5M
2	A. Why Multirate DSP is needed? give any 4 reasons. List any 4 application areas of Multirate DSP.	5	2	5M
	B. Consider the following signal data sampled at 5000Hz at $x(n) = \{1,2,3,4,5,6,7,8,9,10,11,12,13,14,13,12,11,10,9,8,7,6,5,4,3,2,1\}$, Find the Two Stage Decimated version of the signal if it is decimated by factor 2 & 3.	5	3	5M
	C. Consider the discrete time signal $x(n) = \{1,2,3,4\}$, determine the interpolated version for the signal for sampling rate multiplication factor i) I=2 ii) I=3	5	3	5M
3	A. Differentiate between CWT and DWT.	6	2	5M
	B. Consider an image with pixel values in a 4x4 matrix: $\text{Image} = \begin{bmatrix} 10 & 12 & 18 & 20 \\ 14 & 16 & 22 & 24 \\ 30 & 32 & 38 & 40 \\ 34 & 36 & 42 & 44 \end{bmatrix}$ <p>Apply the 2D Haar wavelet transform to the image (row-wise and column wise). Show the intermediate result after each step.</p>	6	3	5M
	C. Explain any 5 applications of Wavelet Transform.	6	2	5M



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Mid Sem Examination

Subject: Engineering Chemistry	Class/ Sem.: FY/ II Sem
Name of the faculty: Prof. S. T. Dundage	Date: 28/03/25
Time: 10.30 am to 11.30 am	Total marks: 30

Note.: Answer any two questions from each question

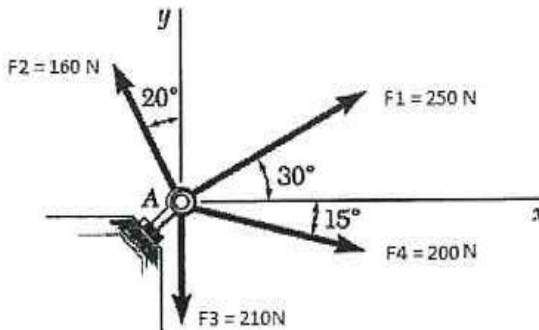
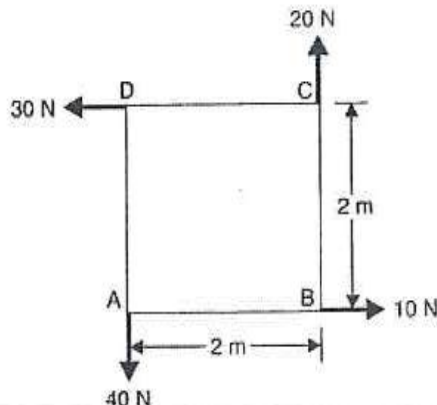
Q. No.	Description of the question	CO	BL	Marks															
1	A. Write composition, properties and applications of plain carbon steel.	1	2	05															
	B. Define an alloy, Discuss the purpose of making alloys	1	1	05															
	C. Discuss composition, properties and applications of brass.	1	2	05															
2	A. Explain schematic diagram of a single beam spectrophotometer and determine the concentration of unknown solution?	2	2	05															
	B. Explain construction and working of glass liquid Chromatography, With neat labelled diagram.	2	2	05															
	C. State Beers Lambert's Law and derive expression for it.	2	1	05															
3	A. In analysis of water sample was found to contain the following impurities expressed in mg/lit. <table border="1"><thead><tr><th>HARDNESS</th><th>MASS OF IMPURITIES</th><th>MOLECULAR WEIGHT</th></tr></thead><tbody><tr><td>Ca (HCO₃)₂</td><td>12.5</td><td>162</td></tr><tr><td>Mg (HCO₃)₂</td><td>11.2</td><td>146</td></tr><tr><td>CaCl₂</td><td>20.1</td><td>111</td></tr><tr><td>MgCl₂</td><td>14.8</td><td>120</td></tr></tbody></table>	HARDNESS	MASS OF IMPURITIES	MOLECULAR WEIGHT	Ca (HCO ₃) ₂	12.5	162	Mg (HCO ₃) ₂	11.2	146	CaCl ₂	20.1	111	MgCl ₂	14.8	120	3	3	05
	HARDNESS	MASS OF IMPURITIES	MOLECULAR WEIGHT																
	Ca (HCO ₃) ₂	12.5	162																
	Mg (HCO ₃) ₂	11.2	146																
	CaCl ₂	20.1	111																
	MgCl ₂	14.8	120																
	Calculate the temporary, permanent and total hardness of water in mg/lit, degree in clerk, in French.																		
B.Explain ion exchange process for the removal of hardness of water?		3	2	05															
C. Define hardness of water. Explain the temporary and permanent hardness		3	2	05															



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Department of First Year Engineering



Mid Sem Examination

Subject: Engineering Mechanics		Class/Sem.: FY/ II Sem		
Name of the faculty: Mr. Suraj R. Wadagule		Date: 28/03/2025		
Time: 01:00 pm to 02:00 pm		Total marks: 30		
Note: All the questions are compulsory.				
Q. No.	Description of the question	CO	BL	Marks
1	<p>A. Four forces acting on the bolt 'A' as shown in figure below. Determine the resultant force on the bolt.</p> <div></div>	1	3	10
	<p>OR</p> <p>B. Find the magnitude direction and position of the resultant w. r. t. point A</p> <div></div>			



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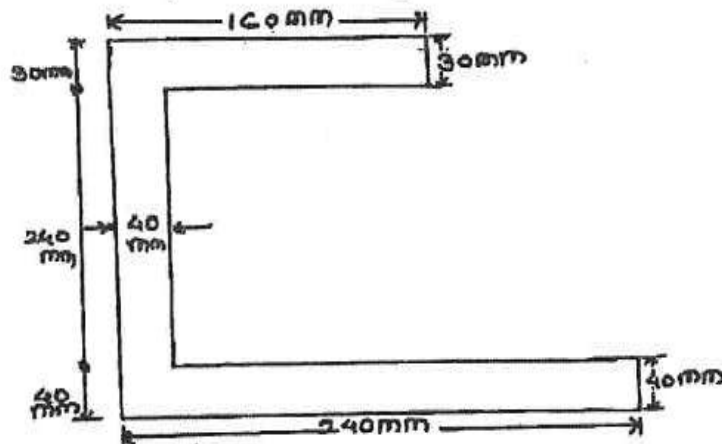
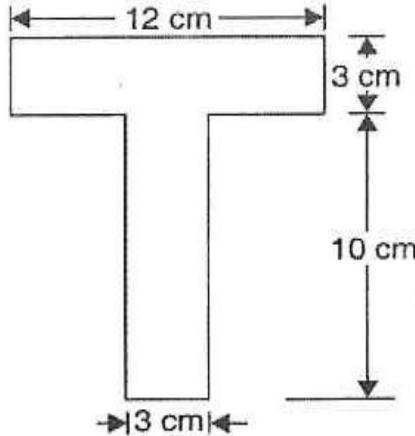
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	<p>A. Find the centroid of plane 'C' shown in figure below.</p> 			
3	OR	3	3	10
	<p>B. Find the Moment of inertia of plane 'T' section shown in figure below about the centroidal horizontal (x) axis.</p> 			

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MID EXAMINATION

Subject: Engineering Mathematics – II		Class/ Sem.: FY/ II Sem		
Name of the faculty: Prof. S. B. Jadhav		Date: 29-03-2025		
Time: 10.30 am to 11.30 am		Total marks: 30M		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. Solve $\frac{dy}{dx} = 4y + 2x - 4x^2$	1	2	5
	B. Solve $(x + 2y^3) \frac{dy}{dx} = y$	1	2	5
	C. Solve $x \frac{dy}{dx} + y \log y = xy$	1	2	5
2	A. Find orthogonal trajectories of $r = a (1 - \cos\theta)$	2	3	5
	B. The differential equation of a circuit containing a resistance R and a condenser of capacity C in series with e.m.f. E is $E = Ri + \int \frac{i}{C} dt$ then find current i at any time t when $E = E_0 \sin \omega t$	2	3	5
	C. The temperature of the air is 30^0c and the substance cools from 100^0c to 70^0c in 15 minutes, find when the temperature will be 40^0c	2	3	5
3	A. Solve $\frac{dy}{dx} = y - xy$ $y_0 = 1$ when $x_0 = 0$ and find y when $x = 0.1$ by Taylor's method	3	2	5
	B. Using Euler's method, find the approximate value of y when $x = 0.5$. Given that $\frac{dy}{dx} = x^2 + y^2$ at $y(0) = 0, h = 0.1$	3	2	5
	C. Solve by Runge- Kutta method, given $\frac{dy}{dx} = \frac{y-x}{y+x}$ with $y(0) = 1$ also find $y(0.2)$	3	2	5



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Mid-Sem-Evaluation

Subject: Basic Electronics		Class/ Sem.: FY/ II Sem (C-Cycle)		
Name of the faculty: Prof. Irfan M Trasgar		Date: 29 /03/2025		
Time: 01:00 pm to 02:00 pm		Total marks: 30		
Note: Answer any two sub-questions from each question.				
Q. No.	Description of the question	CO	BL	Marks
1	A. Explain PN junction diode with its V-I characteristics.	1	2	5
	B. What is semiconductor? Explain in detail intrinsic and extrinsic semiconductor.	1	2	5
	C. Explain LED and its characteristics.	1	2	5
2	A. Explain full wave bridge rectifier with necessary circuit diagram and waveform.	2	2	5
	B. Distinguish between half wave rectifier and full wave rectifier.	2	1	5
	C. Briefly explain the series filter and shunt filter.	2	2	5
3	A. Explain the working of Bipolar Junction Transistor in active region.	3	2	5
	B. With neat circuit diagram explain voltage divider bias.	3	2	5
	C. List the different configurations of BJT, explain common emitter configuration in detail.	3	2	5

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MID TERM EVALUATION

Subject: Basic Mechanical Engineering		Class/ Sem.: FY/ II Sem			
Name of the faculty: Prof. Kishor S. Joshi		Date: 01/04/2025			
Time: 10.30-11.30 am		Total marks: 30			
Note: Solve any two questions from each main question					
Q. No.	Description of the question		CO	BL	Marks
1	a	Define Thermodynamics and explain thermodynamic process and thermodynamic cycle.	1	2	5
	b	Explain with neat sketch construction and working of four stroke S.I. engine.	1	2	5
	c	State first law of thermodynamics and explain Joule's experiment	1	2	5
2	a	Explain Construction and working of Hydroelectric power plant	2	2	5
	b	Explain the construction and working of a solar flat plate collector with the help of a neat sketch	2	2	5
	c	Explain with neat sketch: windmill power plant	2	2	5
3	a	Explain reciprocating pump with neat sketch.	3	2	5
	b	Compare belt, chain and gear drives.	3	4	5
	c	Explain construction and working of centrifugal pump. Give its application	3	3	5



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Mid Sem Evaluation

Subject: Engineering Physics	Class/ Sem.: FY/ II Sem
Name of the faculty: Prof. Miss. H. R. Patil	Date: 28/03/2025
Time: 10.30AM to 11.30 AM	Total marks: 30

Note.: Answer any two questions from each question

Q. No.	Description of the question	CO	BL	Marks
1	A. Explain construction and working of Laurent's half shade polarimeter.	1	2	5
	B. Derive an expression of resolving power of diffraction grating.	1	1	5
	C. Calculate the specific rotation of the sugar solution if the plane of polarization of plane polarized light is rotated through 60.5° in passing through a length of 2dm of sugar solution of 5% concentration.	1	3	5
2	A. Explain the structure of optical fiber. Determine the Numerical Aperture of step index fibre. When the core refractive index is 1.5 and the cladding refractive index is 1.47.	2	3	5
	B. Explain construction and working of Ruby laser with a neat diagram.	2	2	5
	B. State the applications of lasers.	2	1	5
3	A. Explain the basic requirement for an acoustically good hall.	3	2	5
	B. State and explain the factors affecting the acoustics of auditorium and explain their remedies.	3	2	5
	C. A room has a volume of 980 m^3 , the total wall area is 150 m^2 , the total floor area is 90 m^2 , and ceiling area is 95 m^2 . The average sound absorption coefficient for wall is 0.03, ceiling is 0.80 and floor is 0.06. Determine the average absorption coefficient and reverberation time.	3	3	5

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Mid Sem Examination

Subject: Basic Civil Engineering	Class/ Sem.: FY/ II Sem
Name of the faculty: Prof. Miss. K. K. Gurav	Date: 28/03/2025
Time: 1: 00 PM to 2: 00 PM	Total marks: 30

Note.: Answer any two questions from each question

Q. No.	Description of the question	CO	BL	Marks
1	A. Explain the role of Civil Engineering in infrastructural development.	1	2	5M
	B. Enlist and discuss the scope of any 5 sub branches of civil engineering.	1	2	5M
	C. Explain the role of civil engineer in various construction activities.	1	2	5M
2	A. Differentiate between load bearing structure and framed structure.	2	2	5M
	B. Write a short note on seasoning of timber?	2	2	5M
	C. Enlist all and explain in detail 5 different principles of building and planning.	2	2	5M
3	A. Explain in detail the concept of local attraction to magnetic needle in angular measurement.	3	2	5M
	B. Differentiate in between plane survey and geodetic survey.	3	2	5M
	C. The following bearings are observed with a compass. Calculate interior angles.	3	3	5M
	Line			
	AB			
	BC			
	CD			
	DE			
	EA			



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MID EXAMINATION

Subject: Engineering Mathematics – II		Class/ Sem.: FY/ II Sem		
Name of the faculty: Prof. S. B. Jadhav		Date: 29-03-2025		
Time: 10.30 am to 11.30 am		Total marks: 30M		
Note.: Answer any two questions from each question				
Q. No.	Description of the question	CO	BL	Marks
1	A. Solve $\frac{dy}{dx} = 4y + 2x - 4x^2$	1	2	5
	B. Solve $(x + 2y^3) \frac{dy}{dx} = y$	1	2	5
	C. Solve $x \frac{dy}{dx} + y \log y = xy$	1	2	5
2	A. Find orthogonal trajectories of $r = a(1 - \cos\theta)$	2	3	5
	B. The differential equation of a circuit containing a resistance R and a condenser of capacity C in series with e.m.f. E is $E = Ri + \int \frac{i}{C} dt$ then find current i at any time t when $E = E_0 \sin \omega t$	2	3	5
	C. The temperature of the air is 30°C and the substance cools from 100°C to 70°C in 15 minutes, find when the temperature will be 40°C	2	3	5
3	A. Solve $\frac{dy}{dx} = y - xy$ $y_0 = 1$ when $x_0 = 0$ and find y when $x = 0.1$ by Taylor's method	3	2	5
	B. Using Euler's method, find the approximate value of y when $x = 0.5$. Given that $\frac{dy}{dx} = x^2 + y^2$ at $y(0) = 0$, $h = 0.1$	3	2	5
	C. Solve by Runge- Kutta method, given $\frac{dy}{dx} = \frac{y-x}{y+x}$ with $y(0) = 1$ also find $y(0.2)$	3	2	5

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Mid Semester Examination

Subject: Basic Electrical Engineering.		Class/Sem.: FY/ II Sem		
Name of the faculty: Prof. M. A. Bandi		Date: 29/03/2025		
Time: 01:00 to 02:00 pm		Total marks: 30		
Note.: Answer any two sub-questions from each question.				
Q. No.	Description of the question	CO	BL	Marks
1	A. State and explain Kirchhoff's Laws as applicable to electrical circuit with suitable example.	1	2	5
	B. Two batteries A & B are connected in parallel across a load resistance of $4\ \Omega$. The emf & internal resistance of battery A & B are 24 volts, $4\ \Omega$ and 36 volts, $6\ \Omega$ respectively, using mesh or node analysis, Find (i) current in battery A, (ii) Current in battery B. (iii) Current in load resistance.	1	3	5
	C. Define current, resistance, emf, potential difference with their units.	1	1	5
2	A. Distinguish between electric & magnetic circuit.	2	2	5
	B. Explain the concept of magnetic leakage & fringing.	2	2	5
	C. Obtain mathematical expression for series magnetic circuit for N number of magnetic materials.	2	1	5
3	A. A resistance of 10 ohm is connected in series with inductance of 73 mH across 250 volts, 50 Hz AC supply. Find (i) Impedance, (ii) current, (iii) Power factor (iv) Power	3	3	5
	B. Derive the expression for RMS value by analytical method.	3	1	5
	C. State & explain types of induced EMF's. Compare statically and dynamically induced EMF.	3	2	5



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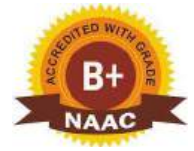
MID TERM EVALUATION

Subject: Engineering Graphics	Class/ Sem/Div.: FY/ II Sem/
Name of the faculty: Prof. Kishor S. Joshi	Date: 01/04/2025
Time: 10.30-11.30 am	Total marks: 30
Note: Solve any two questions from each main question	

Q. No.	Description of the question	CO	BL	Marks
1	a Draw an ellipse with the distance of the focus from the directrix at 50mm and eccentricity = $2/3$	1	3	5
	b Draw the orthographic projections of the following points? (a.) Point P is 30 mm. above H.P and 40 mm. in front of VP (b.) Point Q is 25 mm. above H.P and 35 mm. behind VP (c.) Point R is 32 mm. below H.P and 45 mm behind VP (d.) Point S is 35 mm. below H.P and 42 mm in front of VP (e.) Point T is in H.P and 30 mm behind VP	1	3	5
	c Draw a parabola with the distance of the focus from the directrix at 50mm (Eccentricity method).	1	3	5
2	a A line AB, 65mm long has its end A 20mm above H.P. and 25mm in front of VP. The end B is 40mm above H.P. and 65mm in front of V.P. Draw the projections of AB and shows its inclination with H.P.	2	3	5
	b A regular pentagon of 30 mm sides is resting on HP, on one of it's sides with it's surface 45° inclined to HP. Draw it's projections when the side in HP makes 30° angle with VP?	2	3	5
	c The top view of a 75mm long line AB measures 65mm, while its front view measures 50mm. It's one end A is in HP and 12mm in front of VP. Draw the projections of AB and determine its inclination with HP and VP.	2	4	5
3	a A cone 40 mm diameter and 50 mm axis is resting on one of its generator on HP which makes 30° inclinations with VP. Draw it's projections?	3	3	5
	b A cylinder 40 mm diameter and 50 mm axis is resting on one point of a base circle on VP while it's axis makes 45° with VP and FV of the axis 350 with HP. Draw its projections.	3	3	5
	c A hexagonal prism, having a base with a 30mm side and an 80mm long axis, rests on one of its base edges in the H.P such that the axis is inclined at 30° to the HP and 45° to the VP. Draw its projections?	3	3	5



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CIE marks Details



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Department of Electronics & Computer Science



Unit Test 1 Result

Semester: V

Sl. No.	NAME	PRN	Subjects						
			PE	COA	SS	CN-2	SA	Total	Sign
1	CHAVAN RAJWARDHAN BAJIRAO	2022085998	01	11	03	16	06	37	
2	CHINDAKE SANKET BANDOPANT	2022086015	09	13	03	14	08	47	
3	DORUGADE ASHWINI PIRAJI	2022086166	03	18	12	11	12	56	
4	KAVITKAR SHUBHAM VITTHAL	2022086046	04	13	09	16	11	53	
5	KOLUGADE HARSHVARDHAN B	2022086175	04	20	08	04	16	52	
6	PATIL ANKITA ANANT	2022086026	09	21	12	12	17	71	
7	PATIL SUSMITA SHAMRAO	2023079525	AB	AB	AB	AB	AB	AB	
8	POWAR YUVRAJ DHANAJI	2023078357	11	22	12	19	18	82	
9	MORE NIRANJAN SHIVAJI	2023079616	00	05	06	09	05	25	
10	PATIL DNYANESHVARI DILIP	2023078355	28	24	23	24	23	122	
11	MATALE GAUTAMI ARJUN	2023080553	AB	AB	AB	AB	AB	AB	
12	APATE AVADHUT APPASAHEB	2023078354	p	p	p	p	AB		
13	CHOUGULE PRAJJWAL PRAKASH	2023078359	30	30	13	28	26	127	
14	GAVADE PRACHI PRAKASH	2023079612	15	21	13	18	11	78	
15	KAMBLE SNEHAL SUDAM	2023078356	12	16	09	19	01	47	
16	VAIDIKA KRUSHNAT TELI	2023077952	13	03	13	12	AB	41	
17	BHALEKAR SAHIL YUVRAJ	2023077957	18	21	13	19	10	81	



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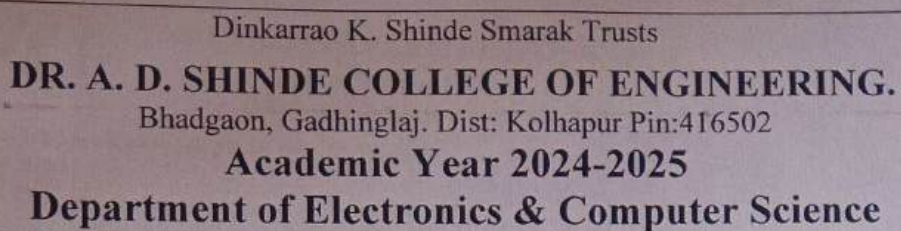
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18	CHAVAN AMIT SANJAY	2023077985	AB	AB	AB	AB	AB	AB	
19	SHALGAR NISHA RAJESH	2023080348	12	03	11	11	07	44	
20	CHOUGALE SAMBHAJI	2023077972	AB	AB	AB	AB	AB	AB	
21	MUGALIHALKAR NIKHIL HUVANI	2023077987	17	18	05	17	AB	57	
22	PATIL ROHIT PRATAP	2023077970	AB	AB	AB	AB	AB	AB	
23	RAKATADE SANDESH RAJENDRA	2023077976	AB	AB	AB	AB	AB	AB	
24	KANGRAALKAR HARSHADA ANKUSH	2023078352	AB	AB	AB	AB	AB	AB	
25	DIVTNKAR SNEHAL SHRIKANT	2023077981	AB	AB	AB	AB	AB	AB	
26	NIKAM ANJALI SAGAR	2023077973	AB	AB	AB	AB	AB	AB	
27	PATIL AMOL ARVIND	2023080362	AB	AB	AB	AB	AB	AB	
28	AMATE RAHUL BASAVARAJ	2023077948	AB	AB	AB	AB	AB	AB	
29	MIRAJE MAYUR ARUN	2023078361	AB	AB	AB	AB	AB	AB	
30	KHAIRMODE RAVIKIRAN	2023077974	29	29	27	28	27	140	
31	JATHAR SAKSHI MANSING	2023078979	20	22	14	26	15	97	
32	INGAWALE SAMRUDDHI SAKHARAM	2023077989	19	16	18	27	22	85	
33	GODASE KARUNA TUKARAM	2023078979	17	16	14	20	16	83	
34	JAGADALE SANIYA BHIKAJI	2023077989	12	23	10	23	09	77	
35	KHARADE VAISHNAVI B	2023078940	09	16	07	24	11	67	
36	KHARADE ANKITA RANJIT	2023077964	11	22	11	25	11	80	
37	PATIL SAKSHI ANIL	2023079604	23	29	23	23	15	113	
38	MULLA AFTAB MEHABUB	2023077993	20	26	24	24	24	118	
39	DHEKOLKAR SWAPNALI B	2023077958	19	16	13	23	14	85	

[illegible]



SHIVAJI UNIVERSITY, KOLHAPUR

Mark Statment For
B.Tech. CBCS Exam Of Oct-2024

Name : CHOUGULE PRAJJWAL PRAKASH (SUNANDA)
University PRN : 2023078359
College : Dr. A. D. Shinde College of Engineering - GADHINGLAJ
Branch : Electronics and Computer Sciences
Course Name : B.Tech. CBCS

Seat No : 6023

Paper Code	Paper/Subject Name	Marks	Result	
B.Tech.CBCS Part 3 Semester 5				
56537	Signal & System (50/125)	90	PASS	
		CIE (12/30)		13
		ESEx (28/70)		54
		TW (10/25)		23
56538	Power Electronics (70/175)	145	PASS	
		CIE (12/30)		30
		ESEx (28/70)		46
		PR (20/50)		45
		TW (10/25)		24
56539	Computer Organization & Architecture (50/125)	118	PASS	
		CIE (12/30)		30
		ESEx (28/70)		64
		TW (10/25)		24
56540	Computer Network II (70/175)	157	PASS	
		CIE (12/30)		28
		ESEx (28/70)		59
		PR (20/50)		46
		TW (10/25)		24
56541	Sensors & Applications (50/125)	103	PASS	
		CIE (12/30)		26
		ESEx (28/70)		54
		TW (10/25)		23
56543	Java Programming (30/75)	70	PASS	
		PR (20/50)		46
		TW (10/25)		24
		Part Result: PASS		

Result: PASS

Result Declared Date : 23-12-2024

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Dinkarrao K. Shinde Smarak Trust's

DR. A. D. SHINDE COLLEGE OF ENGINEERING

Gadhinglaj (Bhadgaon) 416502 (Dist: Kolhapur) Maharashtra
Approved by AICTE, Delhi, DTE Mumbai and Govt. of Maharashtra.
Affiliated to Shivaji University, Kolhapur.

Continuous Internal Evaluation Book

20²⁴ - 20²⁵

Name : Prajwal Prakash Chougale

Department : ECS [Electronics & Computer Science] Roll No. : 13

PRN No.: 2023078359 SEM : 5th

Subject : Signal & System

CIE No.	Date	Marks Out of	Obtained Marks	Sign. of Staff	Sign. of Student
I	09/09/2024	30	28	<u>Bond</u>	<u>Chougale</u>
II		30	20	<u>Bond</u>	<u>Chougale</u>
III					
Total Avg. (Best of Continuous Internals)		30	30	<u>Bond</u>	<u>Chougale</u>

Subject Teacher Signature

H.O.D.

Principal

$$Q.1 = 5 + 5 = 10$$

Q.1 B)

$$1) x(t) = e^t$$

$$t = -t$$

$$x(-t) = e^{-t}$$

even:-

$$x_e(t) = \frac{x(t) + x(-t)}{2}$$

$$= \frac{e^t + e^{-t}}{2}$$

$$\boxed{x_e(t) = \cosh t}$$

odd

$$x_o(t) = \frac{x(t) - x(-t)}{2}$$

$$= \frac{e^t - e^{-t}}{2}$$

$$\boxed{x_o(t) = \sinh t}$$

$$2) x(t) = 3 + 2t + 5t^2$$

$$t = -t$$

$$x(-t) = 3 + 2(-t) + 5(-t)^2$$

$$= 3 - 2t + 5t^2$$

$$x_e(t) = \frac{x(t) + x(-t)}{2}$$

$$= \frac{(3 + 2t + 5t^2) + (3 - 2t + 5t^2)}{2}$$

$$x_e(t) = \frac{6}{2}$$

$$x_e(t) = 3$$

odd

$$x_o(t) = \frac{x(t) - x(-t)}{2}$$

$$= \frac{3 + 2t + 5t^2 - 3 + 2t + 5t^2}{2}$$

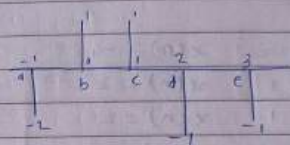
$$= \frac{4t + 10t^2}{2}$$

$$= 2t + 5t^2$$

$$x_o(t) = 2t + 5t^2$$

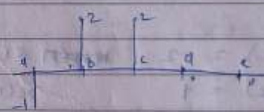
Q. 1

c)



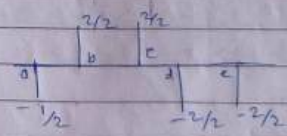
① $x(-n-1)$

$a = -2$	$x(-n-1) = -2$	$x(-n) = -1$
$b = 1$	$x(-n-1) = 1$	$x(-n) = 2$
$c = 1$	$x(-n-1) = 1$	$x(-n) = 2$
$d = -1$	$x(-n-1) = -1$	$x(-n) = 0$
$e = -1$	$x(-n-1) = -1$	$x(-n) = 0$



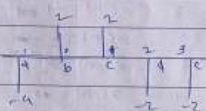
② $x(2n+1)$

$a = -1/2$	$x(2n+1) = -1/2$	$x(n) = -1/2$
$b = 1/2$	$x(2n+1) = 1/2$	$x(n) = 2/2$
$c = 1$	$x(2n+1) = 1$	$x(n) = 2/2$
$d = -1/2$	$x(2n+1) = -1/2$	$x(n) = -1/2$
$e = -1/2$	$x(2n+1) = -1/2$	$x(n) = -2/2$



Q.1 $x(n/2)$

$a = -2$	$x(n/2) = -2$	$x(n) = -4$
$b = 1$	$x(n/2) = 1$	$x(n) = 2$
$c = 1$	$x(n/2) = 1$	$x(n) = 2$
$d = -1$	$x(n/2) = -1$	$x(n) = -2$
$e = -1$	$x(n/2) = -1$	$x(n) = -2$



Q.2 $x(n-2)$

$a = -1$	$x(n-2) = -2$	remember $x(n) = 0$
$b = 1$	$x(n-2) = 1$	$x(n) = 3$
$c = 1$	$x(n-2) = 1$	$x(n) = 3$
$d = -1$	$x(n-2) = -2$	$x(n) = -1$
$e = -1$	$x(n-2) = -2$	$x(n) = -1$



$$Q.2 = 5 + 5 = 10$$

Q.2

B)

$$\rightarrow \textcircled{1} \frac{dy_1}{dt} + 3ty_1(t) = t^2 x_1(t)$$

$$\frac{dy_1(t)}{dt} + 3ty_1(t) = t^2 x_1(t) \quad \text{--- } \textcircled{1}$$

$$\frac{dy_2(t)}{dt} + 3ty_2(t) = t^2 x_2(t) \quad \text{--- } \textcircled{2}$$

multiply to eqn $\textcircled{1}$ with 'a' & multiply to eqn $\textcircled{2}$ with 'b'

$$a \frac{dy_1(t)}{dt} + b \frac{dy_2(t)}{dt} + 3at y_1(t) + 3bt y_2(t) = a(t^2 x_1(t)) + b(t^2 x_2(t))$$

$$\frac{d}{dt} [ay_1(t) + by_2(t)] + 3t [ay_1(t) + by_2(t)] = t^2 [ax_1(t) + bx_2(t)]$$

weight sum of p weight sum of p weight sum of p

= This given s/m is linear
Because op is equal to input

$$\textcircled{2} y(n) = Ax_1(n) + B$$

$$y_1(n) = T(x_1(n)) = Ax_1(n) + B \quad \text{--- (1)}$$

$$y_2(n) = T(x_2(n)) = Ax_2(n) + B \quad \text{--- (2)}$$

multiply to equⁿ (1) with 'a' & equⁿ (2) with 'b'

$$ay_1(n) + by_2(n) = (aAx_1(n) + B) + (bAx_2(n) + B)$$

$$ay_1(n) + by_2(n) = T[x_1(n) + x_2(n)] = A[a x_1(n) + b x_2(n)] + B$$

$$y_3(n) \neq ay_1(n) + by_2(n)$$

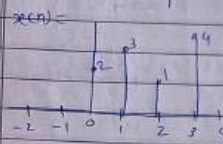
This given s/m is Not linear.

05

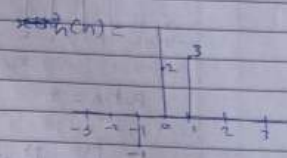
Q. 2

$$\textcircled{1} x(n) = \{2, 3, 1, 4\}$$

$$h(n) = \{-1, 2, 3\}$$



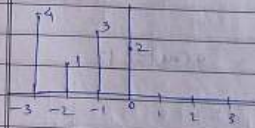
$$y(n) = x(n) * h(n)$$



$$x(n) \leftrightarrow x(i)$$

$$x(i) \leftrightarrow x(n-i)$$

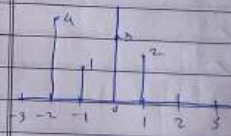
$$x(i) = x(-i)$$



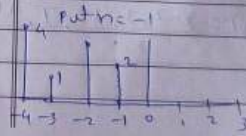
Put $n=0$

$$y(0) = 4 + (-3) = 1$$

Put $n=1$



$$y(1) = 6 + 5 + (-1) = 11$$



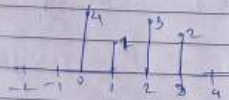
$$y(-1) = -2$$

Put $n=2$



$$y(2) = 9 + 2 + (+4) = 7$$

Put $n=3$



$$y(3) = 3 + 8 = 11$$

Put $n=4$



$$y(4) = 12$$

$$y(n) = \{-2, 1, 11, 7, 11, 12\}$$

	2	2	1	4	
-1	-2	-3	1	-4	
2	4	6	2	8	
3	6	9	3	12	

$$y(n) = \{-2, 1, 11, 7, 11, 12\}$$

$$Q.3 = 5 + 3 = 8$$

Q.3

c) Convolution :-

$$x(t) \xrightarrow{FT} x(\omega)$$

$$y(t) \xrightarrow{FT} y(\omega)$$

$$z(t) = x(t) * y(t) \xrightarrow{FT} z(\omega) = x(\omega) * y(\omega)$$

$$z(\omega) = \int_{-\infty}^{\infty} z(t) e^{-j\omega t} dt$$

$$= \int_{-\infty}^{\infty} x(t) * y(t) e^{-j\omega t} dt$$

$$= \int_{-\infty}^{\infty} \left[\int_{-\infty}^{\infty} x(\tau) * y(t-\tau) dt e^{-j\omega t} \right] d\tau$$

$$= \int_{-\infty}^{\infty} x(\tau) \left[\int_{-\infty}^{\infty} y(t-\tau) e^{-j\omega t} dt \right] d\tau$$

$$t-\tau = \alpha \quad \& \quad t = \tau + \alpha$$

$$dt = d\alpha$$

$$= \int_{-\infty}^{\infty} x(\tau) \left[\int_{-\infty}^{\infty} y(\alpha) e^{-j\omega(\tau+\alpha)} d\alpha \right] d\tau$$

$$= \int_{-\infty}^{\infty} x(\tau) e^{-j\omega\tau} d\tau * \int_{-\infty}^{\infty} y(\alpha) e^{-j\omega\alpha} d\alpha$$

$$z(\omega) = x(\omega) * y(\omega)$$

Q3.

B)

→

- Limitation for Fourier Transforms limitation of FT & LT
- LT can be used analyzed algebraic class of problems involving the signals that are not absolutely integrable
- FT is inactivated on entire to exist LT is evaluated on single consideration in the stability
- evaluated the entire spote
- Convolution time domain multiplication of domains
- The LT integrat differend equations transfer simple algebraic equation

-03-

$$Q-1 = 5+5=10$$

Unit Test = II

Q.1

A)

→

$$x(n) = \{1, 1, 0, 0\}$$

$$x(n) = \sum_{-\infty}^{\infty} x(n) e^{j\omega n}$$

$$x(k) = \sum_{-\infty}^{\infty} x(n) e^{-j\frac{2\pi nk}{N}}$$

condⁿ for $k=1$

$$x(1) = \sum_{-\infty}^{\infty} x(n) e^{-j\frac{2\pi n}{4}}$$

$$= \sum_{-\infty}^{\infty} x(n) e^{-j\frac{\pi n}{2}}$$

$$= x(0)e^0 + x(1)e^{-j\frac{\pi}{2}} + x(2)e^{-j\frac{\pi}{2}} + x(3)e^{-j\frac{\pi}{2}}$$

$$= 1 + [\cos\frac{\pi}{2} - j\sin\frac{\pi}{2}] + 0 + 0$$

$$= 1 + [0 - j(1)] + 0 + 0$$

$$= 1 - j$$

$$= \tan^{-1} \frac{y}{x}$$

$$= \tan^{-1} \frac{(-1/1)}{1}$$

$$= \tan^{-1} (-1)$$

$$= -\frac{\pi}{4}$$

condn ① for $k=0$

$$\begin{aligned} x(e) &= \sum_{n=0}^3 x(n) e^{-j\frac{2\pi}{4}kn} \\ &= \sum_{n=0}^3 x(n) e^0 \\ &= \sum_{n=0}^3 x(n) \\ &= x(0) + x(1) + x(2) + x(3) \\ &= 1 + 1 + 0 + 0 \\ &= 2 \end{aligned}$$

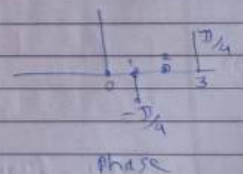
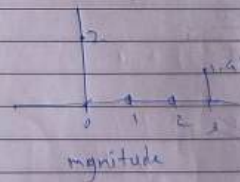
condn ③ for $k=2$

$$\begin{aligned} x(2) &= \sum_{n=0}^3 x(n) e^{-j\frac{2\pi}{4}kn} \\ &= \sum_{n=0}^3 x(n) e^{-j\pi n} \\ &= x(0)e^{-j\pi \cdot 0} + x(1)e^{-j\pi} + x(2)e^{-j\pi \cdot 2} + x(3)e^{-j\pi \cdot 3} \\ &= 1 + [(-1) - j(0)] + 0 + 0 \\ &= 0 \end{aligned}$$

condn ④ for $k=3$

$$\begin{aligned} x(3) &= \sum_{n=0}^3 x(n) e^{-j\frac{2\pi}{4}kn} \\ &= \sum_{n=0}^3 x(n) e^{-j\frac{3\pi}{2}n} \\ &= x(0)e^0 + x(1)e^{-j\frac{3\pi}{2}} + x(2)e^{-j3\pi} + x(3)e^{-j\frac{9\pi}{2}} \\ &= 1 + [\cos \frac{3\pi}{2} - j\sin \frac{3\pi}{2}] + 0 + 0 \\ &= 1 + (0 - j(-1)) + 0 + 0 \\ &= 1 + j \end{aligned}$$

$$\begin{aligned} |x(3)| &= 1.41 \\ &= \frac{\sqrt{2}}{1} \end{aligned}$$



05

Q.1

6)

(1) $x(n] = u(n]$

$$u(n) = \begin{cases} 1 & n \geq 0 \\ 0 & \text{otherwise} \end{cases}$$

$$x(e^{j\omega}) = \sum_{n=-\infty}^{\infty} x(n) e^{-j\omega n}$$

$$= \sum_{n=0}^{\infty} (1) e^{-j\omega n}$$

$$= \sum_{n=0}^{\infty} e^{-j\omega n}$$

$$= \frac{(e^{-j\omega})^0 - (e^{-j\omega})^{\infty+1}}{1 - e^{-j\omega}}$$

$$= \frac{1 - 0}{1 - e^{-j\omega}}$$

$$= \frac{1}{1 - e^{-j\omega}}$$

(2) $x(n] = a^n u(n]$

$$x(e^{j\omega}) = \sum_{n=-\infty}^{\infty} x(n) e^{-j\omega n}$$

$$= \sum_{n=0}^{\infty} a^n u(n) e^{-j\omega n}$$

$$= \sum_{n=0}^{\infty} a^n (1) e^{-j\omega n}$$

$$= \sum_{n=0}^{\infty} (ae^{-j\omega})^n$$

$$= \frac{(ae^{-j\omega})^0 - (ae^{-j\omega})^{\infty+1}}{1 - ae^{-j\omega}}$$

$$= \frac{1 - 0}{1 - ae^{-j\omega}}$$

$$= \frac{1}{1 - ae^{-j\omega}}$$

0.5

Q. 2

A)

$$x(n) = \{1, 2, 4, 5, 0, 7\}$$

\uparrow
 $0 \quad 1 \quad 2 \quad 3 \quad 4 \quad 5$

$$x(z) = x(0)z^{-0} + x(1)z^{-1} + x(2)z^{-2} + x(3)z^{-3} + x(4)z^{-4} + x(5)z^{-5}$$

$$= 1(1) + 2\frac{1}{z} + 4\frac{1}{z^2} + 5\frac{1}{z^3} + 0 + 7\frac{1}{z^5}$$

$$= 1 + \frac{2}{z} + \frac{4}{z^2} + \frac{5}{z^3} + 0 + \frac{7}{z^5}$$

put $z=0$ $x(z) = 1 + 0 + 0 + 0 + 0$
 $= 1$

$z \rightarrow \infty$ $x(z) = \infty$

05

Q. 2 = 5 + 5 = 10

Q. 2

B)

$$u(n-3)$$

$$x(n) = u(n)$$

$$u(n) = \frac{z}{z-1}$$

$$x(n-k) \xrightarrow{z^{-k}} z^{-k} x(n)$$

$$x(n-3) \xrightarrow{z^{-3}} z^{-3} \left(\frac{z}{z-1} \right)$$

$$= \frac{z}{z^3(z-1)}$$

$$= \frac{1}{z^2(z-1)}$$

~~for~~ $d^n u(n)$ $x(n) = u(n)$

$$u(n) = \frac{z}{z-1}$$

$$d^n x(n) \xrightarrow{z^{-1}} x\left(\frac{z}{z_0}\right)$$

$$\therefore d^n u(n) \xrightarrow{z^{-1}} \left(\frac{z}{z-1} \right) z = \frac{z^2}{z-1}$$

$$= \frac{z^2}{z_0-1}$$

$$01 = 2 + 2 = 0.0$$

$$= \frac{z/4}{z - 1/4}$$

$$= \frac{z}{z - 1}$$

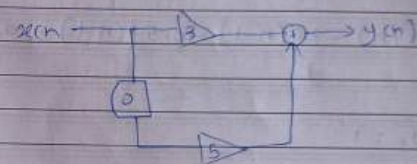
os

$$Q.3 = 5 + 5 = 10$$

Q.3

A)

$$y(n) = 3x(n) + 5x(n-1)$$



This is non-recursive system

$$y(n] = 2x(n] - 1/2 y(n-1]$$



- os -

0.002 + 2 = 5.0

Q. 3

B)

$$y(n) = -0.5y(n-1) + 0.25y(n-2) + x(n) - 3x(n-1)$$

$$y(n) = x(n) - 3x(n-1) - 0.5y(n-1) + 0.25y(n-2)$$

$$\therefore a_1 = 1$$

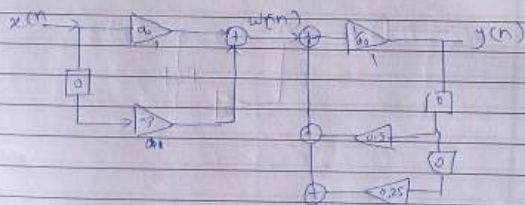
$$\therefore b_0 = 1$$

$$\therefore b_1 = -3$$

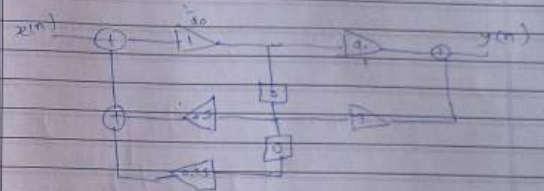
$$\therefore b_2 = +0.5$$

$$\therefore a_2 = -0.25$$

Direct form (I)



Direct form (I)



05



SHIVAJI UNIVERSITY, KOLHAPUR

Mark Statment For
B.Tech. CBCS Exam Of Oct-2024

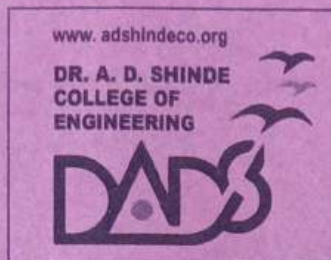
Name : PATIL DNYANESHWARI DILIP (VIDYA)
University PRN : 2023078355
College : Dr. A. D. Shinde College of Engineering - GADHINGLAJ
Branch : Electronics and Computer Sciences
Course Name : B.Tech. CBCS

Seat No : 6045

Paper Code	Paper/Subject Name	Marks	Result
B.Tech.CBCS Part 3 Semester 5			
56537	Signal & System (50/125)	96	PASS
		CIE (12/30) 23	
		ESEx (28/70) 51	
		TW (10/25) 22	
56538	Power Electronics (70/175)	136	PASS
		CIE (12/30) 28	
		ESEx (28/70) 44	
		PR (20/50) 42	
56539	Computer Organization & Architecture (50/125)	106	PASS
		CIE (12/30) 24	
		ESEx (28/70) 61	
		TW (10/25) 21	
56540	Computer Network II (70/175)	151	PASS
		CIE (12/30) 24	
		ESEx (28/70) 62	
		PR (20/50) 42	
56541	Sensors & Applications (50/125)	100	PASS
		CIE (12/30) 23	
		ESEx (28/70) 55	
		TW (10/25) 22	
56543	Java Programming (30/75)	58	PASS
		PR (20/50) 35	
		TW (10/25) 23	
		Part Result: PASS	

Result: PASS

Result Declared Date : 23-12-2024



Dinkarrao K. Shinde Smarak Trust's

DR. A. D. SHINDE COLLEGE OF ENGINEERING

Gadhinglaj (Bhadgaon) 416502 (Dist: Kolhapur) Maharashtra
Approved by AICTE, Delhi, DTE Mumbai and Govt. of Maharashtra.
Affiliated to Shivaji University, Kolhapur.

Continuous Internal Evaluation Book

2024 - 2025

Name : Dnyaneshwari Dilip Patil

Department : ECS Roll No. : 10

PRN No.: 2023078355 SEM : V

Subject : Computer Network - II

CIE No.	Date	Marks Out of	Obtained Marks	Sign. of Staff	Sign. of Student
I		30	24	<u>Fajari</u>	<u>DPatil</u>
II	26/10/2024	30	18	<u>Fajari</u>	<u>DPatil</u>
III					
Total Avg. (Best of Continuous Internals)		30	24	<u>Fajari</u>	<u>DPatil</u>

Fajari
Subject Teacher Signature

H.O.D.

Principal

Unit Test - 1

Q.1

A.

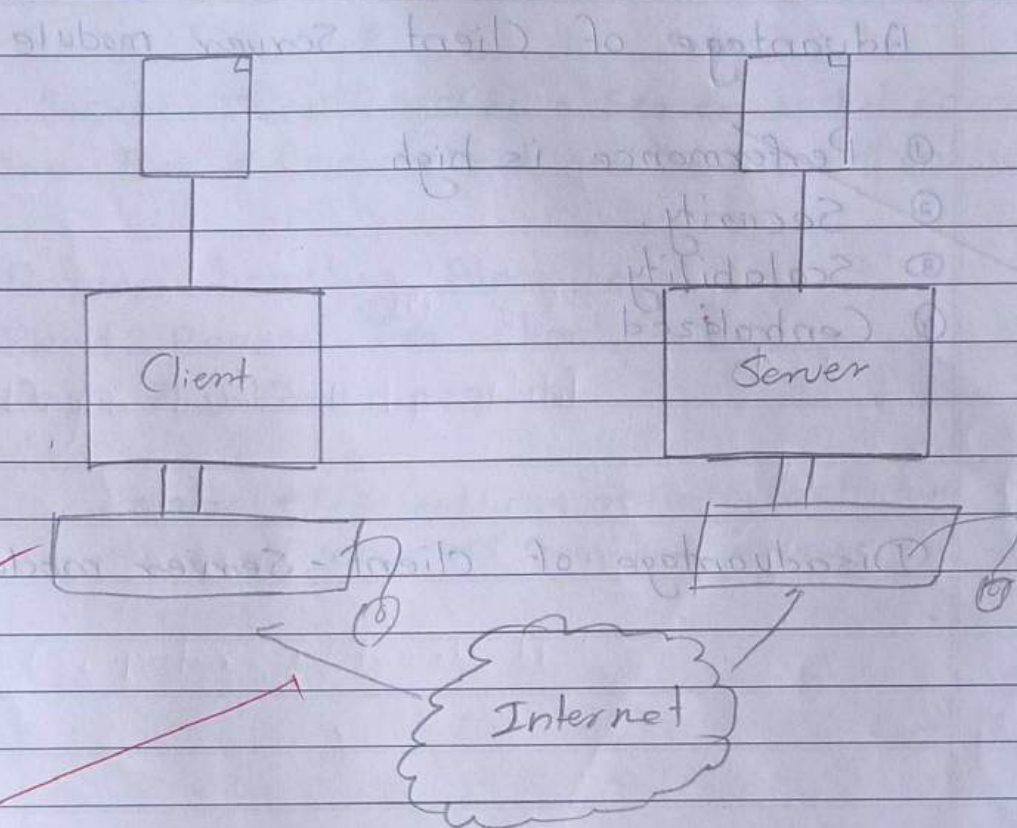


Fig. Client - Server modul

- It is the module client - and server are connected to the internet.
- It is the client is request to the server and the server is response to the client
- There are used to the server & client is server client module.

Advantage of Client - Server module

- ① Performance is high
- ② Security
- ③ Scalability
- ④ Centralized

Disadvantage of client - Server module

Q1?

Algorithm

① Connection handling Algorithm

- Server socket `ServerSocket = new ServerSocket (Port)`
- while true {}
- Socket client socket = `ServerSocket.accept()`;
- new Thread (new client and handle (client socket), start

② Request handling Algorithm

- Read Request for client
- Pass & validate request

deliver data efficiently & reliably bet two endpoints
live data that requires minimal delay.

G.2

A.

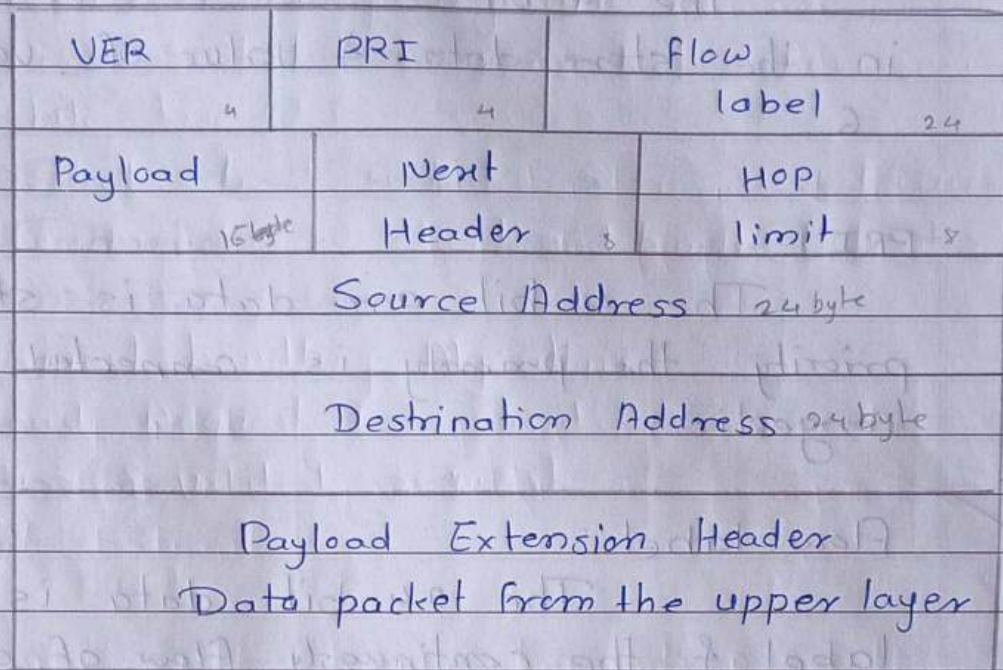


Fig. Packet Format for IPV6

- Fig. shows the block diagram of packet format from the IPV6.
 - There are consist of a version, priority, flow label, payload, Next Header, Hop limit, Source Address, Destination Address etc.
 - Packet format for IPV6 there are two part
 - ① Optical Extension Header
 - ② Data packet from the upper layer.
- The packet format for IPV6 is the optical Extension Header is an 40 byte.

VER :-

The 4 bit of the data in a version in the store data & value of version is 6

PRI :-

The 4 bit are data is store in the priority the priority is connected into traffic congestions.

Flow label

The 24 bit data is a Flow label & the continuously flow of data

Next Header :-

The next Header is 8 bit data to store

Source Header :-

The Source Header is 24 byte data is store & vari identified the original source signal

Destination Header :-

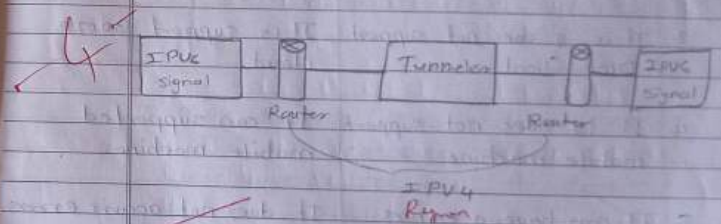
The 24 byte in Destination Header is identified the Destination signal

8.

Type of transition

- ① Dual stack Address
- ② Tunneling
- ③ NAT IP Address

② Tunneling



The IPv6 signal is applied to the Router than the router is converted IPv6 signal into the IPv4.

And the transfer to the Tunnel, than the Tunneling is transfer to Router

Then the Router is converted into a IPv4 to IPv6.

Q 3

BOOTP

DHCP

- | | |
|---|---|
| 1. It is a stand for Bootship protocol | It is a stand for Dynamic Host configuration protocol |
| 2. It is a does not providing temporary IP addressing | It is providing temporary IP Addressing for only limited time |
| 3. It is a does not support DHCP Client | It is support BOOTP client |
| 4. It is does not support mobile machine | It can supported mobile machine |
| 5. It can have a errors to manual configuration | It does not occurs errors mostly to the auto configuration |
| 6. The BOOTP are does not provides the temporary IP address | The DHCP is provides the temporary IP address |

B.

① A Record (IP Address)

The Data is the domain name is a IPv4 Addresses

Eg. example.com → 192.0.1.2

② AAAA Record (IP Address)

The Record is the domain name is a IPv6 Addresses

Eg. example.com → 2001:8bd2:0000:0000:8031:0101::

③ MX Record (mail exchange Address)

The mail exchange address is the exchange in the mail the domain name

Eg. example.com → mail.example.com

④ PTR Record (Pointer Record)

It is domain name is the pointer is fast

Eg.

Example.com 192.0.1.2 → example.com

Q. TXT Record (Text Record)

The domain name is the IP address in character.

Eg.

example.com \rightarrow '0' spl example.com

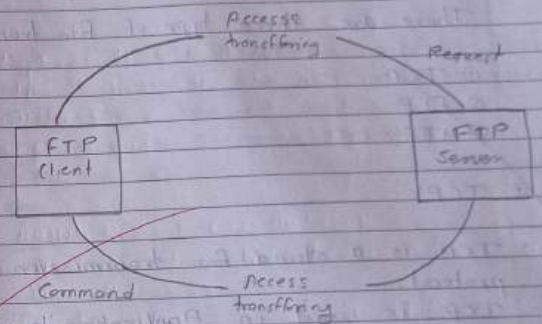
	a	b	c	Total
Q1	3.5	1.5	—	5
Q2	5	4	—	9
Q3	—	5	5	10
				24

24
30

Praveen

G.1

B.



- The file transferring protocol is network protocol that use in transfer the Data to computer system.
- The FTP is a transfer the data to the client to a server in computer system to a IP Networking.
- The FTP is a Data connection in the Command and the Data connection in transferring Data.

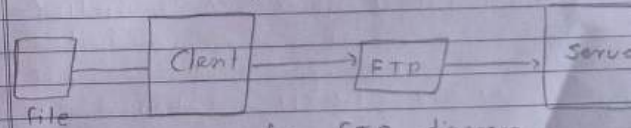


Fig FTP diagram

There are three type of file transfer

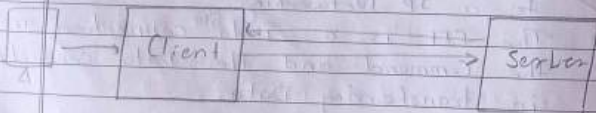
① TCP

② FTP

③ HTTP

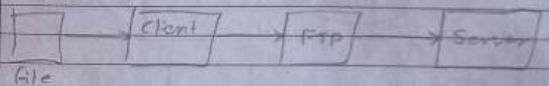
① TCP

- TCP is a stand for transmission Control protocol.
- TCP is used in Application layer.
- Transmission control protocol is a Control the data in transmits.
- TCP is a transfer the Data in one computer to another.
- TCP is used to os model in the Application layer.



FTP

- FTP is a File transferring protocol that is used to transfer the file in computer system over the IP Networking.
- FTP is a is Network protocol.
- FTP is used to os model in the application layer.



File

② HTTP

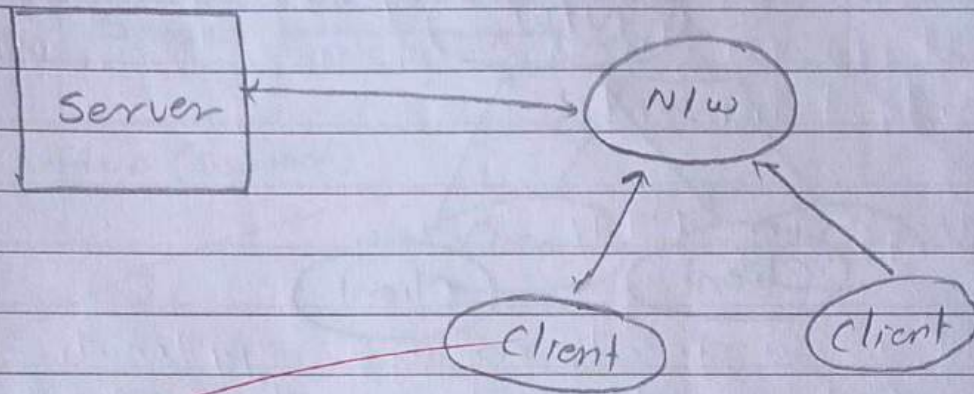
- HTTP stand for the Hypertext Transport protocol.
- HTTP is used to transfer the video & audio data to a client to server.
- HTTP is most common protocol is used to video & audio protocol.

Q. 3

Q. 3 (ii)

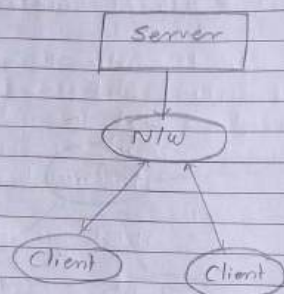
A.

i) RTP



- RTP stand for a Realtime transport protocol.
- 2 - Realtime transport protocol is used to transfer the video & audio data.
- Realtime transport protocol uses to User Datagram protocol & the Realtime transport Control protocol used to monitor the control the transferring data.

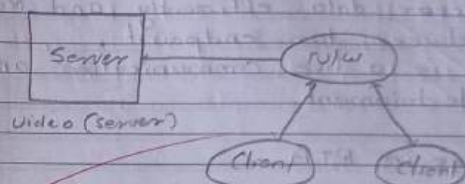
ii) RTCP



- Fig shows the RTCP
- RTCP means Real time transport protocol
- that is used to monitor the data control in transferring data.
- The Real time transport protocol is a video & audio data is transfer in Control Data.
- It is used in live communication like video calls.

c.

Real Time Transport protocol



- Fig shows the Real Time Transport protocol (RTP)
- Realtime transport protocol is a Network protocol is a transfer in the video & audio Data in IP Networking.
- The most common use in the RTP is video & audio transfer in live.
- The Realtime transport protocol is used to the User Datagram protocol (UDP) in transfer data & the Real time Transport Control protocol is transfer the video & audio data in Control

monitor the control in data.

Realtime Transport protocol purpose

- The Realtime transport protocol is the deliver data efficiently and Reliable between two endpoint.
- It is a live communication and entertainment.

Uses in RTP.

It is a most common application in include Realtime transport protocol -

- television Service
- web-based push-to-task
- Video calls
- entertainment & live communication
- Real time transfer the data.

Q.2

B.

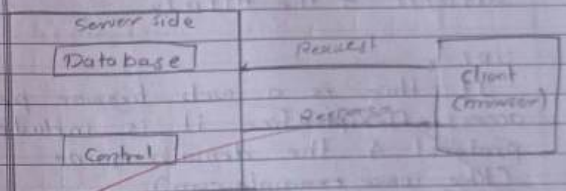


Fig Architecture of HTTP

- Fig shows the Architecture of HTTP
- HTTP stand for the Hypertext transport protocol
- HTTP (Hypertext transport protocol) is the transfer in data to the client to a server.

HTTP Request

HTTP Request to the client to a transfer the data to (browser) in server side
HTTP Request to the client to a transfer data browser to a browser page

HTTP version :

The HTTP version is the used in HTTP/1.1 & the HTTP/2.

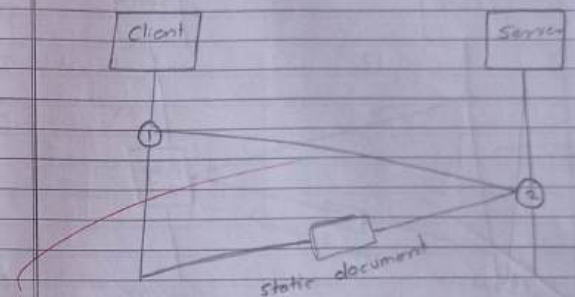
URL -

It this is a web browser point access flexipise fire it is include the protocol & the domain name.
(like www.example.com)

HTTP method -

This are the action you can perform often refer to HTTP

C.



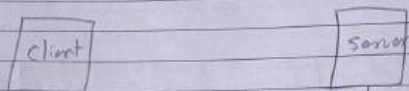
- fig show the diagram of web document
- The client is send to request in the server & the server is response to a client side.

There Are two type of web document

- ① Static document
- ② Active document

① Static web document

The static web document is the data is send to be client to a Server. It is a server side used in program block.



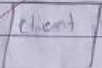
Client side

Server side

web document

Program

Active document



web document

Applet

	a	b	c	total
Q1		3		3
Q2		3	3	6
Q3	4		5	9
				<hr/> 18



Dinkarrao K. Shinde Smarak Trusts
DR. A. D. SHINDE COLLEGE OF ENGINEERING.
Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502
Academic Year 2024-25



Project Details

Dr. A. D. Shinde College of Engineering, Bhadgaon.

SUMMARY OF FINAL YEAR PROJECTS

Sr. No	Department	Year	No of students	No of projects
1	Mechanical Engg.	2024-25	27	06
2	Electrical Engg.		24	06
3	Civil Engg.		56	12
4	Electronics & Computer Science		NA	NA
5	Computer Science & Engg.		NA	NA




PRINCIPAL
A.D. Shinde College of Engineering
Bhadgaon, Tal. Gadhinglaj, Dist. Kolhapur



Dinkarrao K. Shinde Smarak Trusts

DR. A. D. SHINDE COLLEGE OF ENGINEERING

Bhadgaon, Gadhinglaj, Dist: Kolhapur Pin: 416502

Academic Year 2024-25

Department of Mechanical Engineering



Final Year Project Groups

Group No.	PRN No.	Name of Students	Title of Project	Name of Project Guide
G 01	2020075741	AWADAN NILESH NARAYAN	Design and Analysis of the drone body to manufacture fully functional drone using 3D printing technology.	Mr. A. S. Bhoi
	2022086986	DHANAWDE NIKHIL MARUTI		
	2022087049	ASWALE SAMIR PRABHAKAR		
	2020075662	TORASKAR NILESHWAR AJIT		
	2022087089	HODAGE AVINASH RAJENDRA		
G 02	2022086731	PATIL RAHUL SHIVAJI	Design and Fabrication of an Automatic Cable Stripper for Efficient Wire Recycling.	Mr. I. T. Patel
	2022086799	DESAI JAYANT KHANDERAU		
	2022086987	DESAI PRAVIN SHIVGONDA		
	2022079008	SONALE DIPAK BALASO		
	2022086385	SONU SAURAV ASHOK KUMAR S		
G 03	2022086972	SURYAVANSHI PRATIKSHA D	Automatic pneumatic powered can crusher machine.	Dr. D. V. Ghewade
	2022086981	PATIL RUTUJA RAVINDRA		
	2022078871	PATIL SHWETA SUBHASH		
	2021072025	PATIL SHUBHAM GANPAT		
G04	2021072462	DHURI VINAYAK MARUTI	Power Generation using Gym equipments.	Mr. K. S. Joshi
	2021072610	MOHITE KIRAN SHIVAJI		
	2021072082	SALOKHE ADITYA ARUN		
	2021071690	JADHAV NITEESH DASHARATH		
G 05	2021072339	PATIL SIDDHANT DATTATRAY	Smart IOT based robotic nurse with multi language voice interactivity.	Dr. S. A. Mehta
	2018092848	PATIL AKSHAY VASANT		
	2016106433	DEVADKAR TEJASHRI I		
	2021072285	HUNDALEWADKAR NIKHIL S		

For Mr. Patel I. T.
Project Co-ordinator

Mr. HODGSON G. M.
Dept. of Mechanical & Electronics Engg.
Dr. A. D. Shinde College of Engg.
Bhadgaon, Tal. Gadhinglaj



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DR.A. D. SHINDE COLLEGE OF ENGINEERING

Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502

Department of Mechanical Engineering

Academic Year 2024-25



CERTIFICATE

This is to certify that Project titled "Design and Fabrication of an Automatic Cable Stripper for Efficient Wire Recycling." is a bonafide work of

Name of students

PRN.NO

Mr. Sonu Saurav Ashok Kumar Singh

2022086385

Mr. Desai Pravin Shivgonda

2022086987

Mr. Patil Rahul Shivaji

2022086731

Mr. Sonale Dipak Balaso

2022079008

Mr. Desai Jayant Khanderao

2022086799

This project report fulfills the academic requirements prescribed for the award of Bachelor of Technology degree in Mechanical Engineering during the academic year 2024-25

Prof. I. T. Patel

Guide

Dept. of Mechanical Engg.
Dr. A.D. Shinde College of Engg.
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Prof. G. M. Kumbhar

Head of Department

Vice Principal

Dr. A.D. Shinde College of Engineering
Bhadgaon, Gadhinglaj, Dist. Kolhapur

Dean Academics

Name of Examiners

Prof. I. T. Patel

Prof. S. S. Patel

Signature with date

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DR.A. D. SHINDE COLLEGE OF ENGINEERING.
Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502
Department of Mechanical Engineering
Academic Year 2024-25



CERTIFICATE

This is to certify that Project titled "Power Generation using GYM Equipment's" is a Bonafide work of

Mr. Vinayak M. Dhuri (PRN: 2021072462)


Mr. Kiran S. Mohite (PRN: 2021072610)


Mr. Niteesh D. Jadhav (PRN: 2021071690)


Mr. Rohit Y. Ramase (PRN:2022086971)

Mr. Rohan V. Mandlik (PRN:2021072453)

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Prof. Kishor S. Joshi
Guide

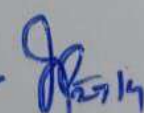
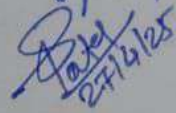

Prof. Gururaj M. Kumbhar
Head of Department


Dr. Vireshkumar G. Mathad
Dean Academics

Dr.A.D.Shinde College of Engineering
Bhadgaon, Tal. Gadhinglaj, Dist. Kolhapur

Name of Examiners

Signature with date

1) Prof. - I. T. Patel - 
2) Mr. S. S. Patel - 
27/12/25

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DR.A. D. SHINDE COLLEGE OF ENGINEERING.
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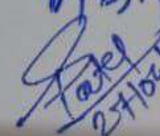

Prof. Kishor S. Joshi
Guide


Prof. Gururaj M. Kumbhar
Head of Department


Dr. Vireshkumar G. Mathad
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Dr.A.D.Shinde College of Engineering
Bhadgaon, Tal. Gadhinglaj Dist. Kolhapur

Name of Examiners

Signature with date

1) Prof. - I. T. Patel - 
2) Mr. S. S. Patel - 
24/04/25

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DR.A. D. SHINDE COLLEGE OF ENGINEERING.
Bhadgaon, Gadhinglaj, Dist: Kolhapur Pin:416502
Department of Mechanical Engineering
Academic Year 2024-25



CERTIFICATE

This is to certify that Project titled “Design And Manufacture Fully Functional Drone Using 3D Printing Technology” is a bonafide work of

Mr. Samir P. Aswale	PRN: 2022087049
Mr. Nikhil M. Dhanawade	PRN: 2022086986
Mr. Nilesh N. Awadan	PRN: 2020075741
Mr. Nileshwar A. Toraskar	PRN: 2020075662
Mr. Avinash R. Hodage	PRN: 2022087089

This project report fulfills the academic requirements prescribed for the award of Bachelor of Technology degree in Mechanical Engineering during the academic year 2024-25.

Prof. A. S. Bhoi

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Prof. G. M. Kumbhar

HOD
Dep. Head of Department Engg.
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Dr. Vireshkumar G. Mathad

Dean Academic
Dr. A. D. Shinde College of Engineering
Bhadgaon, Tal. Gadhinglaj, Dist. Kolhapur

Name of Examiners

1) Prof. J. T. Patel -

2) Mr. S. S. Patel -

Signature with date



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Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502

Department of Mechanical Engineering

Academic Year 2024-25



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Prof. G. M. Kumbhar

Head of Department



Dr. Viresh Kumar Mahad
Dr. A. D. Shinde College of Engineering
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Dean Academics

Name of Examiners

Prof. I. T. Patel. -

Prof. S. S. Patel.
27/4/25

Signature with date

	<p style="text-align: center;">Dinkarrao K. Shinde Smarak Trusts</p> <p style="text-align: center;">DR.A. D. SHINDE COLLEGE OF ENGINEERING.</p> <p style="text-align: center;">Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502</p> <p style="text-align: center;">Department of Electrical Engineering</p> <p style="text-align: center;">Academic Year 2024-25</p>	
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Project Diary 2024-2025


ROLL No	PRN	Student Name	Group	Guide	Topic Name
1	2022078860	PATIL SHRAVAN S. ALIAS SHEKHAR	EEO1	Dr. Vireshkumar Mathad	Design and performance analysis of KCL and KVL laboratory kit
2	2021073440	PATIL KARAN NITIN			
3	2022086369	SUTAR AVADHUT GANAPATI			
4	2022086495	HUJARE RANJEET RANGARAO			
5	2022085721	KAMBLE ROHIT RAJAN	EEO2	Prof. Amar Bandekar	Design and performance analysis of Ohm's law laboratory kit
6	2022078741	PATIL VIVEK SUNIL			
7	2022086468	KOTHAVALA VIJAY VASANT			
8	2022078739	KAMBLE SHRUTIKA HANMANT			
9	2022078767	DANG VINAY VISHWANATH	EEO3	Prof. S. C. Gandh	Design and performance analysis of power measurement using two wattmeter method laboratory kit
10	2022078799	DESAI SHRADDHA PANDURANG			
11	2021072353	PATIL RUSHIKESH RAMESH			
12	2021073469	KITTUR ABHISHEK VINAY			
13	2022086449	THANEKAR MANASI DILIP	EEO4	Prof. S. C. Killedar	Design and performance analysis of measurement of R, L and C laboratory kit
14	2021073460	PEDNEKAR RAHUL			
15	2021072386	SHINDE PRASHANT			
16	2021073467	DESAI ARPITA SAMBAJI			
17	2022086450	REGADE MOHINI MAHADEV	EEO5	Prof. A. S. Boragave	Design and performance analysis of lamp characteristics verification laboratory kit
18	2022087180	MALI PALLAVI DILIP			
19	2021072385	JADHAV SOURABH DHANAJI			
20	2022086368	SARASWATI DAVARI			
21	2021072360	DHABALE ASMITA MARUTI	EEO6	Prof. Basavaraj Angadi	Design and performance analysis of one lamp from two place and one lamp from three place laboratory kit
22	2021072388	SANAGAR SAMARTH VIJAY			
23	2021072375	PARLE DIGVIJAY SATAPPA			
24	2022086453	Komal J Patil			

DR. A. D. SHINDE COLLEGE OF ENGINEERING, BHADGAON, GADHINGLAJ**DEPARTMENT OF CIVIL ENGINEERING****PROJECT GROUPS : 2024-25**

Sr. No.	Group No.	PRN No.	STUDENT NAME	PROJECT NAME	GUIDE NAME
1	CE-01	2021072908	BHOSALE AVINASH TUKARAM	Comparative Study of Design of Water Tank with reference to IS:3370	MR. A. S. MADKARI (8600230152)
2		2022087146	BHAT VAISHNAVI NETAJI		
3		2021072784	BIRAJDAR MADHAV SUDHAKAR		
4		2021072087	CHAVAN AKSHAY RAMU		
5		2021072122	SHENDE VIKAS SARJERAO		
6	CE-02	2021072851	CHAVAN RUTWIK RAGHUNATH	Partial Replacement of Cement with Biochar	MR. S. R. WADAGULE (9970035875)
7		2022084716	CHAVAN SANTOSH DHANAJI		
8		2021072045	CHOPADE INDRAKUMAR RAMESH		
9		2021072794	DESAI AJINKYA ANNASAHEB		
10		2022084994	GURAV ADITYA RAJENDRA		
11	CE-03	2022086488	DESAI PRUTHVIRAJ DATTATRAY	Electricity Generation from Solid Waste	MS. P. S. SHIRAGAVI (9850083107)
12		2021072221	DESAI ROHIT MAHENDRA		
13		2022087016	DESAI SURAJ NARAYAN		
14		2022087305	PATIL RAHUL SHIVGOUDA		
15		2022086781	DHULUGADE PRATHAMESH SANJAY		
16	CE-04	2022086516	GAWADE MAYURI MASHNU	Climate Impact on Water Resources	MR. V. S. PATIL (8308842332)
17		2022086532	GHAVARE AMOL ASHOK		
18		2021072646	HAJARE SWAPNIL ASHOK		
19		2022086755	INGALE SHIVRAJ JAYSING		
20		2021072347	KOKITKAR SANTOSH VIJAY		
21	CE-05	2022087063	JADHAV VAIJAYANTIMALA CHANDRA	Parametric Study on Structural Behaviour of Mast/Transmission Towers & also Design of Connections	MR. A. S. MADKARI (8600230152)
22		2020075906	KAMBLE BHUSHAN BABAN		
23		2022078764	KAMBLE HARISH EKNATH		
24		2022087061	KAMBLE MAHESH BALU		
25		2022078968	KULKARNI ANIRUDDHA UMESH		
26	CE-06	2022085641	KUMBHAR KRISHNAT RAGHUNATH	Experimental Study on Behaviour of Concrete by using Rice husk & Weld slag	MR. S. R. WADAGULE (9970035875)
27		2022087105	LOHAR SHIRISH ASHOK		
28		2021071974	MASKAR PAVAN RAJENDRA		
29		2022086483	MATIWADD MANASI ANIL		
30	CE-07	2022085254	MORBALE SHUBHAM VILAS	Study of Traffic Volume & its Safety measures on National Highway	MR. R. V. SAVYANAVAR (7887590731)
31		2021072055	SAWANT AVISHKAR HINDURAO		
32		2021071860	MORE SANKET GANAPATI		
33		2022085174	NANDUDKAR SHUBHAM SHIVAJI		
34		2022086742	NARATAVADEKAR VINAYAK DEELIP		
35	CE-08	2021071885	PAKHANE ROHIT HIRAMAN	Green Energy & Indoor Technologies for Smart Building	MS. P. S. SHIRAGAVI (9850083107)
36		2021071903	PALASULE PRATHAMESH DAYANAND		
37		2022086472	PANORI MAHESHANAND MAHADEV		
38		2022086511	PATIL ABHIRAJ ANNASAHEB		
39		2022086786	PATIL AMRUTA KRISHNAT		

40	CE-09	2022086496	PATIL ANIKET JAYSING	Study on Fiber Reinforced Concrete with M-Sand	MS. V. V. CHOUGULE (7887590731)
41		2021073418	PATIL KETAN NAGESH		
42		2022086382	PATIL RASIKA MANOHAR		
43	CE-10	2022086969	PATIL SAMARJEET SUJITKUMAR	Soil Stabilisation by using Lime & Fly ash	MR. R. V. SAVYANAVAR (7887590731)
44		2022086703	PATIL SANDHYA NAMDEV		
45		2022086533	PATIL SANKET SUBHASH		
46		2022085516	PATIL SHRIDHAR YASHVANT		
47		2022086797	POWAR SATYAJIT SHASHIKANT		
48	CE-11	2022084534	RANE RAHUL NIVRITI	Innovative Technologies for Water Conservation in Warming Climate	MR. V. S. PATIL (8308842332)
49		2022087020	SARAVADE MILIND ANANDA		
50		2021071920	SHAIKH SAJID RAJMAHMAD		
51		2020076371	SUTAR VISHAL DHANAJI		
52		2021072840	TAMBEKAR VINAYAK DATTATRAY		
53	CE-12	2021074343	GAWAS DNYANESHWAR DATTU	Visual Analysis & Structural Audit	MS. V. V. CHOUGULE (7887590731)
54		2021072091	KAMBLE AKASH DATTATRAY		
55		2022086734	SANGAR PRATIK RAJENDRA		
56		2022086975	KORGAONKAR SANKET ANIL		




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 A/o. Bhadgaon, Gadhinglaj.



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DR. A. D. SHINDE COLLEGE OF ENGINEERING

Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502

Department of Civil Engineering

Academic Year 2024-25

CERTIFICATE

This is to certify that Project titled "Road Safety Audit On National Highway 40 From Nandyal To Kurnool" is a bonafide work of


Mr. Vinayak Deelip Naratavadekar (PRN: 2022086742)

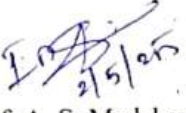
Mr. Shubham Shivaji Nandudkar (PRN: 2022085174)

Mr. Shubham Vilas Morbale (PRN: 2022085254)

Mr. Sanket Ganapati More (PRN: 2021071860)

This project report fulfills the academic requirements prescribed for the award of Bachelor of Technology degree in Civil Engineering during the academic year 2024-25.


Prof. R. V. Savyanavar
Guide


Prof. A. S. Madakari
Head of Department


Dr. Vireshkumar G. Mathad
Dean Academic
Dr.A.D.Shinde College of Engineering
Bhadgaon, Tal. Gadhinglaj, Dist. Kolhapur

Name of Examiners *Mrs. Patil S.S.*

Signature with date *S. S. Patil*
02/05/25



Dinkarrao K. ShindeSmarak Trusts

DR.A. D. SHINDE COLLEGE OF ENGINEERING.

Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin: 416502

Department of Civil Engineering

Academic Year 2024-25

CERTIFICATE

This is to certify that Project titled "Experimental Study of Concrete Canvas" is a bonafide work of


Mr. Krishnat R. Kumbhar (PRN: 2022085641)


Mr. Shirish A. Lohar (PRN: 2022087105)

Mr. Pavan R. Maskar (PRN: 2021071974)

Miss. Manasi A. Matiwadd (PRN: 2022086483)

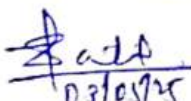
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Prof. S. R. Wadagule
Guide


Prof. A. S. Madakari
Head of Department


Dr. Vireshkumar G. Mathad
Dean Academic
Dr.A.D. Shinde College of Engineering
Bhadgaon, Tal. Gadhinglaj, Dist. Kolhapur

Name of Examiners **Mr. Patil V.S.**

Signature with date 
03/05/25

Dinkarrao K. Shinde Smarak Trusts

DR. A. D. SHINDE COLLEGE OF ENGINEERING

Bhadgaon, Gadhinglaj, Dist: Kolhapur Pin:416502

Department of Civil Engineering

Academic Year 2024-25



CERTIFICATE

*This is to certify that Project titled "**CLIMATIC IMPACT ON WATER RESOURCES**" is a bonafide work of*

Mr. Shivraj J. Ingale

PRN:2022086755

Mr. Amol A. Ghavare

PRN:2022086532

Ms. Mayuri M. Gawade

PRN:2022086516

Mr. Swapnil A. Hajare

PRN:2021072646

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Prof. V. S. Patil
Guide

Prof. A. S. Madakari
Head of Department

Dr. V. G. Mathad
Dean Academics

Dean Academic

**Dr.A.D.Shinde College of Engineering
Bhadgaon, Tal. Gadhinglaj, Dist. Kolhapur**

Name of Examiners **Mr. Patil V.S.**

Signature with date **08/05/25**

Dinkarrao K. Shinde Smarak Trusts

DR. A. D. SHINDE COLLEGE OF ENGINEERING

Bhadgaon, Gadhinglaj, Dist: Kolhapur Pin: 416502

Department of Civil Engineering

Academic Year 2024-25



CERTIFICATE

*This is to certify that Project titled "**ELECTRICITY GENERATION FROM SOLID WASTE**" is a bonafide work of*

Mr. Pruthviraj D. Desai

PRN:2022086488

Mr. Prathmesh S. Dhulugade

PRN:2022086781

Mr. Rahul S. Patil

PRN:2022087305

This project report fulfills the academic requirements prescribed for the award of Bachelor of Technology degree in Civil Engineering during the academic year 2024-25.

Prof. Ms. P. S. Shiragavi
Guide

Prof. A. S. Madakari
Head of Department

Dr. V. G. Mathad
Dean Academics

Name of Examiners **Mr. Patil V.S.**

Signature with date **Patil**
03/05/25

Dinkarrao K. Shinde Smarak Trusts
DR. A. D. SHINDE COLLEGE OF ENGINEERING.
Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502
Department of Civil Engineering
Academic Year 2024-25



CERTIFICATE

This is to certify that Project titled "**LOW WEIGHT SUSTAINABLE CONCRETE WITH BAGASSE ASH**" is a bonafide work of

Miss. Vaishnavi N. Bhat

PRN: 2022087146


Mr. Avinash T. Bhosale

PRN: 2021072908

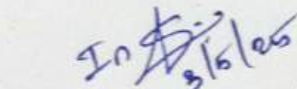
Mr. Madhav S Birajdar

PRN :2021072784

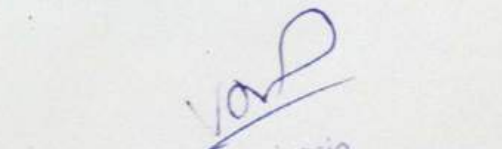
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Prof. A.S. Madakari

Guide

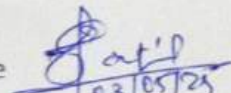

Prof. A.S. Madakari

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Dean Academics
Dr. A. D. Shinde College of Engineering
Bhadgaon, Gadhinglaj, Dist. Kolhapur

Name of Examiners **Mr. Patil V.S.**

Signature with date


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Bhadgaon, Gadhinglaj, Dist: Kolhapur Pin:416502

Department of Civil Engineering

Academic Year 2024-25

CERTIFICATE

This is to certify that Project titled "Tunnel Formwork Technology" is a bonafide work of

Mr. Indrakumar R. Chopade

(PRN: 2021072045)

Mr. Ajinkya A. Desai

(PRN: 2021072794)

Mr. Santosh D. Chavan

(PRN: 2022084716)

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Prof. S/R. Wadagule
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Dr. V. G. Mathad
Dean Academics

Dean Academic

**Dr.A.D.Shinde College of Engineering
Bhadgaon, Tal. Gadhinglaj, Dist. Kolhapur**

Name of Examiners **Mr. Patil U.S.**

Signature with date
23/05/25



Dinkarrao K. Shinde Smarak Trusts

DR. A. D. SHINDE COLLEGE OF ENGINEERING

Bhadgaon, Gadhinglaj, Dist: Kolhapur Pin:416502

Department of Civil Engineering

Academic Year 2024-25

CERTIFICATE

This is to certify that Project titled "Green Energy and Indoor Technology for Smart Buildings" is a bonafide work of

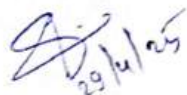
Mr. Maheshanand Mahadev Panori (PRN: 2022086472)

Mr. Abhiraj Annasaheb Patil (PRN: 2022086511)

Mr. Prathemesh Dayanand Palsule (PRN: 2021071903)

Mr. Rohit Hiranman Pakhane (PRN: 2021071885)

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29/11/25

Prof. Pooja S. Shiragavi
Guide


29/11/25

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Head of Department



Dr. Vireshkumar G. Mathad
Dean Academics

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Bhadgaon, Tal. Gadhinglaj, Dist. Kolhapur

Name of Examiners *Mr. Patil S. S.*

Signature with date *Dr. A. D. Shinde*
10/11/25



Dinkarrao K. Shinde Smarak Trusts
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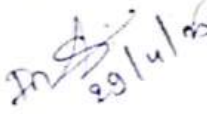
CERTIFICATE


This is to certify that Project titled "Study On Fiber Reinforced Concrete With M-Sand" is a bonafide work of

Miss. Amruta Krishnat Patil	(PRN: 2022086786)
Miss. Rasika Manohar Patil	(PRN: 2022086382)
Mr. Aniket Jaysing Patil	(PRN: 2022086496)
Mr. Ketan Nagesh Patil	(PRN: 2021073418)
Mr. Dnyaneshwar Dattu Gawas	(PRN: 2021074343)

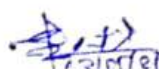
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Prof. Ketakee Gurav
Guide


Prof. A. S. Madakari
Head of Department


Dr. Vireshkumar G. Mohad
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Dr. A. D. Shinde College of Engineering
Bhadgaon, Tal. Gadhinglaj, Dist. Kolhapur

Name of Examiners *Mr. Patil S.S.*

Signature with date 
12/07/24

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DR. A. D. SHINDE COLLEGE OF ENGINEERING

Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502

Department of Civil Engineering

Academic Year 2024-25



CERTIFICATE

This is to certify that Project titled "Innovative Technologies for Water Conservation in Warming Climate" is a Bonafide work of

Mr. VINAYAK D. TAMBEKAR **PRN:2021072840**

Mr. VISHAL D. SUTAR **PRN:2020076371**

Mr. SAJID R. SHAIKH **PRN:2021071920**

Mr. MILIND A. SARAVADE **PRN:2022087020**

Mr. RAHUL N. RANE **PRN:2022084534**

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Dr. V. G. Mathad
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Dean Academic

Dr.A.D.Shinde College of Engineering
Bhadgaon, Tal. Gadhinglaj, Dist. Kolhapur

Name of Examiners **Mr. Patil V.S.**

Signature with date
03/05/25

**DR. A. D. SHINDE COLLEGE OF ENGINEERING, BHADGAON, GADHINGLAJ****DEPARTMENT OF CIVIL ENGINEERING****PROJECT GROUPS : 2024-25**

Sr. No.	Group No.	PRN No.	STUDENT NAME	PROJECT NAME	GUIDE NAME
1	CE-01	2021072908	BHOSALE AVINASH TUKARAM	Comparative Study of Design of Water Tank with reference to IS:3370	MR. A. S. MADKARI (8600230152)
2		2022087146	BHAT VAISHNAVI NETAJI		
3		2021072784	BIRAJDAR MADHAV SUDHAKAR		
4		2021072087	CHAVAN AKSHAY RAMU		
5		2021072122	SHENDE VIKAS SARJERAO		
6	CE-02	2021072851	CHAVAN RUTWIK RAGHUNATH	Partial Replacement of Cement with Biochar	MR. S. R. WADAGULE (9970035875)
7		2022084716	CHAVAN SANTOSH DHANAJI		
8		2021072045	CHOPADE INDRAKUMAR RAMESH		
9		2021072794	DESAI AJINKYA ANNASAHEB		
10		2022084994	GURAV ADITYA RAJENDRA		
11	CE-03	2022086488	DESAI PRUTHVIRAJ DATTATRAY	Electricity Generation from Solid Waste	MS. P. S. SHIRAGAVI (9850083107)
12		2021072221	DESAI ROHIT MAHENDRA		
13		2022087016	DESAI SURAJ NARAYAN		
14		2022087305	PATIL RAHUL SHIVGOUDA		
15		2022086781	DHULUGADE PRATHAMESH SANJAY		
16	CE-04	2022086516	GAWADE MAYURI MASHNU	Climate Impact on Water Resources	MR. V. S. PATIL (8308842332)
17		2022086532	GHAVARE AMOL ASHOK		
18		2021072646	HAJARE SWAPNIL ASHOK		
19		2022086755	INGALE SHIVRAJ JAYSING		
20		2021072347	KOKITKAR SANTOSH VIJAY		
21	CE-05	2022087063	JADHAV VAIJAYANTIMALA CHANDRAKANT	Parametric Study on Structural Behaviour of Mast/Transmission Towers & also Design of Connections	MR. A. S. MADKARI (8600230152)
22		2020075906	KAMBLE BHUSHAN BABAN		
23		2022078764	KAMBLE HARISH EKNATH		
24		2022087061	KAMBLE MAHESH BALU		
25		2022078968	KULKARNI ANIRUDDHA UMESH		

26	CE-06	2022085641	KUMBHAR KRISHNAT RAGHUNATH	Experimental Study on Behaviour of Concrete by using Rice husk & Weld slag	MR. S. R. WADAGULE (9970035875)
27		2022087105	LOHAR SHIRISH ASHOK		
28		2021071974	MASKAR PAVAN RAJENDRA		
29		2022086483	MATIWADD MANASI ANIL		
30	CE-07	2022085254	MORBALE SHUBHAM VILAS	Study of Traffic Volume & its Safety measures on National Highway	MR. R. V. SAVYANAVAR (7887590731)
31		2021072055	SAWANT AVISHKAR HINDURAO		
32		2021071860	MORE SANKET GANAPATI		
33		2022085174	NANDUDKAR SHUBHAM SHIVAJI		
34		2022086742	NARATAVADEKAR VINAYAK DEELIP		
35	CE-08	2021071885	PAKHANE ROHIT HIRAMAN	Green Energy & Indoor Technologies for Smart Building	MS. P. S. SHIRAGAVI (9850083107)
36		2021071903	PALASULE PRATHAMESH DAYANAND		
37		2022086472	PANORI MAHESHANAND MAHADEV		
38		2022086511	PATIL ABHIRAJ ANNASAHEB		
39	CE-09	2022086786	PATIL AMRUTA KRISHNAT	Study on Fiber Reinforced Concrete with M-Sand	MS. V. V. CHOUGULE (7887590731)
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41		2021073418	PATIL KETAN NAGESH		
42		2022086382	PATIL RASIKA MANOHAR		
43	CE-10	2022086969	PATIL SAMARJEET SUJITKUMAR	Soil Stabilisation by using Lime & Fly ash	MR. R. V. SAVYANAVAR (7887590731)
44		2022086703	PATIL SANDHYA NAMDEV		
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47		2022086797	POWAR SATYAJIT SHASHIKANT		
48	CE-11	2022084534	RANE RAHUL NIVRITI	Innovative Technologies for Water Conservation in Warming Climate	MR. V. S. PATIL (8308842332)
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Dinkarrao K. Shinde Smarak Trusts

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Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502

Department of Civil Engineering

Academic Year 2024-25



CERTIFICATE

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Mr. VINAYAK D. TAMBEKAR **PRN:2021072840**

Mr. VISHAL D. SUTAR **PRN:2020076371**

Mr. SAJID R. SHAIKH **PRN:2021071920**

Mr. MILIND A. SARAVADE **PRN:2022087020**

Mr. RAHUL N. RANE **PRN:2022084534**

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Prof. V. S. Patil
Guide

Prof. A. S. Madakari
Head of Department

Dr. V. G. Mathad
Dean Academics
Dean Academic

Dr.A.D.Shinde College of Engineering
Bhadgaon, Tal. Gadhinglaj, Dist. Kolhapur

Name of Examiners **Mr. Patil V.S.**

Signature with date
03/05/25




Dinkarrao K. Shinde Smarak Trusts
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Bhadgaon, Gadhinglaj, Dist: Kolhapur Pin:416502
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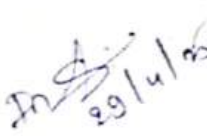
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Mr. Ketan Nagesh Patil	(PRN: 2021073418)
Mr. Dnyaneshwar Dattu Gawas	(PRN: 2021074343)

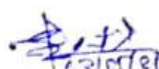
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CERTIFICATE

This is to certify that Project titled "Green Energy and Indoor Technology for Smart Buildings" is a bonafide work of

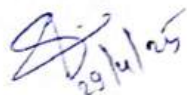
Mr. Maheshanand Mahadev Panori (PRN: 2022086472)

Mr. Abhiraj Annasaheb Patil (PRN: 2022086511)

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Guide


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Head of Department



Dr. Vireshkumar G. Mathad
Dean Academics

Dr. A. D. Shinde College of Engineering
Bhadgaon, Tal. Gadhinglaj, Dist. Kolhapur

Name of Examiners *Mr. Patil S. S.*

Signature with date *Dr. A. D. Shinde*
10/11/25



Dinkarrao K. Shinde Smarak Trusts

DR. A. D. SHINDE COLLEGE OF ENGINEERING.

Bhadgaon, Gadhinglaj, Dist: Kolhapur Pin:416502

Department of Civil Engineering

Academic Year 2024-25

CERTIFICATE

This is to certify that Project titled "Tunnel Formwork Technology" is a bonafide work of

Mr. Indrakumar R. Chopade

(PRN: 2021072045)

Mr. Ajinkya A. Desai

(PRN: 2021072794)

Mr. Santosh D. Chavan

(PRN: 2022084716)

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Dean Academic

**Dr.A.D.Shinde College of Engineering
Bhadgaon, Tal. Gadhinglaj, Dist. Kolhapur**

Name of Examiners **Mr. Patil U.S.**

Signature with date

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Department of Civil Engineering
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PRN: 2022087146

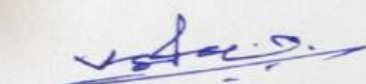
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PRN: 2021072908

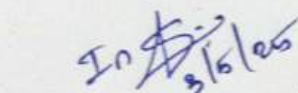
Mr. Madhav S Birajdar

PRN :2021072784


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Prof. A.S. Madakari

Guide

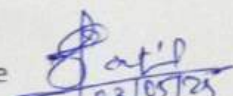

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Dr. Vireshkumar G. Mathad
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Name of Examiners **Mr. Patil V.S.**

Signature with date


03/05/25

Dinkarrao K. Shinde Smarak Trusts

DR. A. D. SHINDE COLLEGE OF ENGINEERING

Bhadgaon, Gadhinglaj, Dist: Kolhapur Pin: 416502

Department of Civil Engineering

Academic Year 2024-25



CERTIFICATE

*This is to certify that Project titled "**ELECTRICITY GENERATION FROM SOLID WASTE**" is a bonafide work of*

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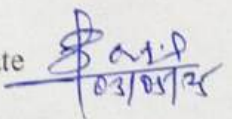
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Academic Year 2024-25

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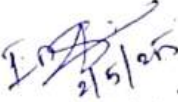
Mr. Shubham Shivaji Nandudkar (PRN: 2022085174)

Mr. Shubham Vilas Morbale (PRN: 2022085254)

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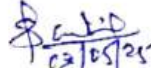
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Department of Civil Engineering

Academic Year 2024-25



CERTIFICATE

*This is to certify that Project titled "**CLIMATIC IMPACT ON WATER RESOURCES**" is a bonafide work of*

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Department of Civil Engineering

Academic Year 2024-25

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This is to certify that Project titled "Experimental Study of Concrete Canvas" is a bonafide work of


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Mr. Pavan R. Maskar (PRN: 2021071974)

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Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502

Academic Year 2024-25



Laboratory Details



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Tal. Gadhinglaj, Dist. Kolhapur

Certificate

This is to certify that

Mr./Ms. Shubhangi Chandrakant Karval Roll No. 31

(PRN 2024063719) of second year B.Tech

in Electronics & Computer Science Engineering has satisfactorily

completed the termwork in the course electronic circuit for

the academic year 20 24 to 20 25 of semester- 4th as prescribed in the syllabus.

Exam Seat No. 3605

Date : 9/4/25

Place: Bhadgaon

S. Bhoi
09/04/25
Course Co-ordinator

B. Band
HOD
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Seal of
Institution

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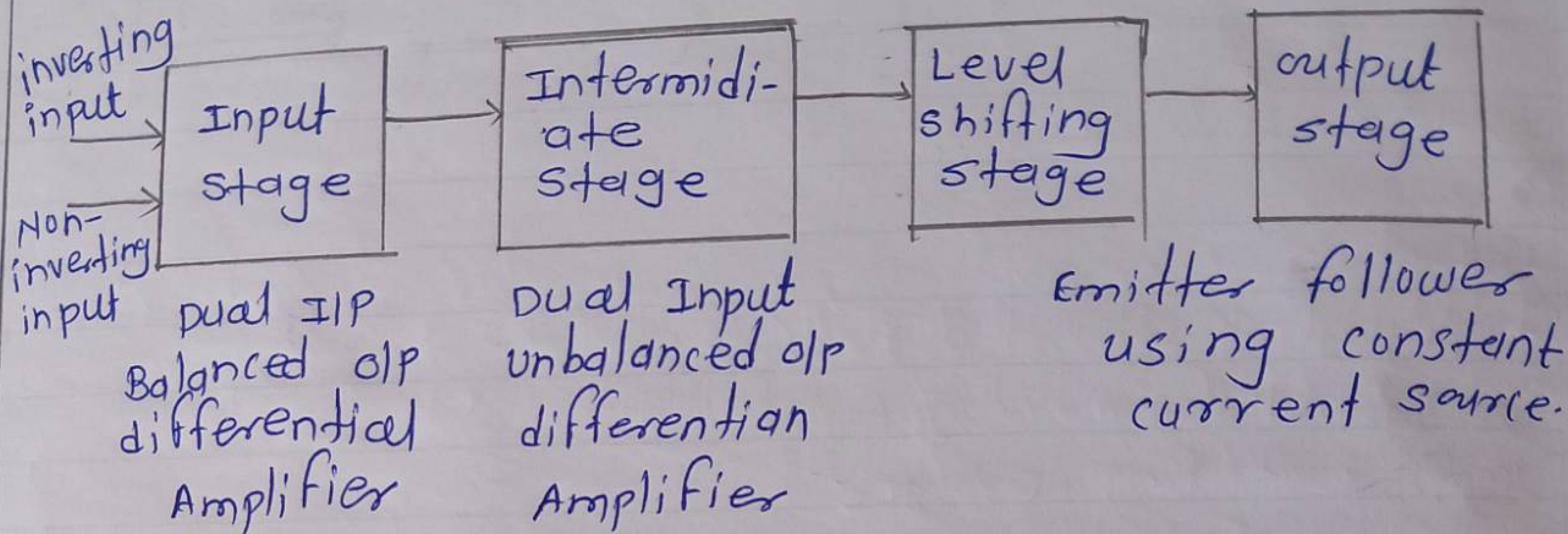
INDEX

Sr. No.	Name of experiment	Date	Page No.	Marks	Sign
1.	Study of operational Amplifier	3/01/25	1-3	9	<u>Q.Bhroli</u>
2.	Design of non-inverting Amplifier & their frequency response	10/01/25	4-6	9	<u>Q.Bhroli</u>
3.	Design of summing Amplifier	17/01/25	7-9	9	<u>Q.Bhroli</u>
4.	Design, build & test precision half & full wave rectifier	24/01/25	10-16	9	<u>Q.Bhroli</u>
5.	Design of Butterworth filter	7/02/25	17-19	9	<u>Q.Bhroli</u>
6.	Design, build & test square wave generator	14/02/25	20-22	9	<u>Q.Bhroli</u>
7.	Design & build & test integrator	7/3/25	23-25	9	<u>Q.Bhroli</u>
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Experiment No : 01

Aim :- study of operation Amplifier.

• Block diagram of op-Amp



complement
semi integrated
push-pull
Amplifier

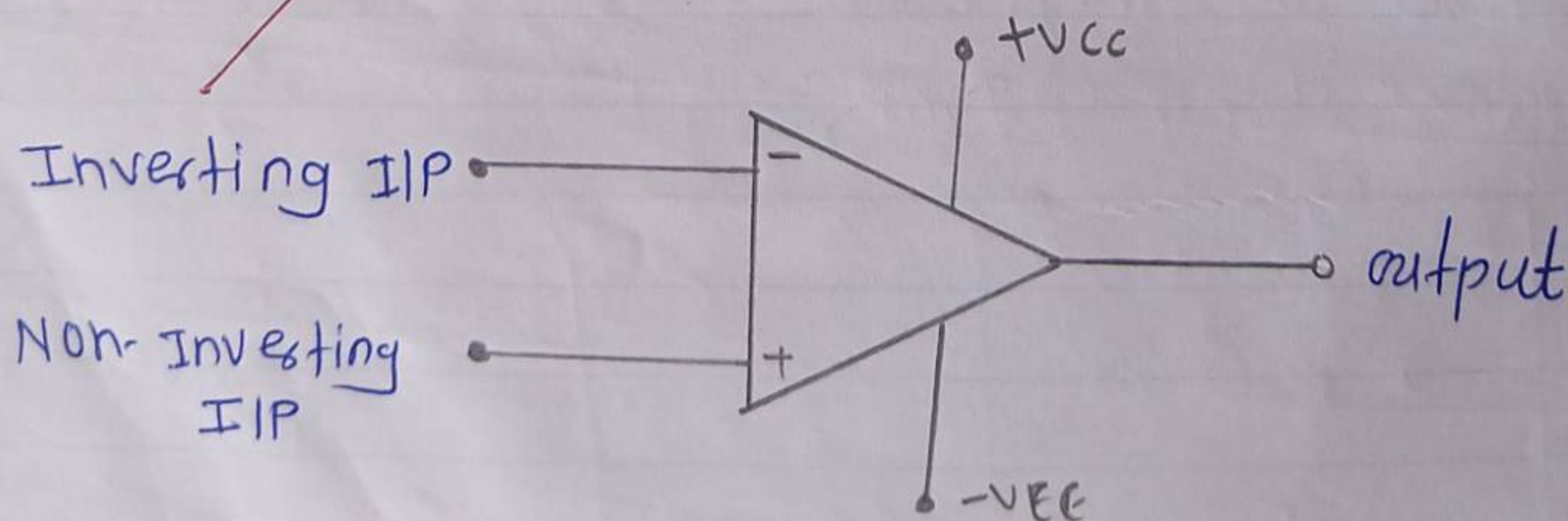
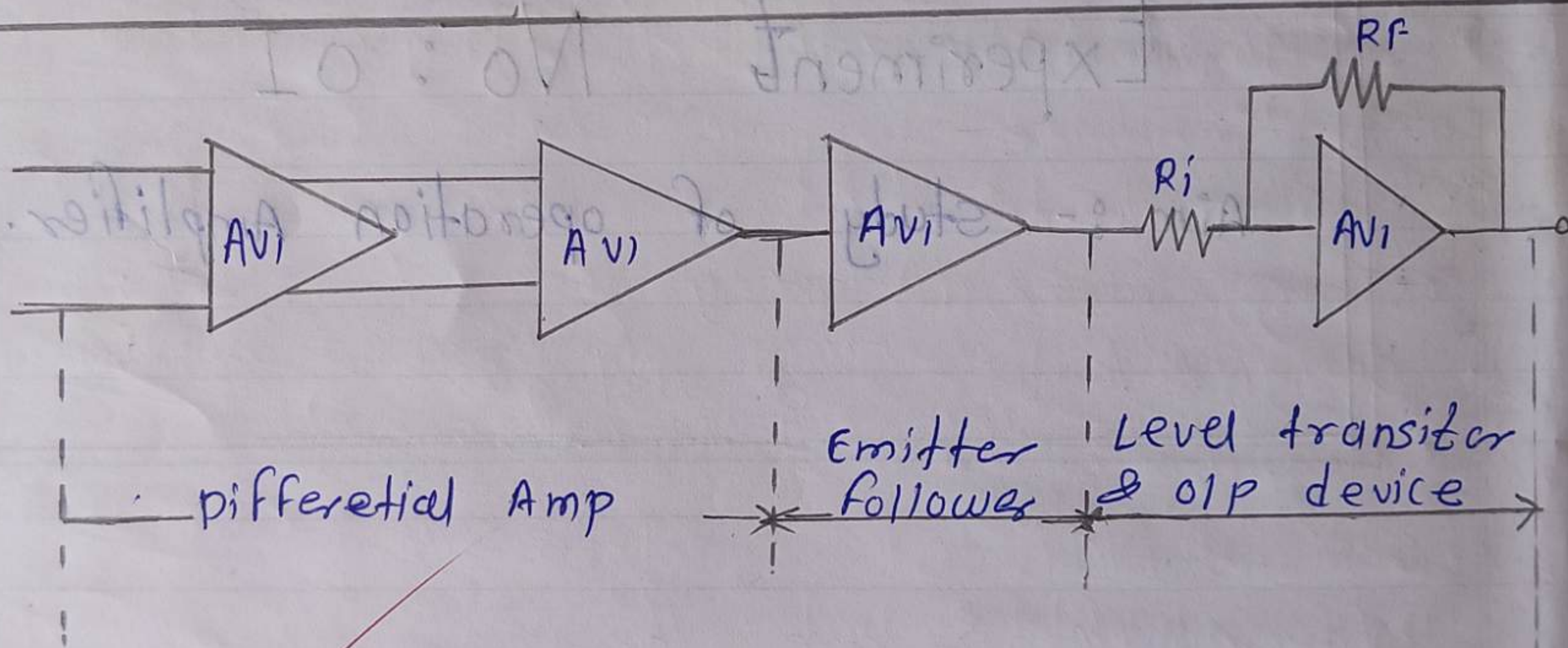


fig. schematic Representation of an op-amp

Aim :- study of operational Amplifier.

Theory :-

The operational amplifier is high gain reference direct coupled amplifier, which uses feedback to control its performance characteristics. essentially, it consists of several transistor amplifiers, it is represented by the symbol shown in figure it abbreviated as (op-amp). operational amplifier are capable of amplify controlling generating sinusoidal or non-sinusoidal waveforms over frequencies from DC to MHz & computing operations such as (addition, subtraction, multiplication & integration & differentiation). typical parameters of an op-Amp (741).

Input resistance (R_i) = $6M\Omega$

Output resistance (R_o) = $70m\Omega$

Open loop voltage gain (A) = 5000

Common mode rejection ratio (CMRR) = 90 dB

Bandwidth (B.W) = 1MHz

- Block diagram description:-

Input stage

- It is dual input balanced output differential amplifier.
- The two input are inverting & non-inverting.
- It provide most of voltage gain of op-amp & decide input resistance R_i .

Intermediate stage

- It is dual i/p unbalanced o/p differential ~~for~~.
- which is driven by the o/p of i/p stage.

Level shifting stage:-

- Give to direct coupling betⁿ the first two stage the i/p of level shifting stage is amplified signal with some non-zero DC level hence this stage used to bring DC level to zero with respect to ground

output stage

- It increase the magnitude of v_{tg} & various c/n supply capability of the op-amp & is it's provide low o/p resistance.

Conclusion

The op-Amp are the important building block in analog signal processing ckt & also find we use comparators in digital Applications.

cognitive	psychomotor skills	Affective domain	Total	sign
04	03	02	09	<u>SRBhni</u>

Non-inverting Amplifier

Experiment No :- 02

Aim :- design of inverting & non-inverting amplifier & their frequency response.

Non-inverting Amplifier

Sr No.	I/P freq ⁿ (Hz)	V_{out} (Volts)	$A = \frac{V_{out}}{V_{in}}$	Gain in dB $20 \log \left(\frac{V_{out}}{V_{in}} \right)$
1	100 Hz	2.2×2	4.4	12.86
2	3 K	2.2×2	4.4	12.86
3	20 K	2.2×2	4.4	12.86
4	60	1×2	2.4	7.60
5	80 K	1×2	2	6.02
6	100 K	0.8×2	0.6	4.08
7	300 K	1×5	0.7	-6.09
8	500 K	1.4×2	0.28	-11.05

Inverting Amplifier

Sr No.	I/P freq ⁿ (Hz)	V_{out} (Volts)	$A = \frac{V_{out}}{V_{in}}$	Gain in dB $20 \log \left(\frac{V_{out}}{V_{in}} \right)$
1	80 K	$1 \times 1 = 1V$	1	0
2	90 K	$1 \times 1 = 1V$	1	0
3	100 K	$1 \times 1 = 1V$	1	0
4	200 K	$4 \times 2 = 8$	0.8	-1.93
5	300 K	$4.6 \times 0.1 = .46$	0.46	-6.74
6	400 K	$32 \times 0.1 = .32$	0.32	-9.89
7	600 K	52×10^{-3}	0.26	-11.700
8	1 M	2.6×10^{-3}	0.13	-17.12

Aim:- Design of inverting, non-inverting & their frequency response.

Component & Equipment

Name	specification	quantity
Resistors	1k, 10k, 47k, 470	1 each
signal generator	20 MHz	1
CRO	90 MHz	1
op-amp	741	2
Dual power supply	± 12 V	1
path code	- - - - -	10

procedure i.

1. Connect power supply ± 12 V & -12 V
2. Connect 5 to 51 & 5f₂ to 5f.
3. connects a dc vty of 0.2 V as i/p & measure the o/p vty.
4. connects a sine wave from a signal generator of 100 Hz freqⁿ & 1 V peak to peak amplitude.
5. Vary the dc vty in step of 2.0 V upto 2 V & note down the o/p w/f along with the i/p w/f on the CRO.
6. observe the o/p waveform along with the i/p w/f on the CRO.
7. Note down the o/p peak to peak voltage

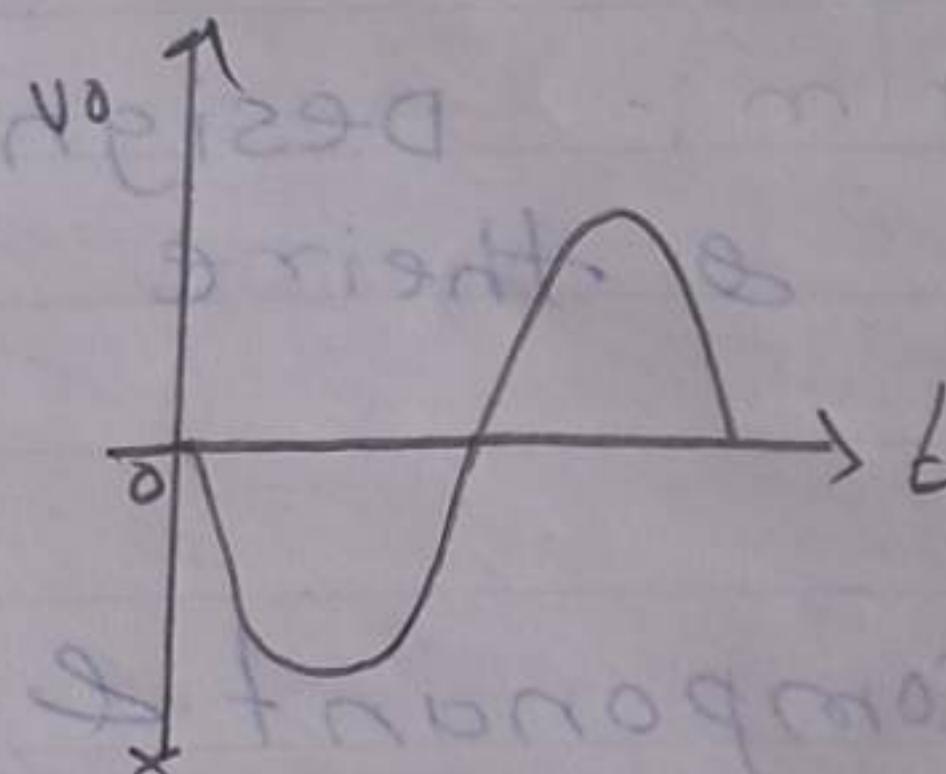
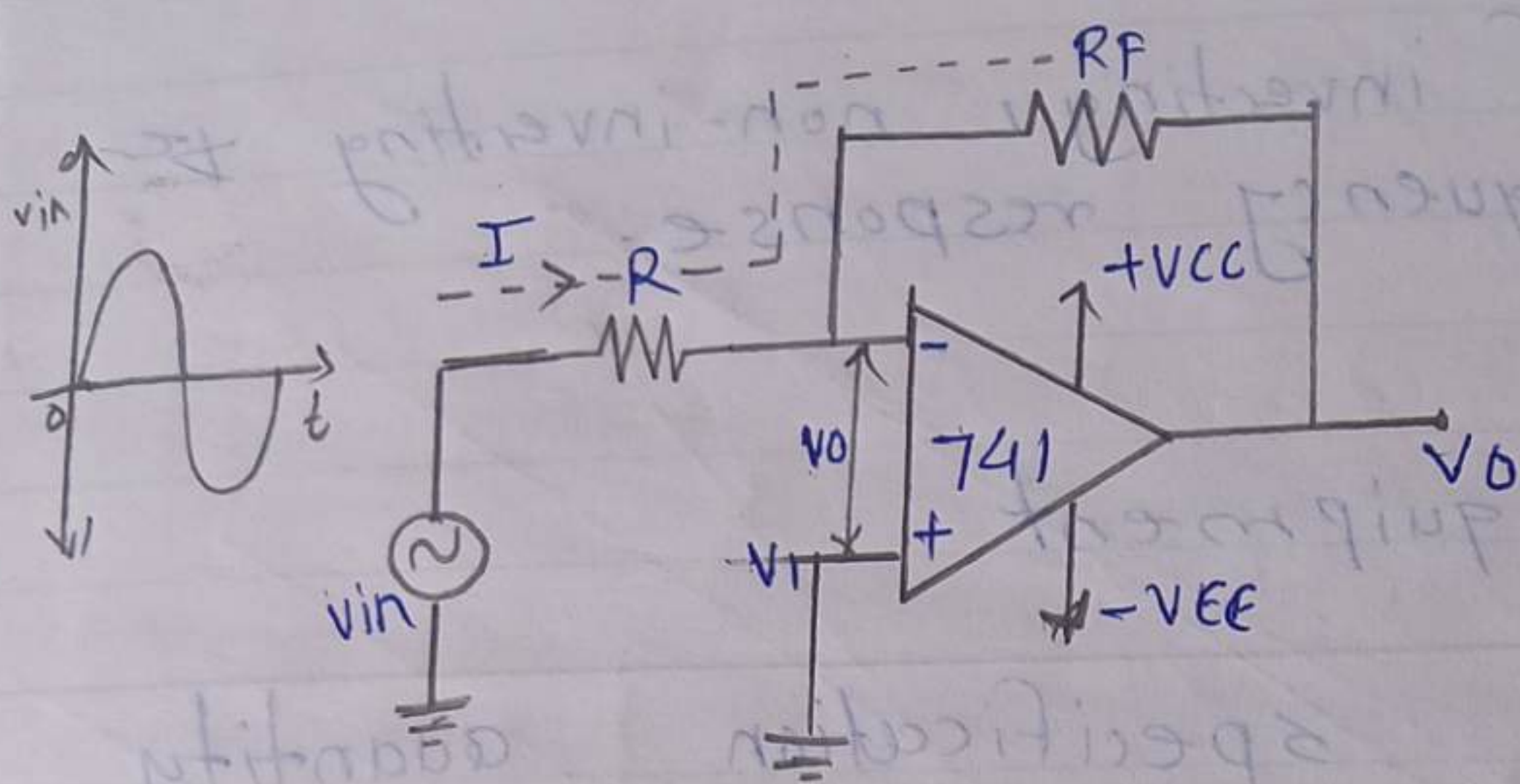


Fig (a) Inverting amplifier

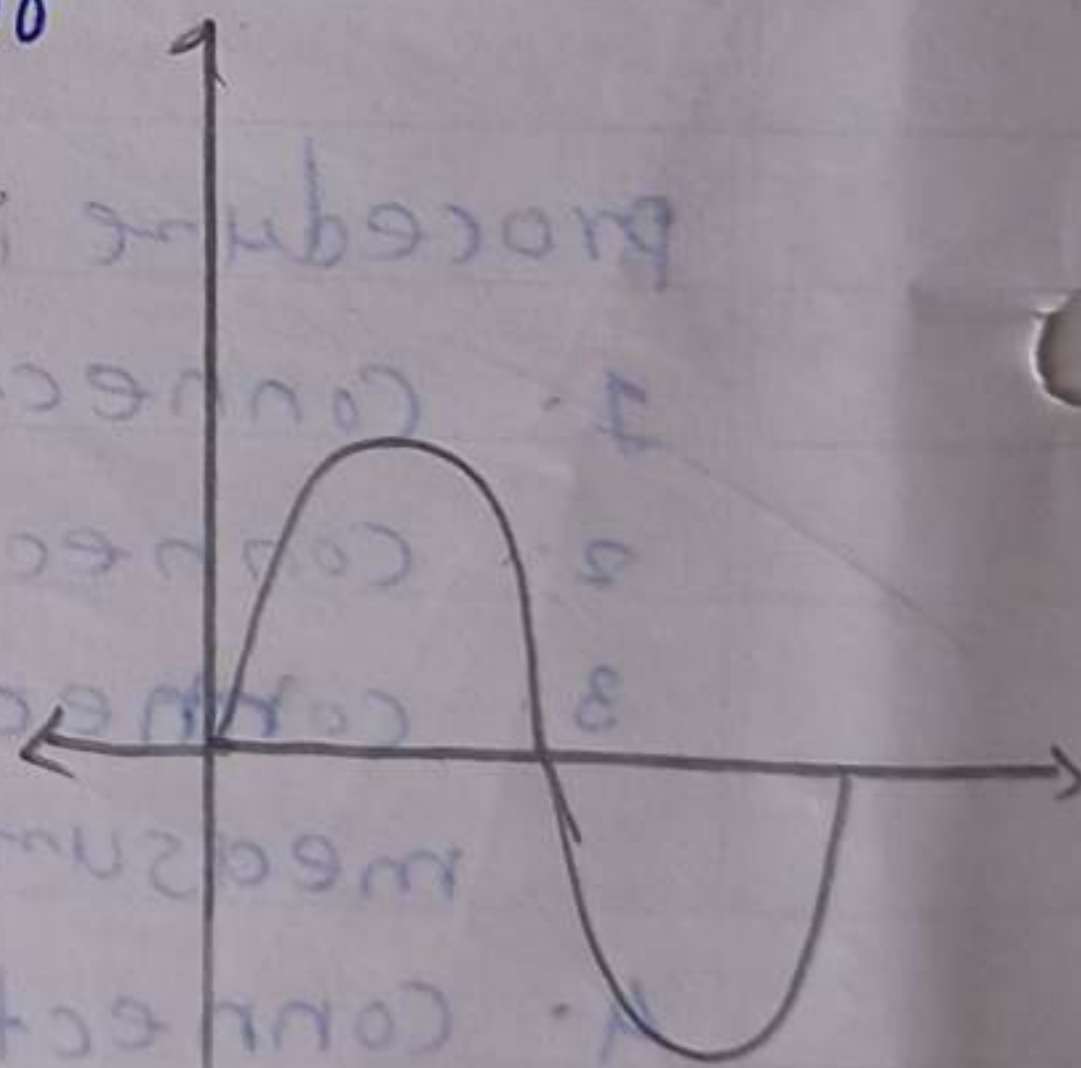
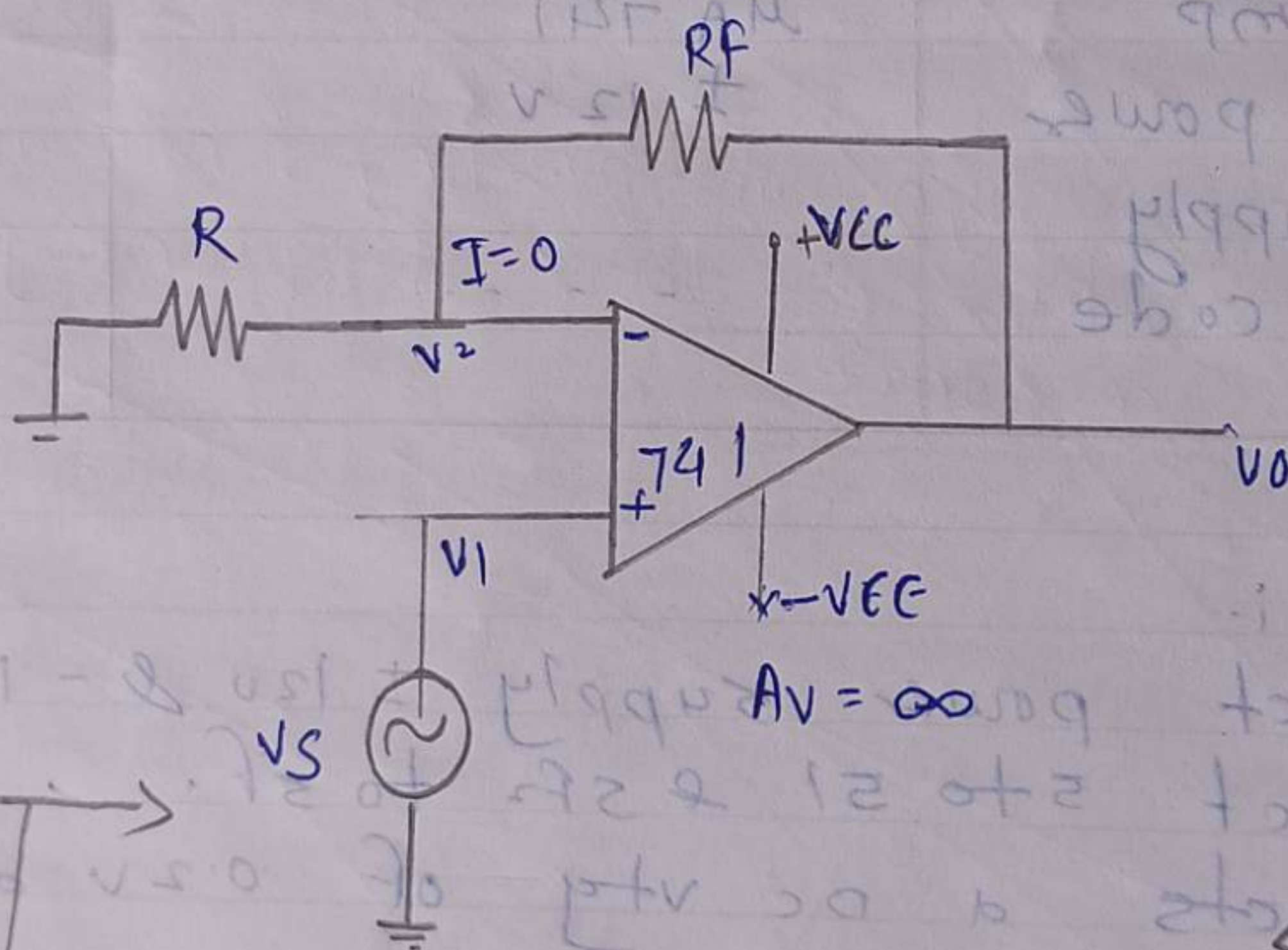


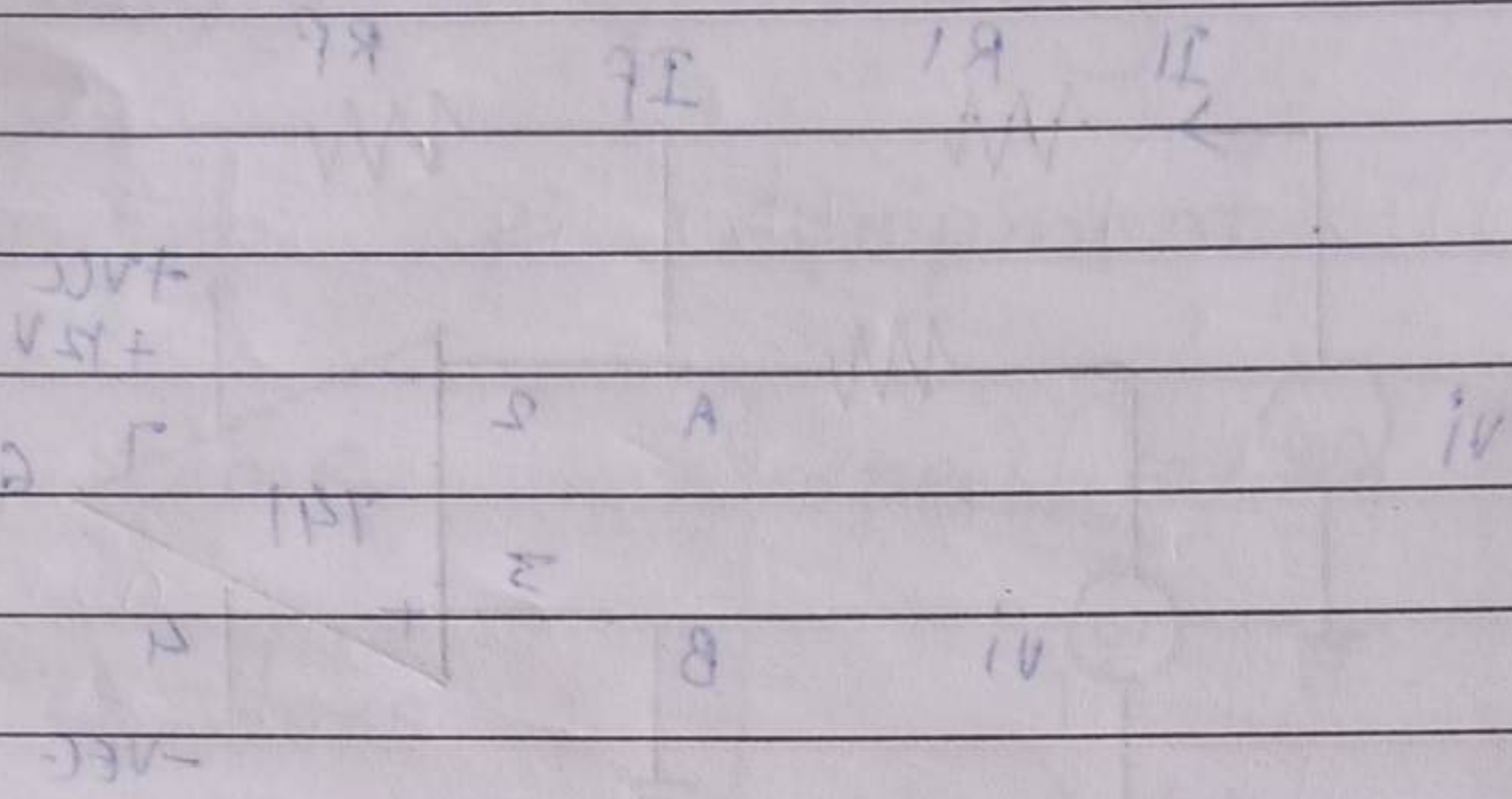
Fig (b) Non-Inverting amplifier

8. Vary the input freqⁿ upto 1 MHz in steps. Note down the o/p peak to peak voltage.
9. Tabulate the reading & draw the freqⁿ response on a log sheet.
10. observe the o/p waveform along with the i/p waveform on the cRO.
11. Draw the i/p & o/p wlf on a graph sheet.

conclusion :-

The most significant difference that an inverting introduces a phase shift of 180° betⁿ the i/o signal whereas a non-inverting amplifier has 0° phase shift (non-phase shift) betⁿ input & output signals. Both inverting & non-inverting A_{OL} use negative feedback which increases the controllability of the gain of the A_{OL} .

cognitive (4m)	psychomotor skills	Affective domain	Total	sign.
04	03	02	09	<u>88mi</u>



Experiment No :- 03

Aim :- design of summing Amplifier.

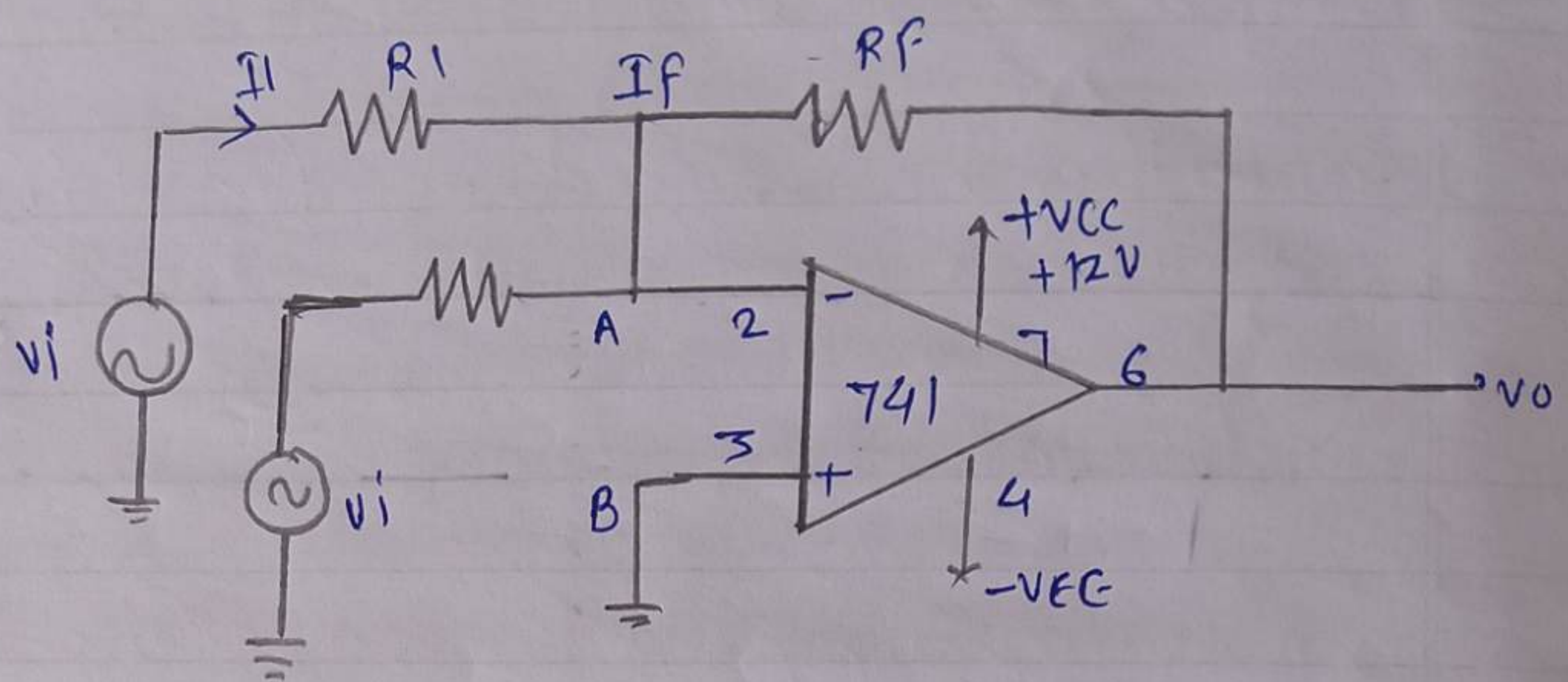
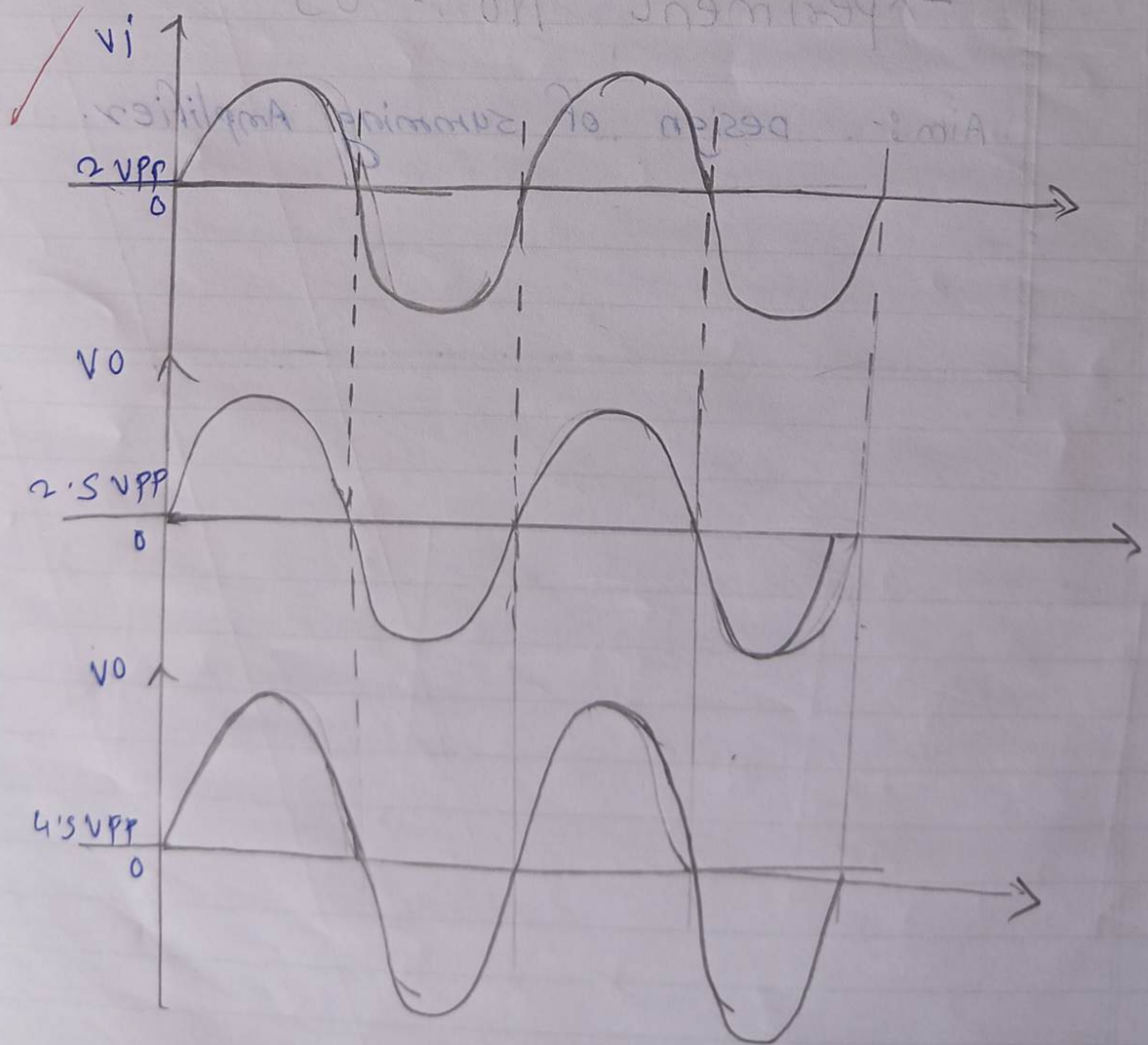


Fig. Summing Amplifier.



Aim:- design of summing amplifiers.

Components & Equipment ::

Name	specification	quantity
resistors	1K	9
signal generator	20KHz	1
CRO	50KHz	1
op-Amp	uA 741	2
path code	-----	10
dual power supply	$\pm 12V$	1

procedure

- 1] connect power supply $+12V$ & $-12V$
- 2] Given DC vtg for V_1 & V_2 input using DC power supply.
- 3] measure the vtg at the o/p using a digital multimeter & record in the table.
- 4] calculate to o/p using formula.
- 5] $V_{out} = -(R_F/R_1) * (V_1 + V_2)$

Sr No	I/P Vi	Input V _i	output practical	V _{out} theoretical
1	4	2	-3.5	-6
2	-3	2	-4.5	-5
3	6	4	-9.8	-10
4	7	7	-12	-14
5	8	7	-13	-15

5

10

1

NR 141

± 1.5V

0.9Amp

pot. code

anal power

supply

procedure

1] connect power supply +15V & -15V

2] Given DC vld for V_i & V_o input using DC power supply.

3] Measure the vld at the op using a digital multimeter & record in the table.

4] calculate the op using formula.

5] $V_{out} = - (R_1/R_2) \times (V_1 + V_2)$

- 6] Compare theoretical & observed o/p.
- 7] Repeat the procedure for different values of V_1 & V_2

Conclusion:-

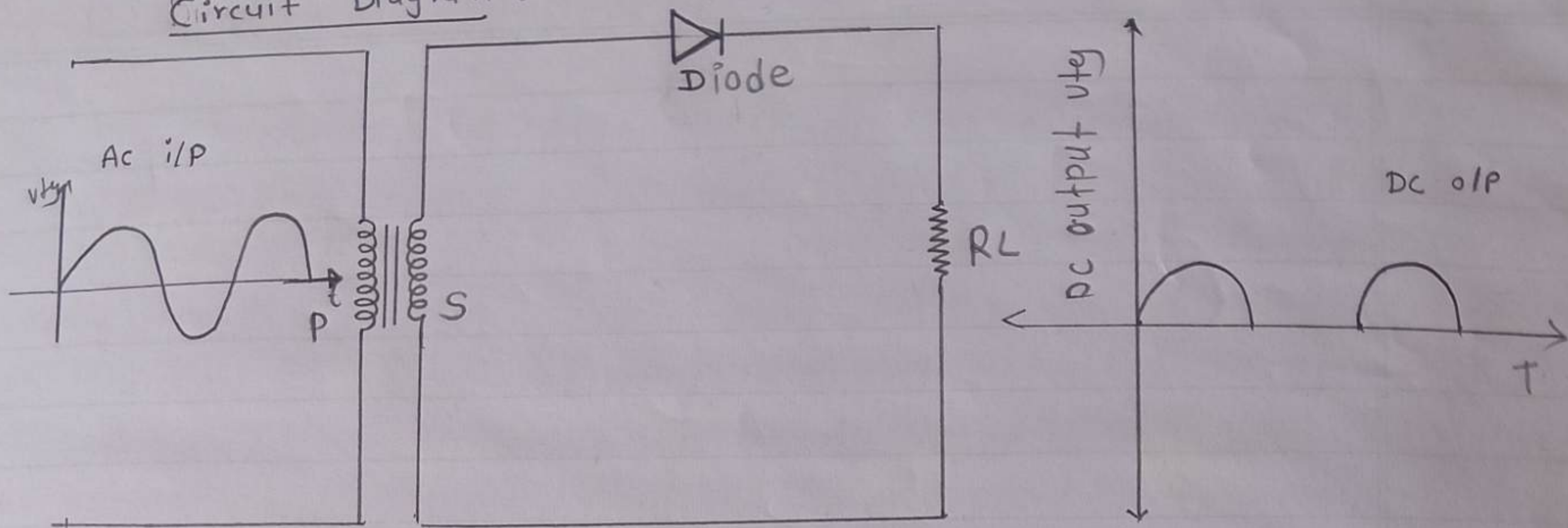
A summing ~~tr~~ can either be based on an inverting or non-inverting summing ~~tr~~ configuration. Describe signal that the noninverting summing ~~tr~~ more common as it's o/p is a simple weighted sum.

Cognitive	Psychomotoric skill	Affective domain	Total	Sign
04	03	02	09	<u>SB/ni</u>

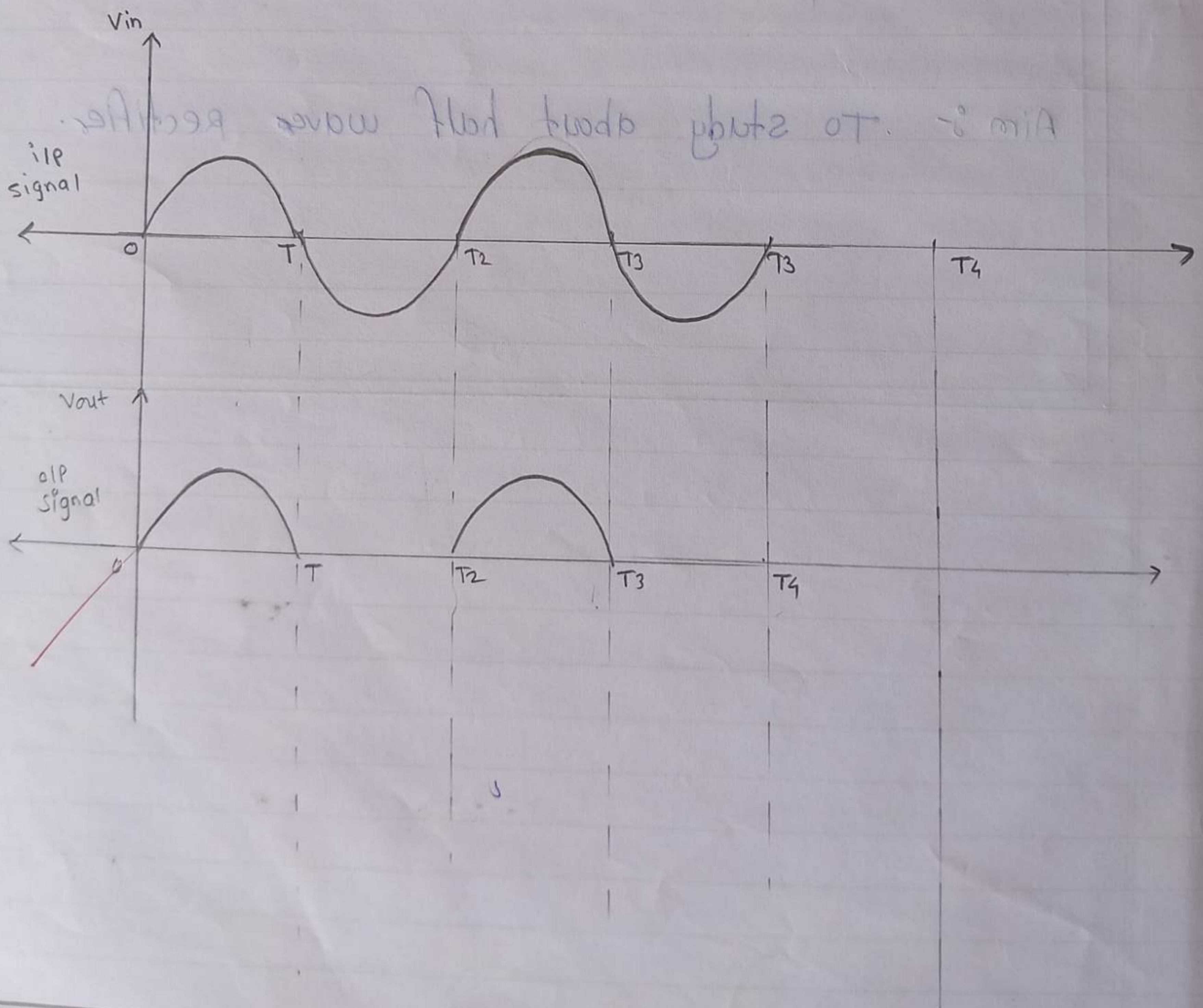
Experiment No: H

Aim :- To study about half wave rectifier.

Circuit Diagram :-



Wave form :-



Aim :- To study about the Half wave Rectifier.

Components Required :

Function generator, opo, Regulated power supply, Resistor, diode, connecting wires.

Procedure :-

1. Connect the circuit diagram as shown in the circuit diagram.
2. Give the i/p signal as specified.
3. Switch on the power supply.
4. Note down the value of AC & DC vty from the CRO.
5. Draw the necessary w/f from ~~on~~ the graph sheet.

• observation

1. ~~observed~~ the output waveform from CRO.
2. Measure the value of AC & DC voltage of the o/p w/f the CRO.
3. calculate.

1. Ripple factor

Ripple factor is defined as the ratio of effective value of AC component to the average DC value.

$$r = \sqrt{\left[\frac{V_{eff}/2}{V_{eff}/\pi} \right]^2} - 1 = 1.21$$

2. Efficiency :-

Efficiency η is the ratio of the DC O/P power to AC I/P power

$$\eta = \frac{\text{DC O/P power}}{\text{AC O/P power}} = \frac{P_{dc}}{P_{ac}} = \frac{V_{dc}^2 / R_L}{V_{rms}^2 / R_L} = 41.8\%$$

$$= 40.6 = 40.6\%$$

3. Form Factor :-
Form factor .

$$\text{Form factor} = \frac{\text{rms value}}{\text{Average value}} = \frac{\pi}{2} = 1.57$$

4. Peak Factor :-

$$\text{Peak factor} = \frac{\text{peak value}}{\text{rms value}} = \frac{V_{pT}}{(V_p^2/2)} = 2$$

Conclusion :-

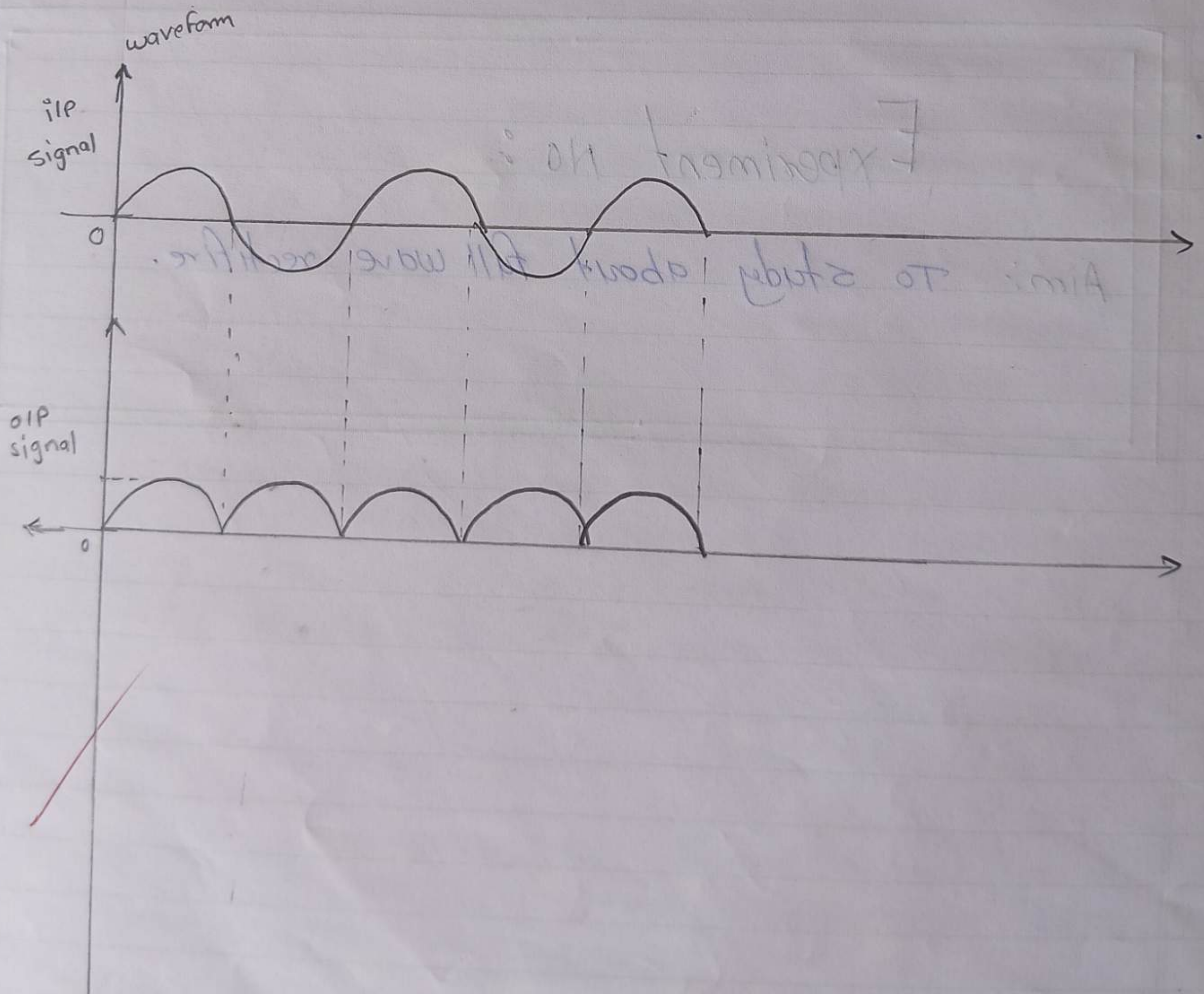
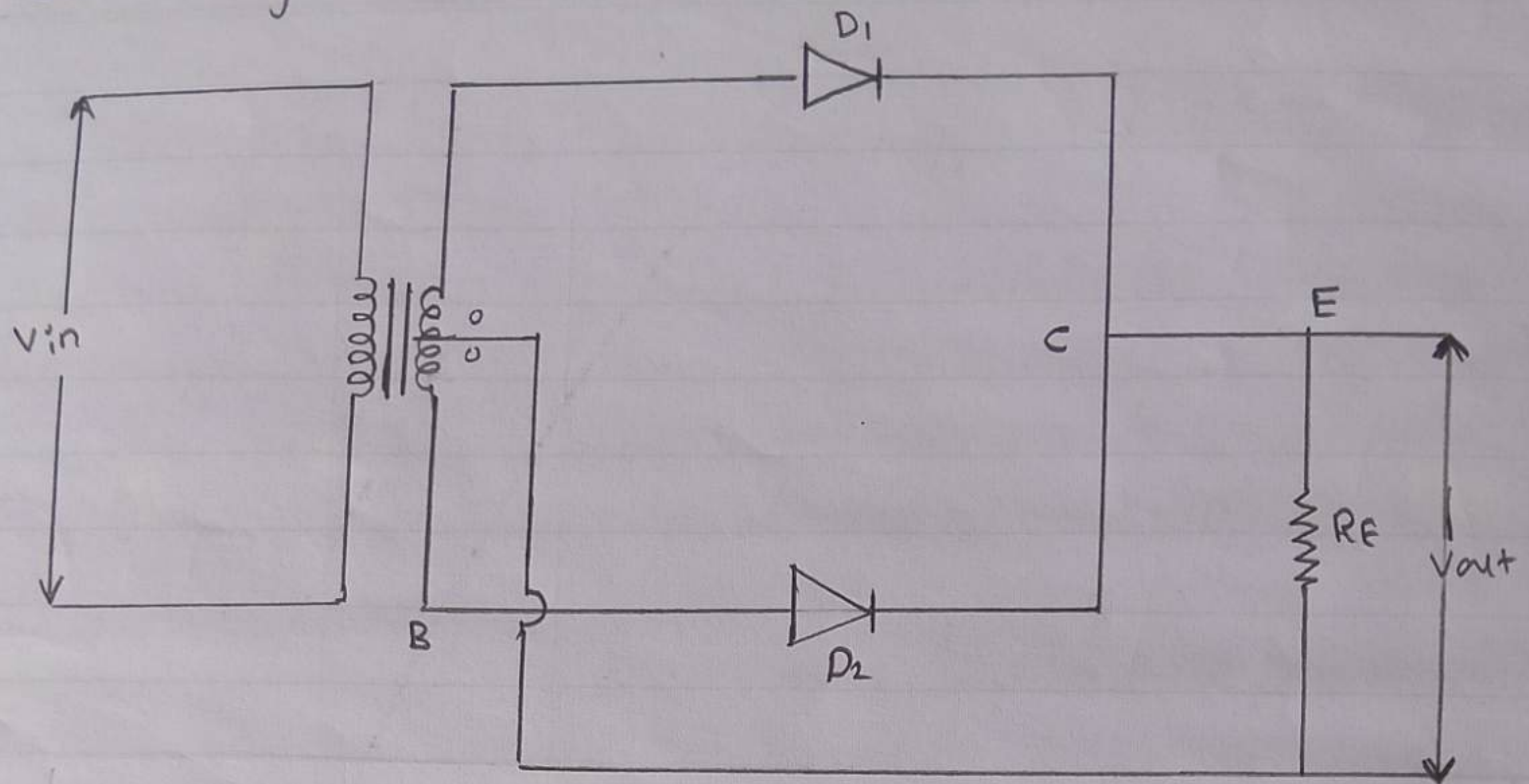
The half wave Rectifier converts AC to pulsating DC by allowing only one half-cycle it has low efficiency ($\approx 40.6\%$)

cognitive (04)	psychomotor skill (04)	Affective domain (02)	total (10)	Sign
04	03	02	09	SShoi

Experiment No :

Aim: To study about full wave rectifier.

Circuit Diagram:-



Aim :- To study about Full wave Rectifier.

Component required:

Sr no	component	specification	quantity
1.	Transformer	230V	1
2.	decade Resistance box	-----	1
3.	Diodes	By 127	02
4.	capacitors	470 μ F	01
5.	Ammeter	0-500mA	01
6.	Voltmeter	0-30V	01

Theory :-

The circuit of a center tapped full wave rectifier use two diode D_1 & D_2 . During positive Half-cycle of secondary v_{tg} , the diode D_1 is forward biased & D_2 is reverse biased.

The diode D_1 conducts & i_L flows through load resistor, R_L . During negative half cycle diode D_2 become forward biased & D_1 Reverse biased.

Procedure :-

1. Connect the ckt as shown in the circuit diagram
2. Give the i/p signal as specified.
3. Switch on the power supply.
4. Note down the value of AC & DC v_{tg} from the CRO.

5. draw the necessary waveforms on the graph sheet.

observation :-

1. observe the o/p w/f from CRO.

2. Measure the value of AC & DC vty of the o/p w/f from the CRO.

3. calculate factor :-

- Ripple factor :-

→ ripple factor is defined as the ratio of effective value of AC component to average DC value.

$$r = \sqrt{\left[\frac{V_{pt}/2}{2V_{pt}/\pi} \right]^2} = 0.482$$

2. Efficiency :-

Efficiency is the ratio of DC o/p power to AC i/p power.

$$\eta = \frac{\text{DC o/p power}}{\text{AC o/p power}} = \frac{P_{dc}}{P_{ac}}$$

$$= \frac{V_{dc}^2/RL}{V_{rms}^2/RL} = \frac{4}{\pi^2} = 400 = 40.6\%$$

3. Form factor

Form factor is defined as the ratio of RMS value of the o/p voltage to average value

$$\text{Form Factor} = \frac{\text{rms value}}{\text{average value}} = \frac{\pi/2 \sqrt{2}}{\pi/2} = 1.1$$

4. peak factor :

peak factor is defined as the ratio of the peak value of o/p v/tg to rms value of output.

$$\text{peak factor} : \frac{\text{peak value}}{\text{rms value}} = \frac{V_{PE}}{V_{PT}/\sqrt{2}} = \sqrt{2}$$

conclusion :-

The full wave rectifier converts AC to DC using both half cycles improving efficiency (~ 81.27) & reducing ripple compared to a half wave rectifier.

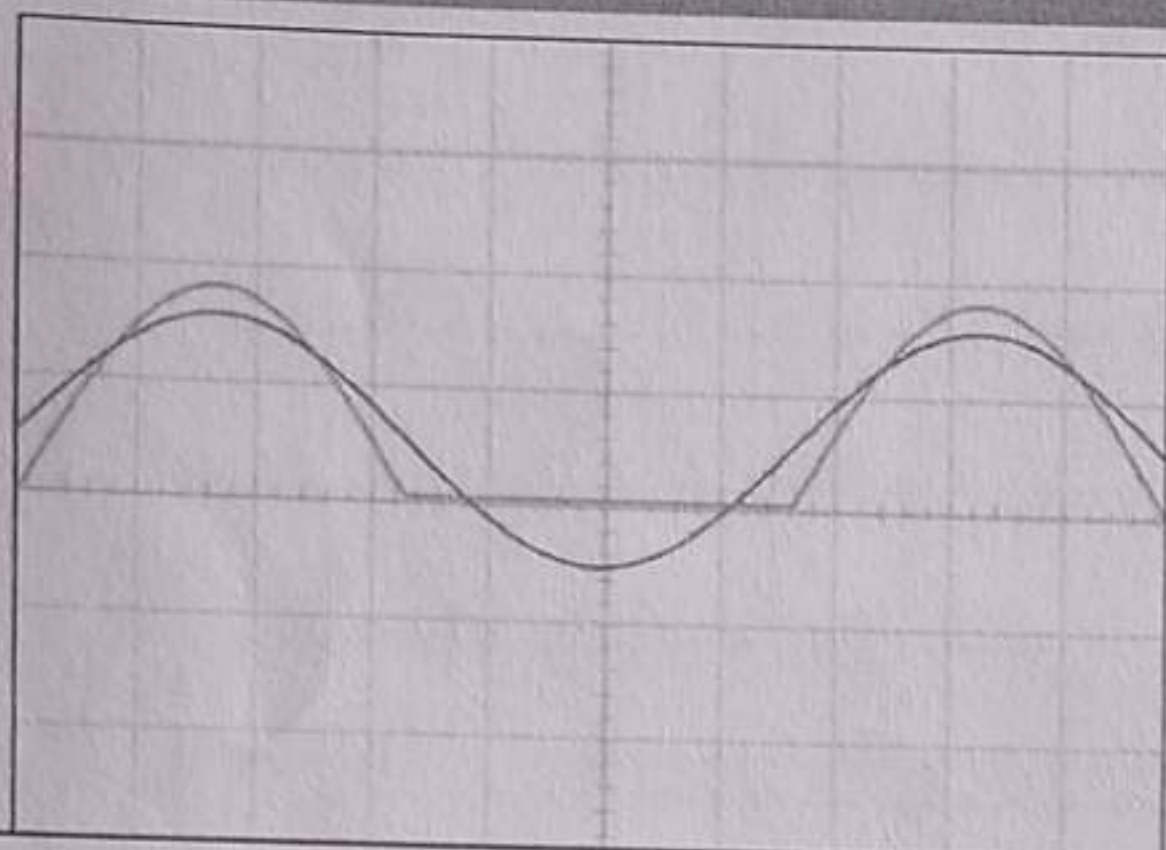
cognitive (04)	psychomotor @ Skill (04)	Affective Domain (02)	Total (10)	Sign
04	03	02	09	SBBai

Design ,build and test precision half and full wave rectifier

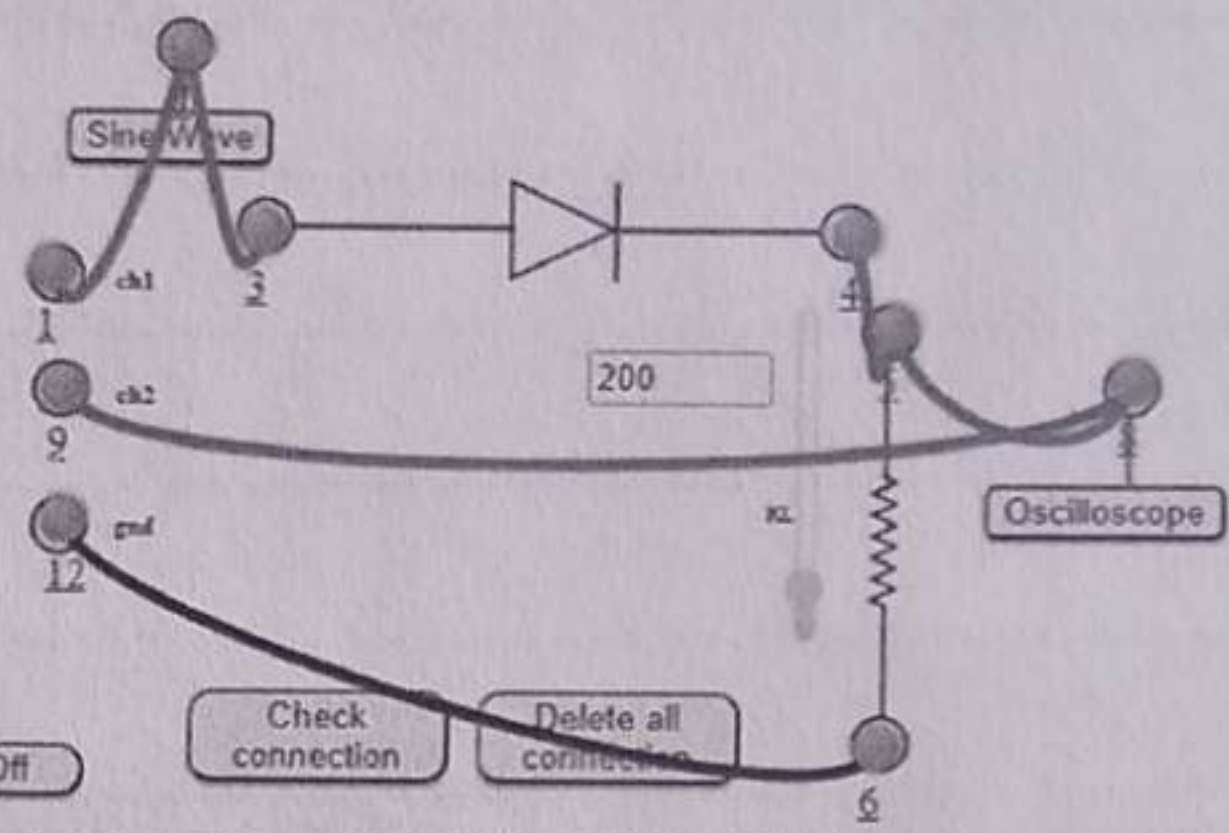
Half Wave Rectifier

INSTRUCTION

OSCILLOSCOPE



CIRCUIT



CONTROLS

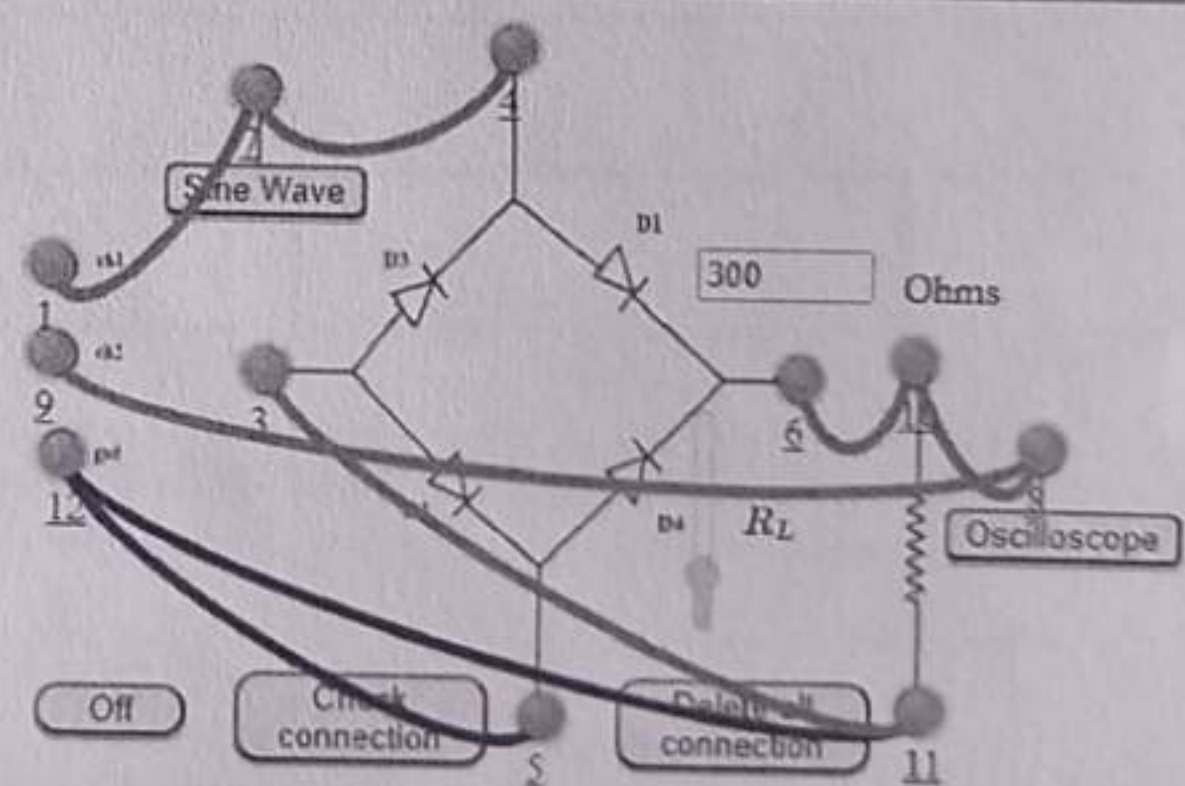
Full Wave Rectifier

INSTRUCTION

OSCILLOSCOPE



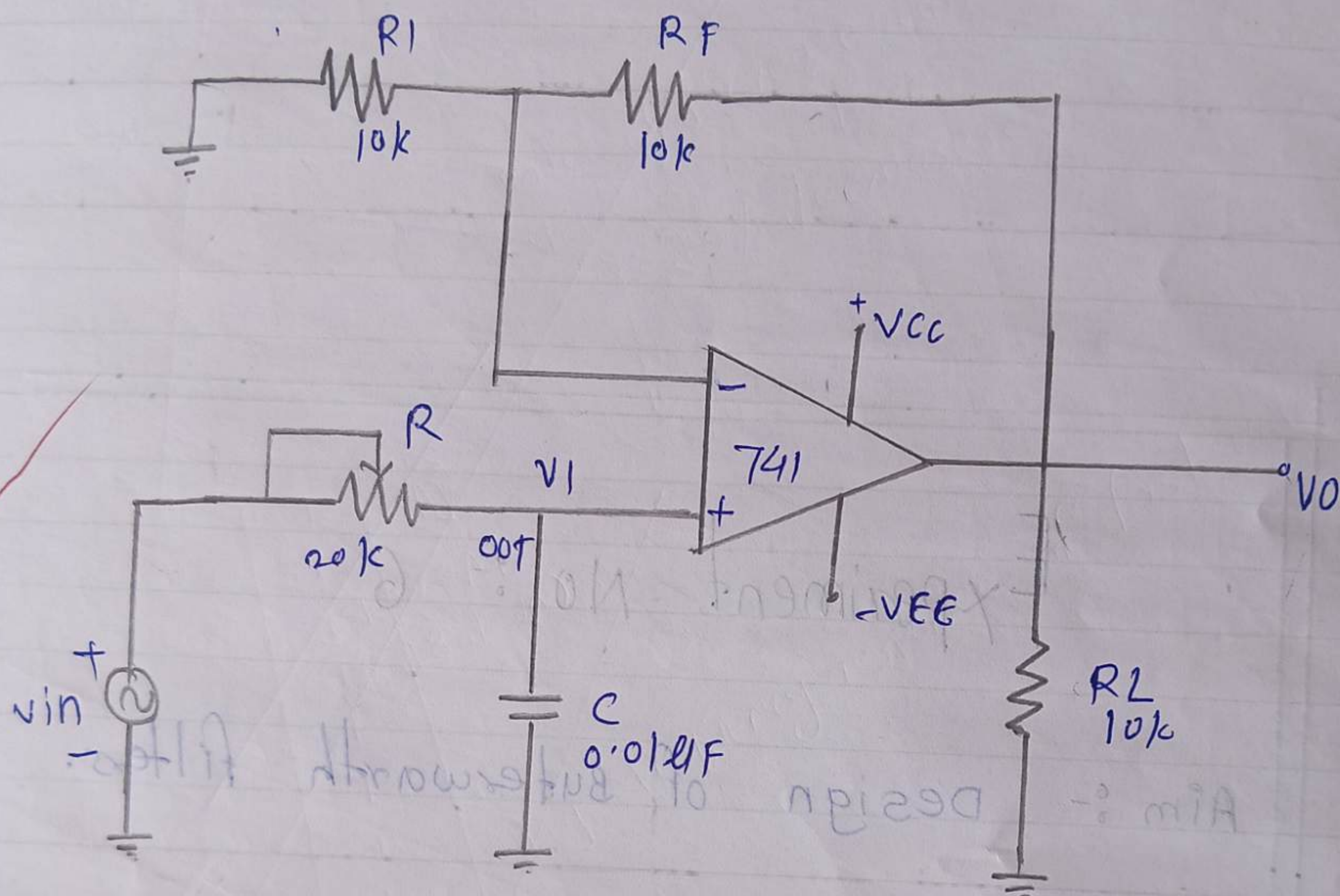
CIRCUIT



CONTROLS

Experiment No :- 6

Aim :- Design of Butterworth filter.



first order low pass Butterworth filter.

Aim: Design of Butterworth filter.

Components & Equipments:

Sl No.	Component	Specification	Quantity
1	Oscilloscope	20/30/50/MHz	1
2	Function Generator	20 MHz	1
3	Dual power supply	$\pm 12V$	1
4	op-Amp	741	1
5	Resistor	10/20k Ω	2 each
6	Capacitor	0.01 μF	2
7	CRO	80 MHz	1
8	Connecting wires	-	As per requirement.

Procedure

- 1] Test & mount the IC 741 on Breadboard.
- 2] Connect the circuit as per the ckt diagram shown.
- 3] Apply V_{TG} , $V_{CC} = +15V$ & $V_{EE} = -15V$ using DC power supply to pin no. 7 & pin no. 4 respectively.
- 4] Connect the (1 volt peak to peak, 100 Hz) sine wave i/p from function generator & observe the corresponding o/p of pin no. on CRO.
- 5] Measure the o/p V_{TG} of LPF on CRO for the applied signal in step 4.
- 6] Vary i/p signal freqn step by step as shown in observation table & note the corresponding

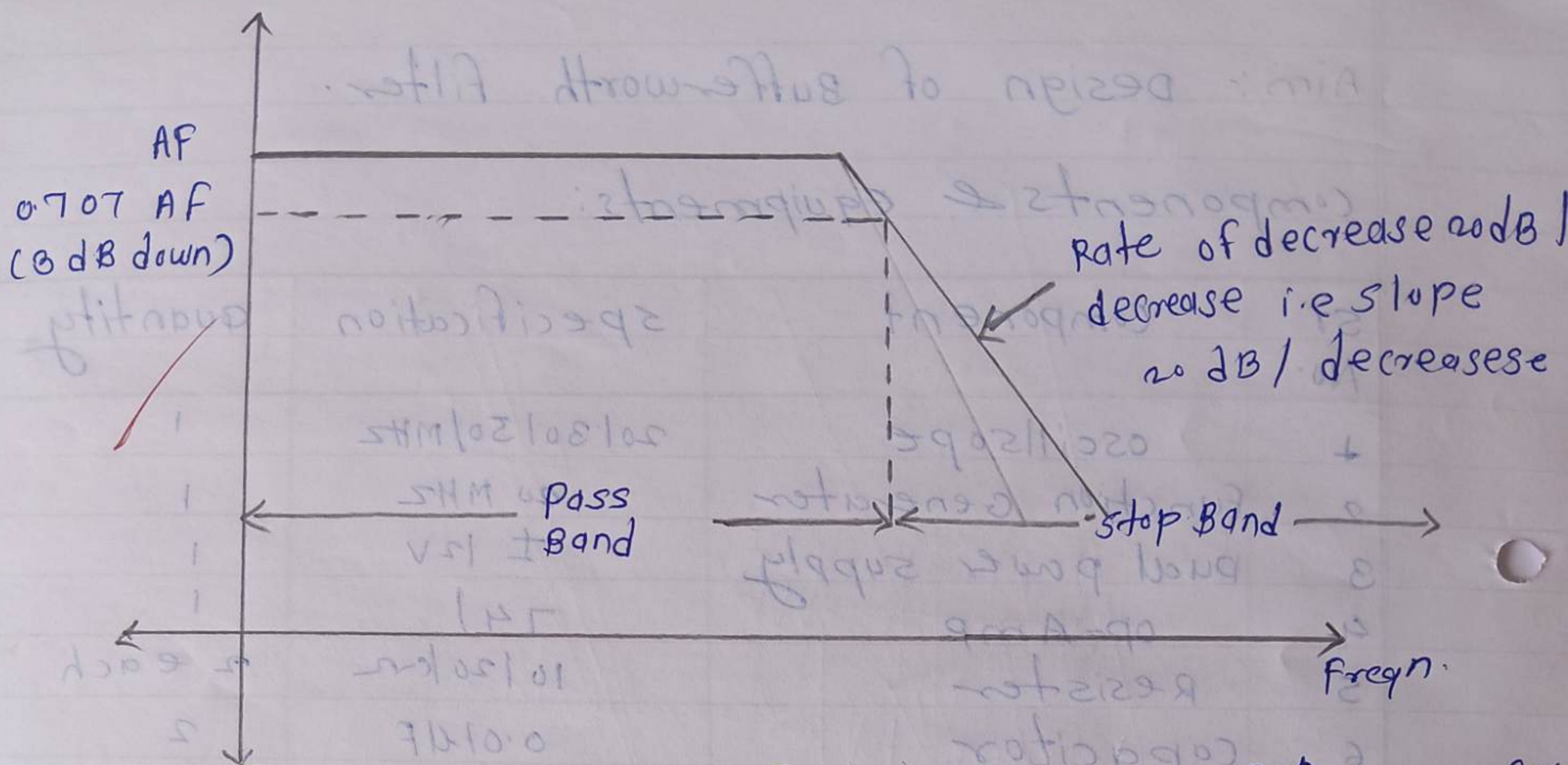


Fig. frequency response of first order Low pass Butterworth filter
 - output vtg for first order low pass buterworth filter is given by.

$$\frac{V_o}{V_{in}} = \frac{AF}{1 + j\left(\frac{F}{F_c}\right)} \quad \text{where } AF = 1 + \frac{R_F}{R_1}$$

F = frequency of the input signal (Hz)

$$F_c = \frac{1}{2\pi R_c} = \text{cut of frequ} \text{ (Hz)}$$

Magnitude of the voltage gain is given by

$$\left| \frac{V_o}{V_{in}} \right| = \frac{AF}{\sqrt{1 + \left(\frac{F}{F_c}\right)^2}}$$

output voltage:-

7] Repeat step 4 to 6 up to $f_{\text{reqn}} \pm \text{MHz}$.

8] calculate gain in decibels using formula gain in

$$\text{dB} = 20 \log_{10} \left(\frac{V_o}{V_{in}} \right)$$

9] calculate the cut off f_{reqn} therotically using formula

$$f_c = \frac{1}{2\pi R_c}$$

10] plot the frequency response on semi-log paper for f_{reqn} on x axes & gain in dB on y axes

11] Final practical out off frequency from graph plotted & compare & therotical cut off f_{reqn}

12] calculated roll off rate from graph plotted in step 10 by considering any two consecutive given values and corresponding f_{reqn} value.

13] After the completion of practical switch off the supply remove the connection & submit wires & requirement.

conclusion: The Butterworth filters is the best compromise betⁿ attenuation & phase response it has no ripple in the pass band or the stop band & because of this it is sometimes called a maximally flat filter.

Cognitive (04)	psyschamte skill (04)	Affected domain (02)	Total (90m)	sign
04	03	02	09	<u>SBbsi</u>

Experiment No : 07

Aim :- design build & test square wave generator.

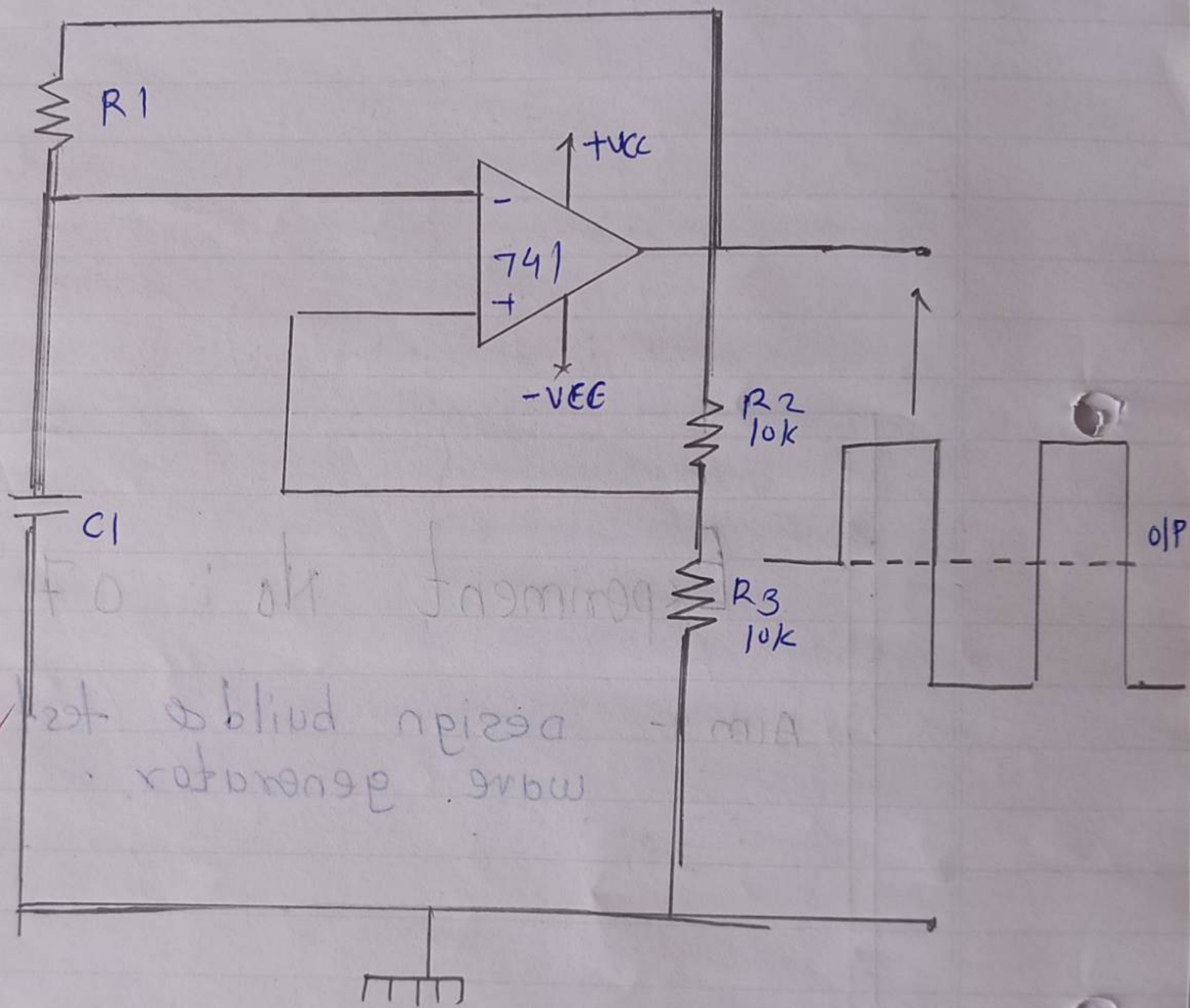


fig square wave generator .
circuit diagram

Aim:- design & Build of square wave generator.

Component & equipment

Name	specification	quantity
IC	UA 741	1
Resistors	10K, 1K	2
capacitors	0.01 μ F	1
CRO	30 MHz	1
Dual power supply	$\pm 12V$	1
connecting wire		10

Design calculation / circuit development

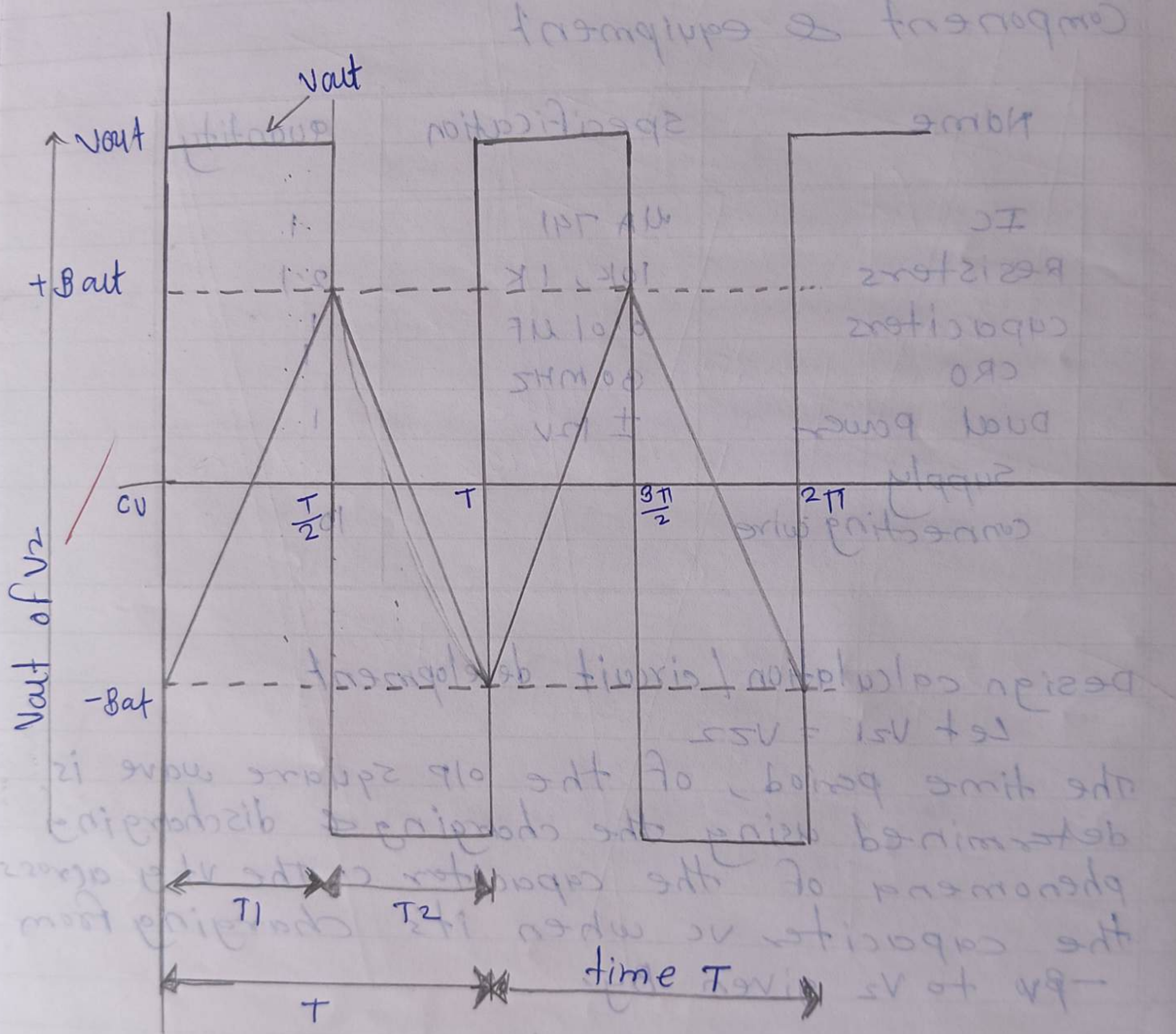
Let $V_{z1} = V_{z2}$

The time period, of the op square wave is determined using the charging & discharging phenomena of the capacitor C. The V_t across the capacitor V_C when it's charging from $-V_p$ to V_z given By,

$$V_C = (1 - (1 + \beta)e^{-T/\tau}) / 2\tau$$

where $\tau = RFC$

Project - Design & Build of a square wave generator.



output & capacitor voltage waveform

The waveforms of the capacitor voltage v_c & output v_{out} (OR v_x) are shown in fig.

when $t = t/2$

$$v_c = +\beta v_z \text{ OR } +\beta v_{out}$$

Therefore $\beta v_z = v_z (1 - C_1 + B) e^{-T/2}$

The frequency $f = 1/T$ of the square wave is independent of output voltage v_{out} . This ckt is also known as free running or astable multivibrator because it has two quasi-stable states.

conclusion:-

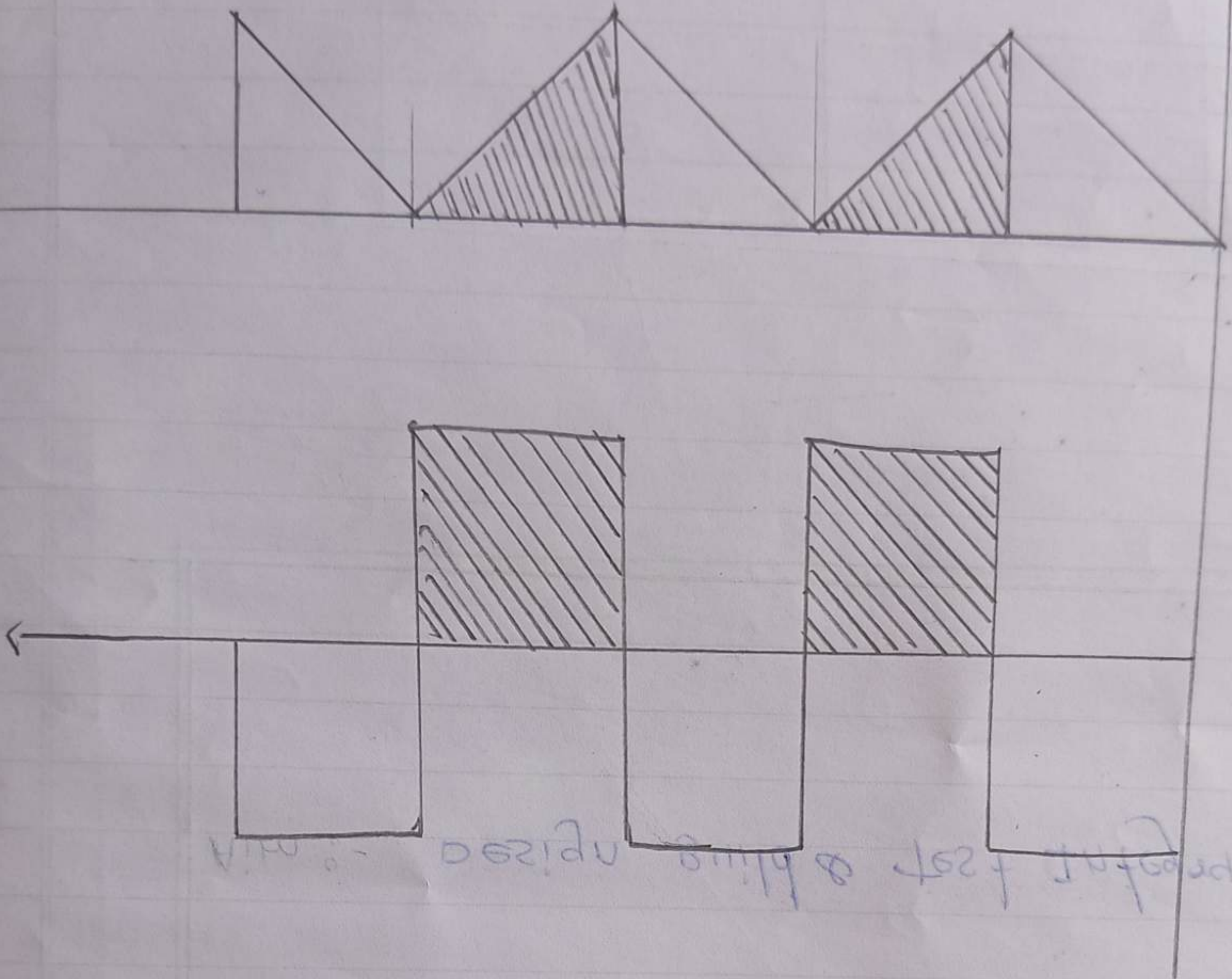
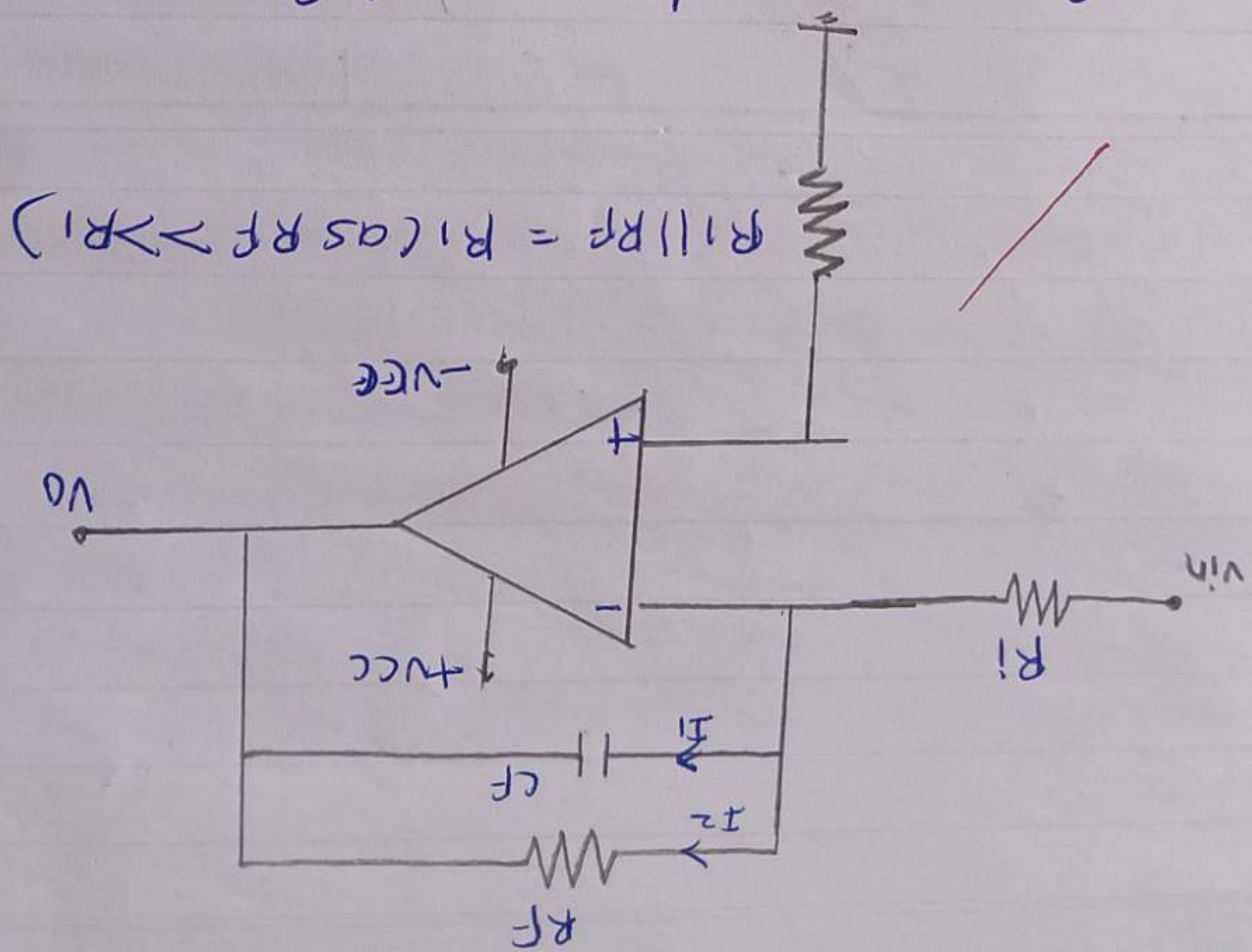
Thus the hardware & software (using Pspice) implementation was performed & was designed to create a square wave generator using op-amp 741

cognitive	psychomotor skills (04)	Affective domain (02)	Total (10)	sign.
04	03	02	09	<u>SRBhool</u>

Experiment No: 09

Aim :- Design build & test Integrator

Fig. Integrator Amplifier



Aim :- design, build & test Integrator.

components & equipments :-

Name	specification	quantity
Resistor	$1k \rightarrow 4.7k$	1 each
capacitor	$2.1mfd, 0.47mfd$	1 each
signal generator	2 MHz	1
CRO	30 MHz	1
Path cards	- - -	10

Procedure

- 1] connect I_{s1} to I_{s2} & s_2 to s_1 .
- 2] Note down the value of R & C to find out the RC time constant.
- 3] Connect the function generator at the i/p & CRO at the output.
- 4] Give the sine wave Input of frequency such that the time period of time input is much smaller the RC time constant.
- 5] observe the wave configuration at the o/p terminals on CRO in DC mode.
- 6] plot the graph of output w.r.t of integrator.
- 7] Repeat above procedure for different combination of R & C .

Conclusion :-

- An op-Amp integrator is a circuit that uses an op-amp & a capacitor to perform the mathematical operation of integration.
- It produces an output v_{tg} that is proportional to the negative integral of the i/p v_{tg} over time.

cognitive (04 m)	psychomotor skills (04 m)	Affective domain (02 m)	Total 10 m	Sign
04	03	02	09	S.B. Kori

Experiment No. 10

Aim :- Design, build & test differentiator

Fig. Differentiator Amplifier.

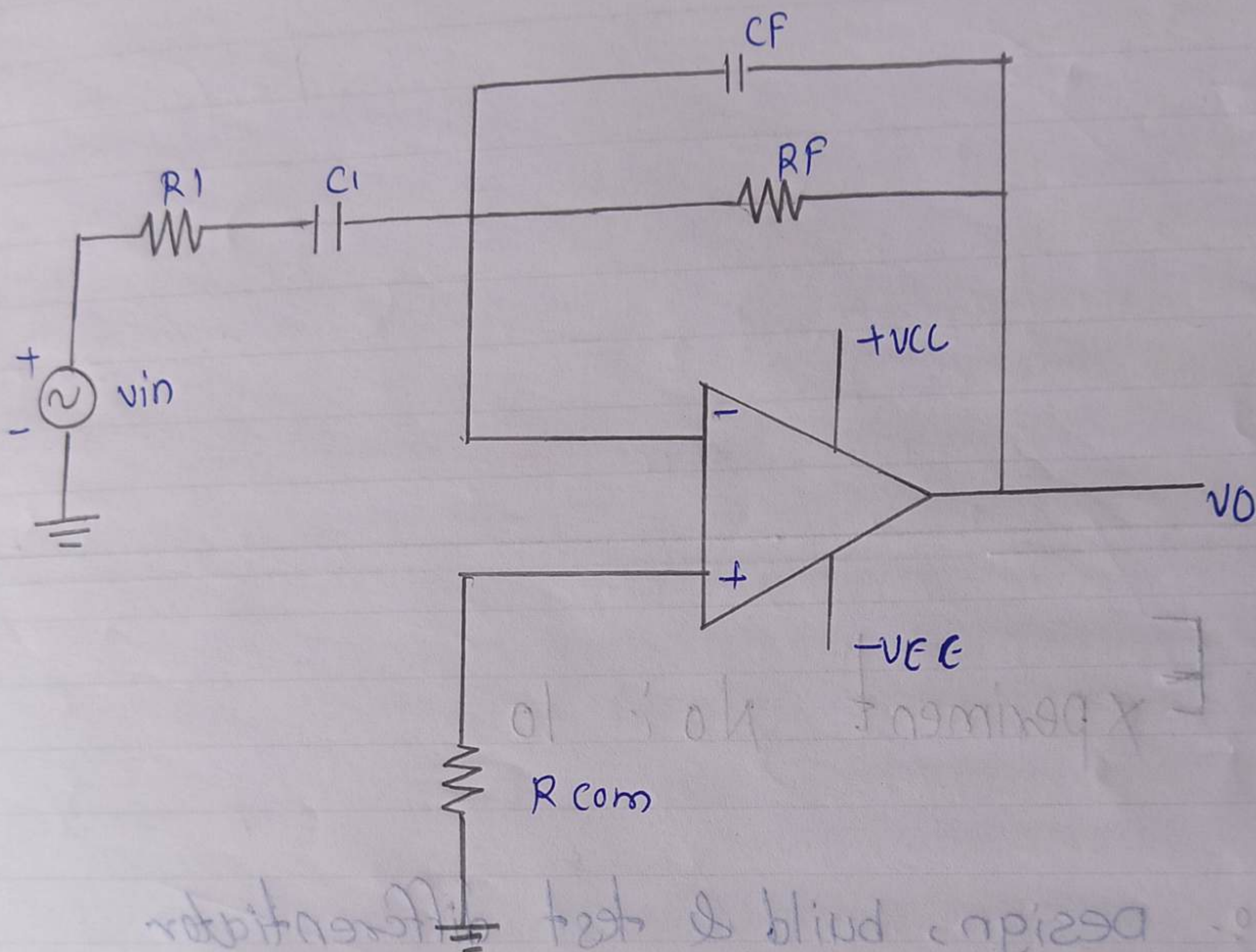


Fig. Differentiator Amplifier.

Aim - design build and test differentiator

Components & Equipments

SR No	Component	Specification	Quantity
1)	Dual power supply	$\pm 12V$	1
2)	Resistors	82 Ω - 1.5k Ω - 10k Ω - 1M Ω	1 each
3)	IC 741	-	1
4)	Function generator	20 MHz	1
5)	CRO	30 MHz	1
6)	Connecting wires	-	As per requirement

Procedure :-

- 1) Assemble the circuit on bread board as per ckt diagram
- 2) connect dual power supply Pin 7 (+Vcc) & Pin 4 (Vee) of IC 741
- 3) set the function generator to produce a sine wave from of 1Vpp amplitude at 1 MHz.
- 4) check w/f on CRO before coupling it as i/p
- 5) observe the i/p & check the phase shift for given
- 6) Vary the i/p freqn from 10 Hz to 10 kHz keeping i/p v/tg. 1V.

Measure the o/p v/tg for each freqⁿ & note the o/p v/tg in observation table

- plot the graph gain vs freqⁿ on semi log proper calculated gain for if diff i/p freqⁿ in decible.

Conclusion :-

The mathematical operation differential can be realised by an electronic circuit called a differentiator which based on an operational reactive component in this i/p branch

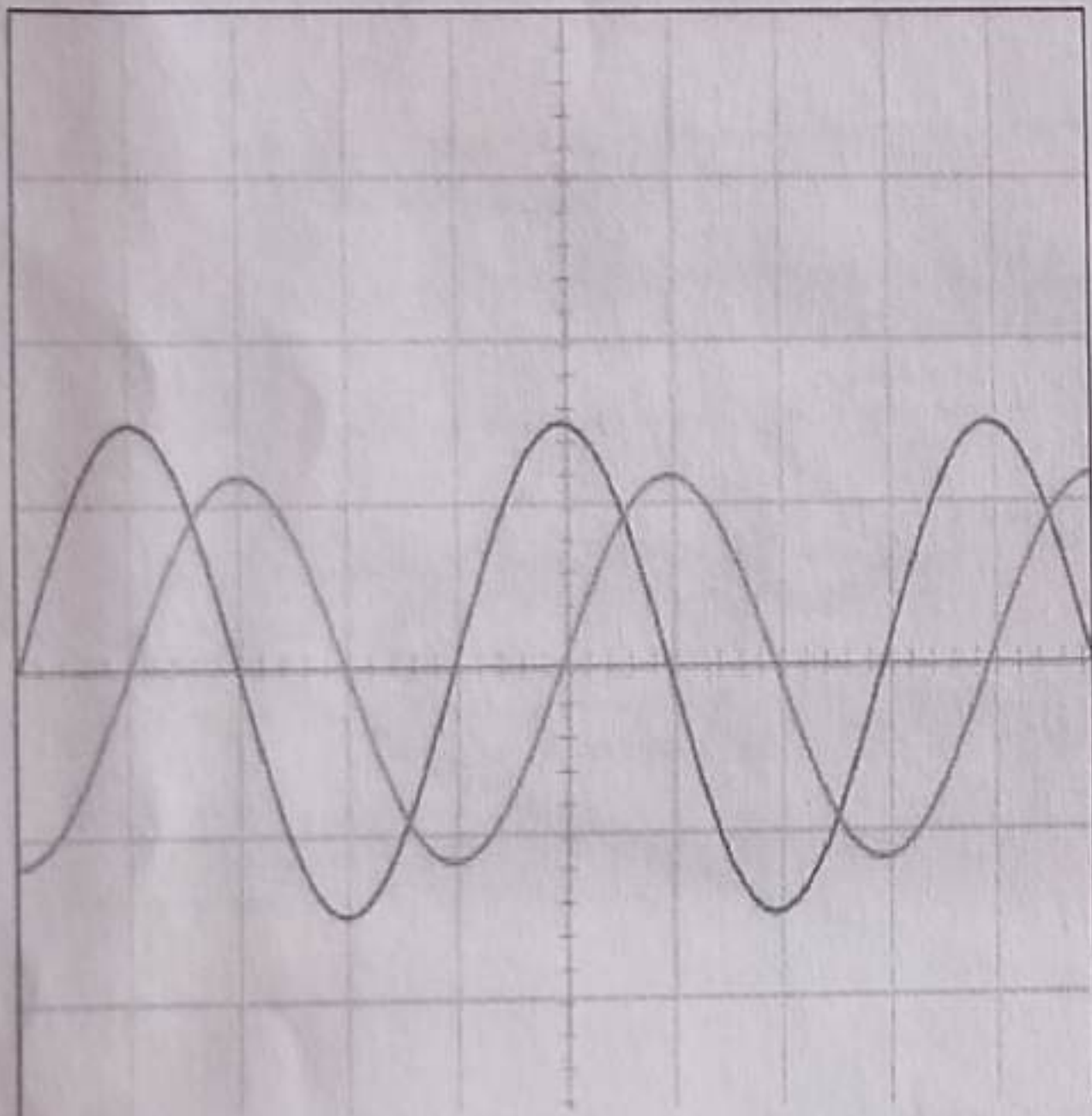
cognitive (04)	psychomotor skill(04)	Affective domain(02)	Total (10m)	sign
04	03	02	09	<u>SSBhori</u>

Design, build and test differentiator:

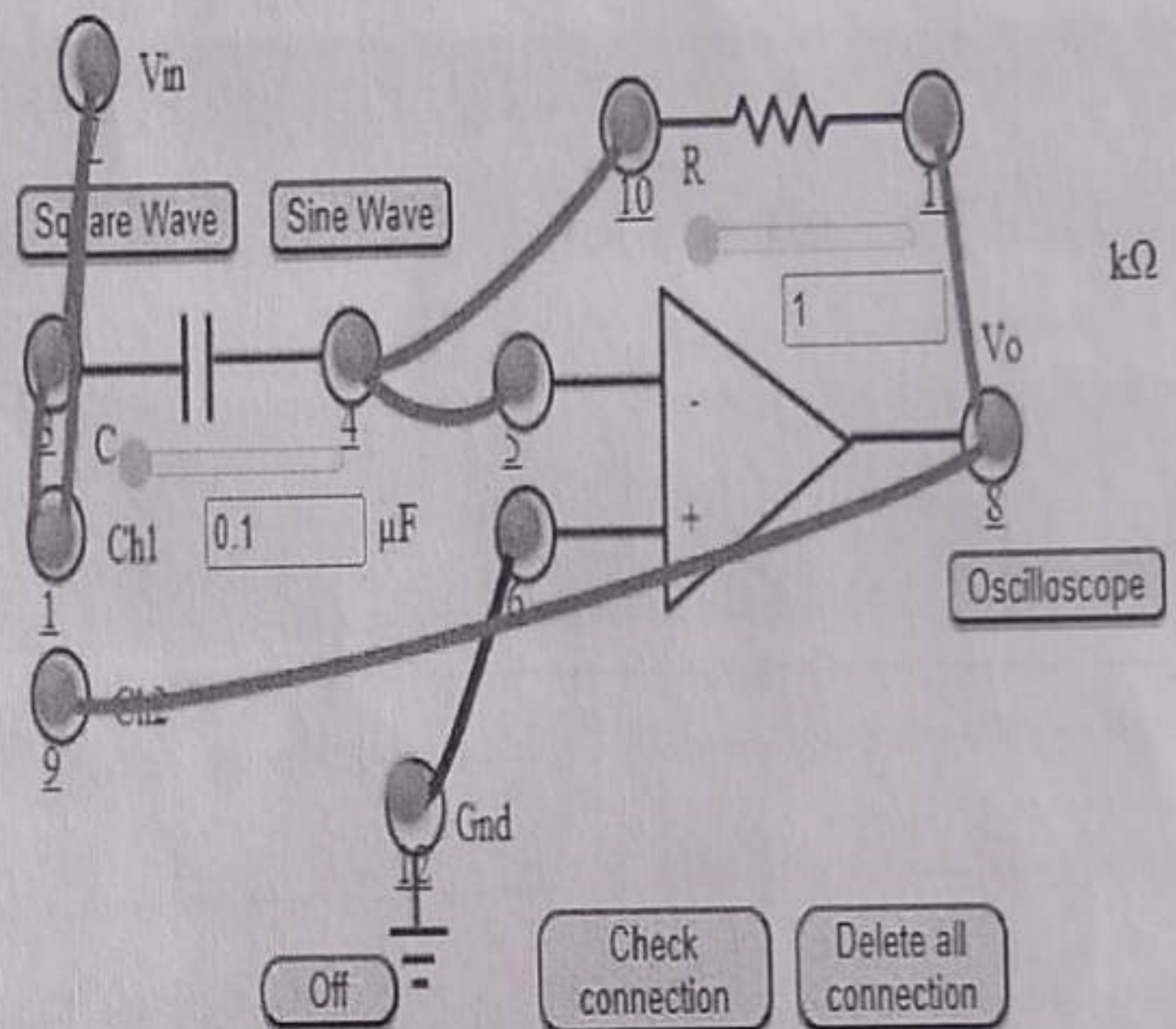
Differentiator using Opamp

INSTRUCTION

OSCILLOSCOPE



CIRCUIT



CONTROLS

Experiment No: 11

Aim :- design & implement oscillator using op-Amp.

For maximum frequency of
Wien-bridge oscillator

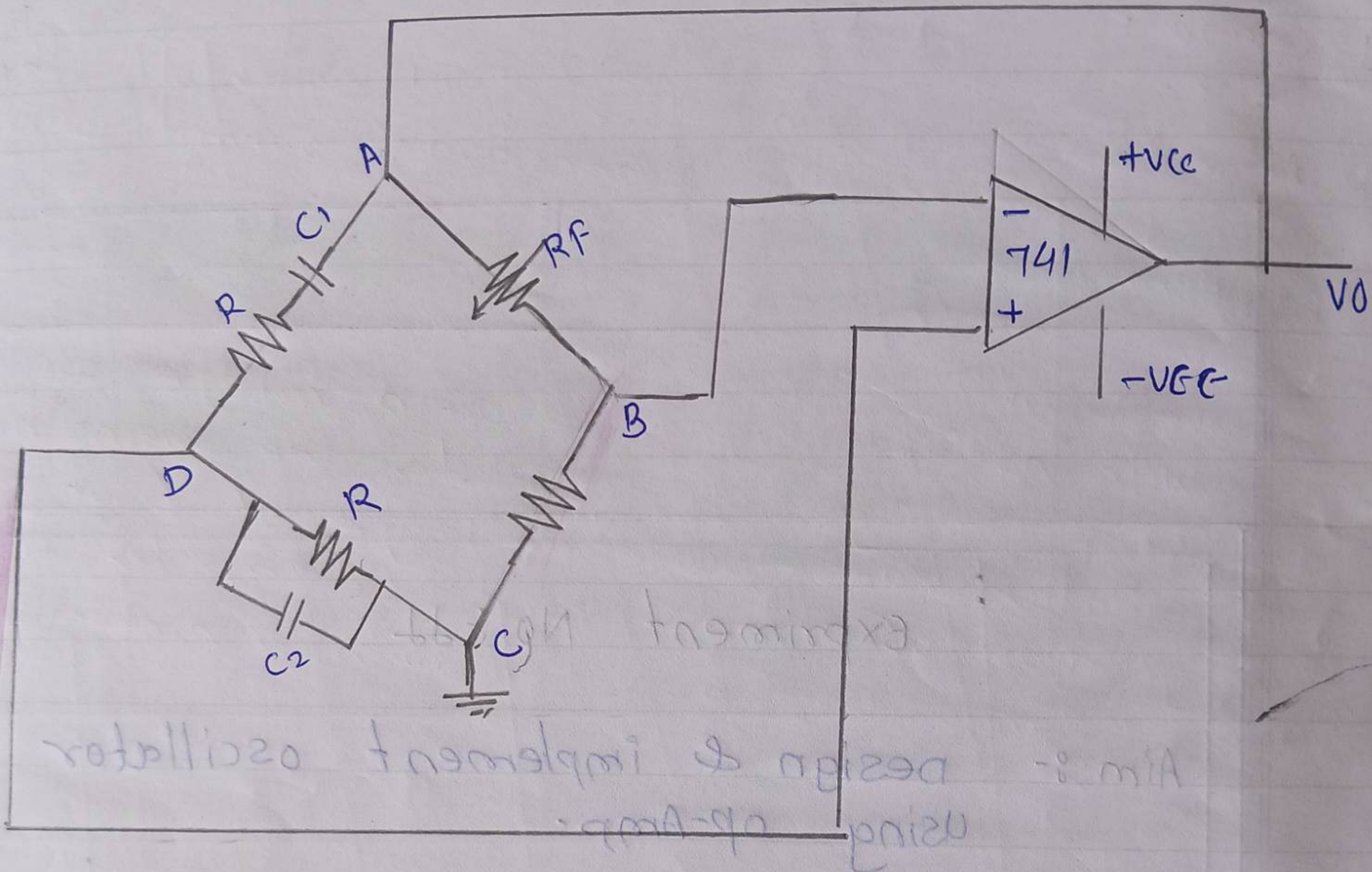


Fig. circuit diagram of
wein-bridge oscillator.

Aim :- design & implement oscillator using op-amp

Component & Equipment

SR No	Component	Specification	Quantity
1	Dual power supply	+12V	1
2	IC 741	-	1
3	Resistor	12k Ω , 33k Ω	3 each
4	Capacitor	0.1 μ F or 1 μ F	1
5	Potentiometer	50k Ω	1
6	DMM	-	1
7	Oscilloscope	80MHz	1
8	Connecting wires	-	1

procedure

1. Test & mount the IC 741 on breadboard
2. Connect the circuit as per circuit diagram
3. Apply $V_{tg} = +15V$ & $V_{EE} = -15V$ using DC power supply
4. Connect CRO at o/p terminal of circuit (pin Nos)
5. Vary potentiometer to get stable sinwave o/p.
6. Observe sine wave o/p in CRO
7. Measure the freqn of sine wave o/p on CRO.
8. Calculate the freqn of sine wave theoretically using formula

$$F = \frac{1}{2\pi RC}$$

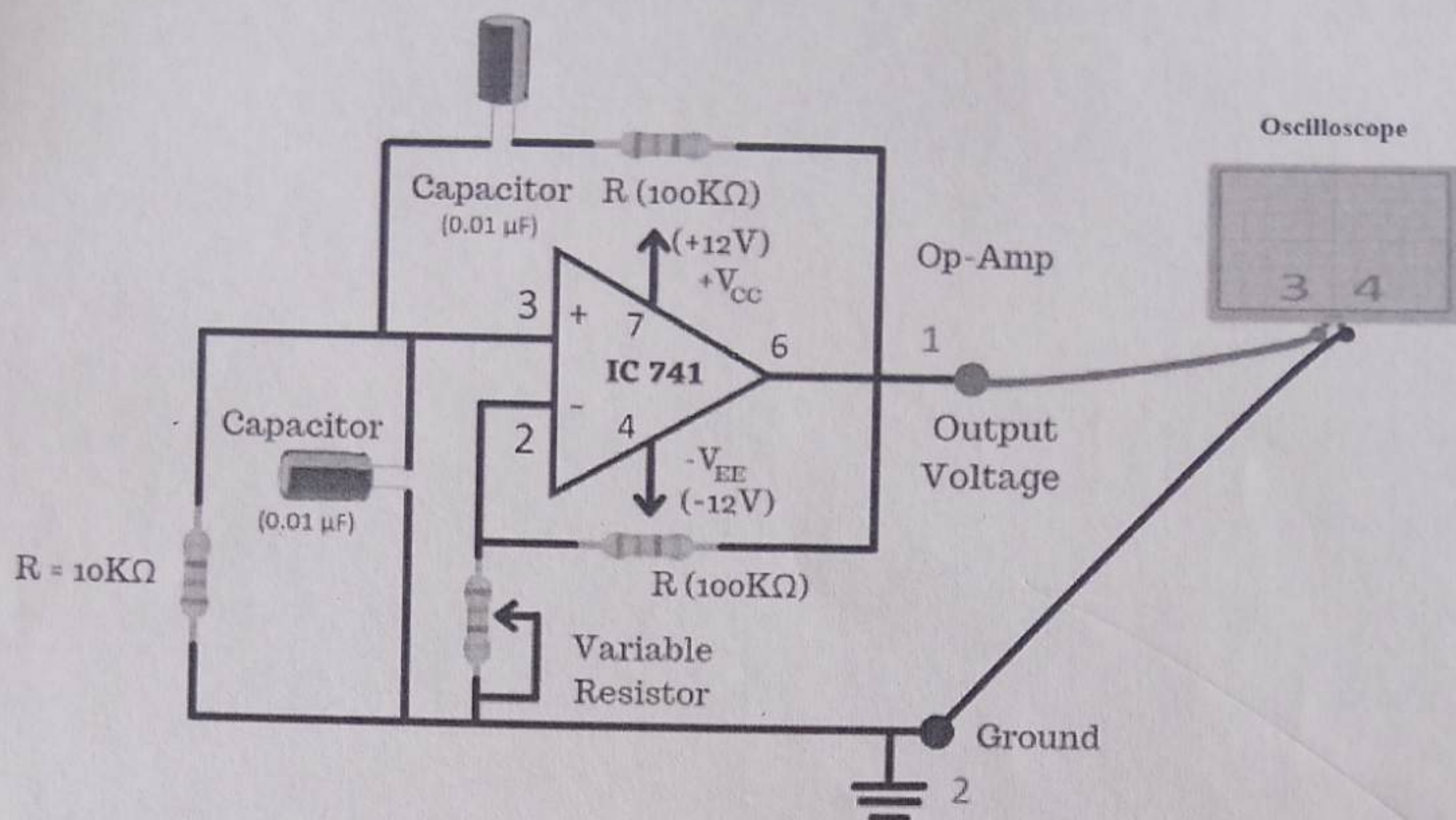
- 9 - Compare theoretical & practical freq of sine wave o/p.
- 10 After the completion of practical switch off the supply remove the connection & submit wires & equipment

Conclusion :-

With no i/p signal a wein bridge oscillator produces continuous o/p oscillator the wein bridge oscillator can produce a large of freq the stg gain of amp^r must be greater than 3. the RC n/w can be used with a non-inverting amp^r

cognitive (04)	psychomotor skill (04)	Affective Domain (02)	Total 10 m	sign.
04	03	02	09	<u>SSBhsl</u>

Design and implementation oscillator using opamp



Controls

Power On/Off



Voltage (in V)



Experimental Readings

S.No	Resistor (Ω)	Capacitance (μF)	Frequency (kHz)
1	1368.5	0.1	2327.156
2	8236.7	0.1	386.649