1.3.1

Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum

1.3.1Curriculum Enrichment

Sl. No.	Particulars
1	Professional Ethics
2	Gender
3	Human Values
4	Environment and Sustainability

Dr.A.D.Shinde College of Engineering, Bhadgaon, Tal. Gadhinglaj

Dinkarrao K. ShindeSmarak Trusts

DR.A. D. SHINDE COLLEGEOFENGINEERING.

Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502

Academic Year 2024-25

1.3.1 Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum.

Sl.No	Departments	Subject Name	Credits	Semester	No. of hours
1	First Year (NEP 2.0)	Indian Knowledge Systems (IKS)	2	2	2
2	Civil Engineering	Water Resource Engineering-I	4	5	36
		Environmental Engineering-I	4	5	36
		Environmental Engineering-II	4	6	48
		Energy & Environment	3	5	36
		Waste Management	3	5	36
		Water Resource Engineering-II	4	8	32
3	Mechanical Engineering	Environmental studies	3	3	30
		Energy and Power Engineering	4	8	32
4	Electrical Engineering	Environmental studies	3	4	30
		Electrical Appliances and Luminaries	3	5	36
		Domestic /Industrial Electrical Installation, Estimation And Costing	3	5	36
		Electrical Energy Audit And Conservation	3	6	36
		Electrical Installations testing and maintenance	3	6	27
		Industrial Training & Presentation	2	7	30
		Electric Vehicle	4	7	46
		Electrical Maintenance and Electrical Energy Audit	4	8	46
5	Computer Science and Engineering	Environmental Studies	2	4	3
		Cyber Security	3	6	36
		Professional Skills	-	8	1
6	Electronics & Computer Science Engineering.	Environment Studies	3	4	1
		Industrial Automation	4	5	4
		Mobile Technology	4	6	4

Dr.A.D.Shinde College of Engineering, Bhadgaon • Tal:Gadhinglaj •

SCHEME OF INSTRUCTION & SYLLABI

Branch: - Common to all Branches of Engineering

Scheme of Instructions: First Year B. Tech. Common to all Branches of Engineering

Engineering Physics Group

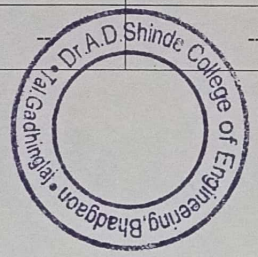
Semester–II (w.e.f. A.Y. 2024-25)

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Course Credits	EXAM SCHEME			
									MSE	ISE/CA	ESE	TOTAL
1	BSC		Engineering Physics	3	--	--	3	3	30	10	60	100
2	BSC		Engineering Mathematics –II	3	1	--	4	4	30	10	60	100
3	ESC		Basic Civil Engineering	2	--	--	2	2	30	10	60	100
4	ESC		Engineering Graphics	3	--	--	3	3	30	10	60	100
5	ESC		Basic Electrical Engineering	2	--	--	2	2	30	10	60	100
6	BSC		Engineering Physics Lab	--	--	2	2	1	--	25	--	25
7	ESC		Engineering Graphics Lab	--	--	2	2	1	--	25	25	50
8	HSSM		Professional Communication–II	--	--	2	2	1	--	25	50	75
9	VSEC		Skill Enhancement Course-II	--	--	2	2	1	--	25	25	50
10	HSSM		Indian Knowledge Systems (IKS)	2	--	--	2	2	--	50	--	50
11	VSEC		Programming Languages-II	1	--	2	3	2	--	25	25	50
			Total	**16**	**1**	**10**	**27**	**22**	**150**	**225**	**425**	**800**

L-Lecture T-Tutorial P-Practical

MSE-Mid Semester Examination ISE/CA-In Semester Evaluation/Continuous Assessment ESE-End Semester Examination (For Laboratory End Semester performance external Examination)

Course Category	Basic Science Courses (BSC)	Engineering Science Courses (ESC)	Programme Core Course (PCC)	Programme Elective Course (PEC)	Open Elective other than Particular Programme (OE/MDM)	Vocational and Skill Enhancement Course (VSEC)	Humanities Social Science and Management (HSSM)	Experiential Learning (EL)	Co-curricular and Extracurricular Activities (CCA)
Last Sem. Cumulative Sum	**08**	**08**	--	--	--	**03**	**01**	--	**02**
Semester Credits	**08**	**08**	--	--	--	**03**	**03**	--	--
Cumulative Sum	**16**	**16**	--	--	--	**06**	**04**	--	**02**



Indian Knowledge Systems (IKS)

Lectures	: 2 Hrs/Week	**Evaluation Scheme**	
		MSE	: .....
Credit	: 2	**ISE/CA**	: 50 Marks
		ESE	: .....

Course Objectives: The students will be able to

1. Understand concepts of Indian traditional knowledge and to make them understand the Importance of roots of knowledge system.
2. Understand the traditional knowledge and analyse it and apply it to their day-to-day life.

	Course Outcomes:	
CO	**After the completion of the course the student should be able to**	**Bloom's Cognitive**
CO-1	Understand the concept of the Indian Knowledge System and its importance.	Understand
CO-2	Understand the relevance of Traditional knowledge in different domains.	Understand

Unit No	**Title and Content**	**Hours**
Unit 1	**Indian Knowledge System: An Introduction**	**4 Hrs**
	Overview: What is IKS? , Why do we need IKS?, Organization of IKS, Historicity of IKS, Some salient aspects of IKS **The Vedic Corpus:** Introduction to Vedas, A synopsis of the four Vedas, Sub-classification of Vedas, Messages in Vedas, Introduction to Vedāṅgas, Prologue on Śikṣā and Vyākaraṇa, Basics of Nirukta and Chandas, Introduction to Kalpa and Jyotiṣa, Vedic Life: A Distinctive Features. Traditional knowledge vs. western knowledge	
Unit 2	**Traditional Knowledge in Humanities and Āyurveda**	**5 Hrs**
	[A] Linguistics: Introduction to Linguistics, Aṣṭādhyāyī, Phonetics, Word generation, Computational aspects, Mnemonics, Recursive operations, Rule based operations, Sentence formation, Verbs and prefixes, Role of Sanskrit in natural language processing **[B] Āyurveda**: Introduction to health, Āyurveda: approach to health, Sapta-dhātavaḥ: seven-tissues, Role of agni in health, Tri-doṣas, Āyurveda: definition of health, Psychological aspects of health, Disease management elements, Dinacaryā: daily regimen for health & wellness, Importance of sleep, Food intake methods and drugs, Approach to lead a healthy life.	
Unit 3	**Traditional Knowledge in Sciences**	**4 Hrs**
	[A] Number Systems and Units of Measurement: Number systems in India - Historical evidence, Salient aspects of Indian Mathematics, Bhūta-Saṃkhyā system, Kaṭapayādi system, Measurements for time, distance and weight, Pramāṇa and the Binary system	

	[B] Astronomy: Introduction to Indian astronomy, Indian contributions in astronomy, The celestial coordinate system, Elements of the Indian calendar, Notion of years and months, Pañcāṅga – The Indian calendar system, Astronomical Instruments (Yantras), Jantar Mantar of Rājā Jai Singh Sawai	
Unit 4	**Traditional Knowledge in Indian Mathematics**	
	Introduction to Indian Mathematics, Salient features of the Indian numeral system - Importance of decimal representation - The discovery of zero and its importance - Unique approaches to represent numbers. Unique aspects of Indian Mathematics, Indian Mathematicians and their Contributions in the area of Algebra, Geometry, Trigonometry, Binary mathematics and combinatorial problems in Chandaḥ Śāstra, Magic squares in India	**4 Hrs**
Unit 5	**Traditional Knowledge in Engineering and Technology**	
	[A] Metals and Metalworking: Wootz Steel: The rise and fall of a great Indian technology, The Indian S & T heritage, Mining and ore extraction, Metals and metalworking technology, Iron and steel in India, Lost wax casting of idols and artefacts, Apparatuses used for extraction of metallic components. **[B] Town Planning and Architecture:** Perspective of Arthaśāstra on town planning, Vāstu-śāstra – The science of architecture, Eight limbs of Vāstu, Town planning, Temples in India: marvelous stone architecture for eternity, Temple architecture in India, Iconography.	**5 Hrs**
Unit 6	**Traditional Applications in Science and Technology**	
	Irrigation systems and practices in South India, Literary sources for science and technology, Physical structures in India, Irrigation and water management, Dyes and painting technology, The art of making perfumes, Surgical techniques, Shipbuilding, Sixty-four art forms (64 Kalās), Status of Indigenous S & T.	**4 Hrs**

Evaluation Pattern	In the form of Quizzes, Tests, Group Discussion, Presentations, Seminars, Assignments, Attendance

References:

Books and References:	
1	Mahadevan, B., Bhat Vinayak Rajat, Nagendra Pavana R.N. (2022), "Introduction to Indian Knowledge System: Concepts and Applications", PHI Learning Private Ltd. Delhi.
2	Pride of India: A Glimpse into India's Scientific Heritage, Samskrita Bharati, New Delhi.
3	Sampad and Vijay (2011). "The Wonder that is Sanskrit", Sri Aurobindo Society, Puducherry.
4	Bag, A.K. (1979). Mathematics in Ancient and Medieval India, Chaukhamba Orientalia, New Delhi.

5	Datta, B. and Singh, A.N. (1962). History of Hindu Mathematics: Parts I and II, Asia Publishing House, Mumbai.
6	Kak, S.C. (1987). "On Astronomy in Ancient India", Indian Journal of History of Science, 22(3), pp. 205–221.
7	Subbarayappa, B. V. and Sarma, K. V. (1985). Indian Astronomy: A Source Book, Nehru Centre, Mumbai.
8	Bag, A.K. (1997). History of Technology in India, Vol. I, Indian National Science Academy, New Delhi.
9	Acarya, P.K. (1996). Indian Architecture, Munshiram Manoharlal Publishers, New Delhi.
10	Lad, V., & Frawley, D. (1986). The Yoga of Herbs: An Ayurvedic Guide to Herbal Medicine. Lotus Press.
11	Kapoor Kapil, Singh Avadhesh (2021). "Indian Knowledge Systems Vol – I & II", Indian Institute of Advanced Study, Shimla, H. P.
12	Traditional Knowledge System in India, Amit Jha, 2009, Atlantic Publishers and Distributors (P) Ltd., ISBN-13: 978-8126912230.
13	Knowledge Traditions and Practices of India, Kapil Kapoor, Avadesh Kumar Singh, Vol. 1, 2005, DK Print World (P) Ltd., ISBN 81-246-0334,
14	Frawley, D., & Ranade, S. (2001). Ayurveda, Nature's Medicine. Lotus Press.
	Web Links
1	https://www.youtube.com/watch?v=LZP1StpYEPM
2	http://nptel.ac.in/courses/121106003/
3	http://www.iitkgp.ac.in/department/KS;jsessionid=C5042785F727F6EB46CBF432D7683B63 (Centre of Excellence for Indian Knowledge System, IIT Kharagpur)
4	https://www.wipo.int/pressroom/en/briefs/tk_ip.html
5	https://unctad.org/system/files/official-document/ditcted10_en.pdf
6	http://nbaindia.org/uploaded/docs/traditionalknowledge_190707.pdf
7	https://unfoundation.org/what-we-do/issues/sustainable-development-goals/?gclid=EAIaIQobChMInp-Jtb_p8gIVTeN3Ch27LAmPEAAYASAAEgIm1vD_BwE
8	https://onlinecourses.swayam2.ac.in/imb23_mg53/preview
9	https://onlinecourses.swayam2.ac.in/imb23_mg54/preview
10	https://onlinecourses.swayam2.ac.in/imb23_mg55/preview

Shivaji University, Kolhapur

S.Y. B. Tech in Electrical Engineering Syllabus

w.e.f. June 2019-2020

Semester III

Sr. No	Code No.	Subject	Credits
1.	BSC-EE	Engg.M-III	5
2.	PCC-EE	EEMEC	3
3.	PCC-EE	AEE	5
4.	PCC-EE	BCT	6
5.	PCC-EE	EM	5
6.	PCC-EE	C	1
		Total	25

Semester IV

Sr. No	Code No.	Subject	Credits
1.	PCC-EE	DCMT	5
2.	PCC-EE	PE	4
3.	PCC-EE	PS-I	5
4.	PCC-EE	EME	4
5.	PCC-EE	CS-I	4
6.	PCC-EE	ENV	3
		Total=	25

Semester V

Sr. No	Code No.	Subject	Credits
1.	PCC-EE301	Digital Electronics And Micro Processor	4
2.	OCE-EE301	Open Elective – I	3
3.	PCC-EE302	AC Machines	4
4.	PCC-EE303	Power System-II	4
5.	PCC-EE304	Advanced Control System	4
6.	PCC-EE305	Signals & Systems	4
7.	PCC-EE306	MATLAB	2
		Total	25

Semester VI

Sr. No	Code No.	Subject	Credits
1.	PCC-EE307	Digital Signal Processing	4
2.	OCE-EE302	Open Elective – II	3
3.	PCC-EE308	Electrical Machine Design	6
4.	PCC-EE309	Power System Stability And Control	5
5.	PCC-EE310	Electrical Drives- I	4
6.	PCC-EE311	Electrical Installations testing and maintenance	3
		Total	25

Open Elective – I (Any One)	
1	Electrical Appliances And Luminaries
2	Domestic /Industrial Electrical Installation, Estimation And Costing

Open Elective – II (Any One)	
1	Electrical Energy Audit And Conservation
2	PLC & SCADA

Semester VII

Sr. No	Code No.	Subject	Credits
1.	PCC-EE401	FACTS	03
2.	OCE-EE401	Open Elective-I	04
3.	PCC-EE402	Power Quality and Harmonics	04
4.	PCC-EE403	Computer Methods in Power Systems	04
5.	PCC-EE404	Advanced Switchgear and Protection	04
6.	PCC-EE405	Industrial Training & Presentation	02
7.	PCC-EE406	Project Phase-I	04
		Total	25

Semester VIII

Sr. No	Code No.	Subject	Credits
1.	PCC-EE407	Management & Entrepreneurship Development	03
2.	OCE-EE402	Elective II	04
3.	PCC-EE408	HVDC Systems	04
4.	PCC-EE409	EHVAC	04
5.	PCC-EE410	Electrical Generation, Utilization & Traction	04
6.	PCC-EE411	Seminar	02
7.	PCC-EE412	Project Phase-II	04
		Total	25

Open Elective – I (Any One)	
1	Smart Grid
2	Electric Vehicle
3	Integrated Resource planning
4	Restructured Power System

Open Elective – II (Any One)	
1	PLC and SCADA Application
2	VLSI Design & Embedded System
3	Electrical Maintenance and Electrical Energy Audit
4	Advanced Microcontrollers & Its applications

SEMESTER - V					
Sr. No	**Code No.**	**Course (Subject Title)**		**Semester**	**Credits**
1	PCC-CV501	WRE-I	Water Resource Engineering-I	5	4
2	PCC-CV502	DSS	Design of Steel Structures	5	5
3	PCC-CV503	EE-I	Environmental Engineering-I	5	4
4	PCC-CV504	GTE-I	Geotechnical Engineering-I	5	5
5	PCC-CV505	BPD	Building Planning and Design	5	4
6	OEC-CV506	OE-I	Open Elective-I	5	3
TOTAL					**25**

SEMESTER –VI					
Sr. No	**Code No.**	**Course (Subject Title)**		**Semester**	**Credits**
1	PCC-CV601	TOS	Theory of Structures	6	4
2	HM-CV602	EM	Engineering Management	6	5
3	PCC-CV603	EE-II	Environmental Engineering-II	6	4
4	PCC-CV604	GTE-II	Geotechnical Engineering-II	6	5
5	OEC-CV605	OE-II	Open Elective-II	6	4
6	PCC-CV606	SDD-I	Structural Design and Drawing-I	6	2
7	MC-CV607		SEMINAR	6	1
8	*SI-CV707	FT	Field Training	-	-
TOTAL					**25**

FINAL YEAR COMPUTER SCIENCE AND ENGINEERING - CBCS PATTERN

SEMESTER - VIII

Sr. No.	Course Subject / Title	TEACHING SCHEME							EXAMINATION SCHEME							
		THEORY			TUTORIAL		PRACTICAL		THEORY				ORAL / PRACTICAL		TERMWORK	
		Credits	No. Of Lectures	No. of Hours	Credits	No. of Hours	Credits	No. of Hours	mode	marks	Total Marks	MIN.	MAX	MIN.	MAX	MIN.
1	PCC- CS801 Big Data Analytics	4	4	4			1	2	CIE	30	100	40	50	20	25	10
									ESE	70						
2	PCC- CS802 Deep Learning	3	3	3	1	1			CIE	30	100	40			25	10
									ESE	70						
3	PCE- CS803 Elective-II	3	3	3	1	1			CIE	30	100	40			25	10
									ESE	70						
4	PCE- CS804 Elective-III	3	3	3	1	1			CIE	30	100	40			25	10
									ESE	70						
5	PCC- CS805 Mobile Application Development	3	3	3			2	4					50	20	50	20
6	PW- CS806 Project – II						2	4					50	20	50	20
7	HM-CS807 Professional Skills				1	1									50	20
	Total (SEM –VIII)	*16*	*16*	*16*	*4*	*4*	*5*	*10*			*400*		*150*		*250*	
	Total	**32**	**32**	**32**	**6**	**6**	**12**	**22**			**800**		**300**		**500**	

CIE- Continuous Internal Evaluation

ESE – End Semester Examination

THIRD YEAR COMPUTER SCIENCE AND ENGINEERING - CBCS PATTERN

SEMESTER - VI

Sr. No.	Course Subject / Title	TEACHING SCHEME							EXAMINATION SCHEME							
		THEORY			TUTORIAL		PRACTICAL		THEORY				ORAL / PRACTICAL		TERMWORK	
		Credits	No. Of Lectures	No. of Hours	Credits	No. of Hours	Credits	No. of Hours	mode	marks	Total Marks	MIN.	MAX	MIN.	MAX	MIN.
1	**PCC-CS601** Compiler Construction	3	3	3			1	2	CIE	30	100	40			25	10
									ESE	70						
2	**PCC- CS602** Operating System-II	4	4	4			1	2	CIE	30	100	40			25	10
									ESE	70						
3	**PCC- CS603** Database Engineering	4	4	4			1	2	CIE	30	100	40	50	20	25	10
									ESE	70						
4	**PCC- CS604** Machine Learning	3	3	3	1	1			CIE	30	100	40			25	10
									ESE	70						
5	**OEC- CS605** E-Commerce & Digital Marketing **OEC - CS606** ii) Cyber Security	3	3	3					CIE	30	100	40				
									ESE	70						
6	**PCC- CS607** C# Programming	2	2	2			1	2					50	20	25	10
7	**PW- CS608** Domain Specific Mini Project						1	2					50	20	25	10
	Total (SEM –VI)	***19***	***19***	***19***	***1***	***1***	***5***	***10***			***500***		***150***		***150***	
	Total (SEM - V+ SEM - VI)	**38**	**38**	**38**	**3**	**4**	**9**	**18**			**1000**		**250**		**350**	

CIE- Continuous Internal Evaluation

ESE – End Semester Examination

Third Year B.Tech. (Civil) Semester -V

Water Resources Engineering – I

Course	Teaching Scheme				Evaluation Scheme				
	L	T	P	Credit	Scheme	Theory (Marks)		Practical(Marks)	
						Max.	Min. for passing	Max.	Min. for passing
WRE - I (PCC-CV501)	03	--	02	04	ISE	--	--	50	20
					CIE	30	12	--	--
					ESE	70	28	25	10

ISE: In Semester Evaluation CIE: Continuous Internal Evaluation ESE: End Semester Examination

Course Objectives:

1. To impart the basic knowledge of importance of Hydrology & irrigation in water resources development.
2. To know various hydrometeorological parameters and their estimation.
3. To create awareness about floods, their estimation using various methods.
4. To understand the importance of irrigation in Indian agricultural industry considering cropping patterns.
5. To understand the principles of watershed management and water harvesting.

Course Outcomes:

After successful completion of this course students will be able to:

1. Apply the knowledge of estimation of hydrometeorological parameters.
2. Estimate direct runoff and peak discharge using hydrograph technique.
3. Apply different methods of efficient irrigation and water conservation.
4. Determine reservoir capacity based on crop water requirement.

SECTION I

Unit 1:Hydrology and Precipitation **6hrs**

1.1 *Introduction of Hydrology:*Definition, Importance and scope of hydrology, Hydrologic cycle.

1.2 *Precipitation:*Forms and types of precipitation, Methods of measurement, Rain-gauge Network, Determination of average precipitation over the catchment & its numerical, Estimation of missing rainfall data,Graphical representation of rainfall - Mass rainfall curves, Double mass rainfall curve, Rainfall hyetograph.

Unit 2: Evaporation and Runoff **6hrs**

2.1 *Evaporation:* Process, Factors affecting, Measurement and control of evaporation.

2.2 *Evaporation Transpiration:* Process, factors affecting, Measurement.

2.3 *Infiltration:* Process, Factors affecting and measurement of infiltration, Infiltration indices & its numerical.

2.4 *Runoff:* Classification, Factors affecting runoff, Determination of runoff-empirical equations, Rainfall runoff co-relation.

Unit 3: Hydrograph and Floods **6hrs**

3.1 *Hydrograph:* Components of Storm hydrograph, Base flow and Separation of base flow, Direct runoff hydrograph, Unit hydrograph – theory, assumptions and limitations.

Derivation and use of unit hydrograph, Conversion of UH of different durations using Principle of Superposition & S-curve hydrograph.

3.2 *Floods:*Introduction of river gauging, Estimation of peak flow- empirical equations, rational method; Importance of -Design flood, Standard project flood, Maximum probable flood.

SECTION II

Unit 4: Ground Water Hydrology **6hrs**

4.1 *Ground Water Hydrology:* Occurrence, Distribution and classification of ground water, Darcy's law, Aquifer parameters - Permeability, Specific yield, Specific retention, Porosity, Storage coefficient, Transmissibility.

4.2 *Hydraulics of Well:* Under steady flow conditions in confined and unconfined aquifers.

4.3 *Construction:* Tube wells and open wells. (Construction features only)

Unit 5: Irrigation and Minor Irrigation Works **6hrs**

5.1 *Introduction to Irrigation:* Definition and necessity of irrigation, ill-effects of irrigation, Systems of irrigation- Surface, Sub-surface (Drip irrigation), Sprinkler irrigation; Water logging and land drainage, Assessment of irrigation water.

5.2 *Minor Irrigation Works:* General layout, main components and functioning of –
1. Percolation tanks 2. K. T. Weir, 3. Bandhara irrigation 4. Lift irrigation

Unit 6: Water Requirements of Crops **6hrs**

6.1 *Water Requirement of Crops:* Principal crops and crop seasons, cropping pattern and crop rotation, Classes and availability of soil water, depth and frequency of watering, Duty, delta, base period and their relationship, factors affecting duty, methods of improving duty, Numerical on command area calculations and reservoir capacity based on crop water requirement.

Term Work:

Assignments on the following topics

1. Determination of average annual rainfall using Thiessens polygon &Isohyetal map method.
2. Consistency of rain gauge station by double mass rainfall curves.
3. Determination of evaporation losses, effective rainfall hyetograph infiltration losses – Phi index calculation, Horton's infiltration curve.
4. To develop a unit hydrograph from a total runoff hydrograph resulting from isolated storms.
5. Alteration of base period of given unit hydrograph using method of superposition and S-curve technique.
6. Determination of well discharge in a confined/unconfined aquifer.
7. Layout of Percolation tank, K. T. Weir, Bandhara Irrigation, Lift Irrigation.
8. Estimating depth and frequency of irrigation on the basis on soil moisture regime concept.
9. Crop water requirement and irrigation command area calculations.
10. A brief report on introduction to GIS software in Water Resource Engineering.
11. Site visit & report on meteorological station.

Text Books:

1. "Irrigation Engineering" – S. K. Garg – Khanna Publishers, Delhi.
2. "Water Resources & Irrigation Engineering" – Dr. K. R. Arora, Standard Publisher.
3. "Irrigation, Water Resources and Water Power Engineering" – Dr P.N. Modi, Standard Book House.
4. "Irrigation and Water Power Engineering" – Dr. Punmia and Dr. Pande – Laxmi Publications, Delhi

5. "Engineering Hydrology" – Dr. K. Subramanya, -Tata McGraw Hill, New Delhi.
6. "Hydrology" – Dr. P. Jayarami Reddy, Laxmi Publications, New Delhi
7. "Engineering Hydrology" – Dr. Raghunath H.M. - New Age International Publishers.
8. "Watershed Management in India" – J. V. S. Murthy – Wiley Eastern Publications, Delhi.
9. "Irrrigation Engineering" – Dahigaonkar, Asian Book Pvt Ltd.
10. "Irrigation Engineering" – S. R. Sahastrabudhe, Katson Publishers.

Reference Books:

1. "Hydrology and water resources"- R.K.Sharma, Dhanpatrai and sons, New Delhi.
2. "Theory and design of irrigation structures" - Varshney, Gupta and Gupta, vol. I and II and III, New Chand and Brothers.
3. "Irrigation Theory and practice" - Michael, Vikas Publications House.
4. "Water management" - Jaspal Sing, M.S.Acharya, Arun Sharma, Himanshu Publications.
5. "Design of M.I. and Canal Structure" -Satyanarayan and R. Murthy, Wiley Eastern Ltd, New Delhi.
6. "Irrigation Engineering" - Raghunath, Wiley Eastern Ltd, New Delhi.

Guidelines Regarding Question Paper Setting:

1. Q.No. 4 and Q.No. 8 are compulsory and it should be based on all units of respective sections.
2. Attempt any two questions from Q. No. 1, 2, 3 and any two questions from Q. No. 5, 6, 7.

End Semester Examination Paper Pattern

Question No.	Based on Unit No.	Marks
1.	1	10
2.	2	10
3.	3	10
4.	1,2 & 3 (Compulsory)	15
5.	4	10
6.	5	10
7.	6	10
8.	4,5 & 6 (Compulsory)	15

Third Year B.Tech. (Civil) Semester - V

Environmental Engineering – I

Course	Teaching Scheme				Evaluation Scheme				
	L	T	P	Credit	Scheme	Theory (Marks)		Practical(Marks)	
						Max.	Min. for passing	Max.	Min. for passing
EE-I (PCC-CV503)	03	--	02	04	ISE	--	--	25	10
					CIE	30	12	--	--
					ESE	70	28	--	--

ISE: In Semester Evaluation CIE: Continuous Internal Evaluation ESE: End Semester Examination

Course Objectives:

1. To understand various sources of water with respect to quality and quantity of water.
2. To describe and design the various water treatment units.
3. To learn the special water treatments and sequencing of treatment for various qualities of surface & ground water.
4. To design the various components related to transmission and distribution of water.
5. To understand various water supply appurtenances.

Course Outcomes:

After successful completion of this course students will be able to:

1. Describe the various sources of water with respect to quality and quantity of water.
2. Design the various water treatment units.
3. Illustrate the special water treatments and sequencing of treatment for various qualities of surface & ground water.
4. Describe the various components related to transmission and design of distribution of water.
5. Summarize the different water supply appurtenances.

SECTION I

Unit 1:Introduction to Water Supply Scheme **6hrs**

1.1 *Introduction to Water Supply Scheme:*Data collection for water supply scheme, Components and layout, Design period, Factors affecting design period.

1.2 *Quantity:*Rate of water consumption for various purposes like domestic, industrial, institutional, commercial;Fire demand and water system losses, Factors affecting rate of demand, Population forecasting.

1.3 *Quality:* Water quality parameters, Characteristics & significance in water treatment, Drinking water quality standards- BIS, WHO Standards.

1.4 *Water Intake Structures:*General design considerations, Types such as river intake, canal intake and reservoir intake, Concept of rising main and pumping station.

Unit 2:Water Treatment **6hrs**

2.1 *Water Treatment:*Principles of water treatment processes. Introduction to different types of water treatment flow sheets.

2.2 *Aeration:*Principle and concept, Necessity, Methods, Design of cascade aerator.

2.3 *Coagulation & Flocculation:*Theory, Factors affecting, Destabilization of colloidal particles, Types of dosing of coagulants, Selection of coagulants, Jar tests, Design of rapid mixer & flocculator, Theory of clariflocculator.

2.4 *Sedimentation:*Theory, Types of settling, Types of sedimentation tanks, Principles & design, Concept of tube & plate settler.

Unit 3: Water Treatment **6hrs**

3.1 *Filtration:*Mechanism, Head loss development, Negative head loss, Types of filters- slow sand filter, rapid sand filter &pressure filter, Operation & design of slow sand & rapid sand filter.

3.2 *Disinfection:*Theory, Factors affecting disinfection, Types of disinfectants, Types and methods of chlorination break point chlorination

3.3 *Water Softening Processes:*Lime-soda process, Ion exchange

3.4 *Demineralization:*Reverse osmosis, Electro-dialysis

SECTION II

Unit 4: Distribution Reservoirs andService Storages **6hrs**

4.1 Necessity, Location, Head requirement, Capacity determination by analytical & graphical method.

4.2 Transmission of water, Pumping & gravity mains, Choice of pipe materials, Forces acting on pressure pipes, Leakage & pressure testing of pipes, Corrosion types & control measures, Thrust block concept,

Unit 5:Water Distribution Systems **6hrs**

5.1 Method of distributing water, Layout pattern, Basic system requirements for water distribution system

5.2 *Methods of Network Analysis:*Equivalent pipe method, Hardy-Cross method, Design problem.

Unit 6: Water Supply Appurtenances **6hrs**

6.1 *Types of Valve:*Sluice valve, Air relief valve, Gate valve, Non-return valve, Scour valve

6.2 Fire hydrants water meter, Service connections, Maintenance & leak detection of water distribution system.

6.3 Necessity of water audit, Water audit in domestic sector, Concept of preparation of DPR.

Term Work:

A. Analysis of any 10 of the following test parameters for water
   1. pH
   2. Acidity
   3. Alkalinity
   4. Chlorides content
   5. Hardness – Total, temporary and permanent
   6. Turbidity
   7. Residual Chlorine
   8. Total dissolved solids through measurement of electrical conductivity
   9. Dissolved Oxygen
   10. Most Probable Number
   11. Optimum dose of alum by jar test.

12. Fluorides & Nitrogen
13. Iron and Manganese

B. Design/analysis problems on water treatment unit & distribution system.
C. Visit to a water treatment plant &visit report.

Text Books:

1. "Environmental Engineering"- Peavey, H.S.Rowe, D.R. and Tchobanoglous McGraw Hill Book Company.
2. "Water Supply and Pollution Control"- Viessman W.and Hammer M.J. Harper Collins College Publishers.
3. "Water and Waste Water Technology"- Hammer M.J. Prentice-Hall of India Private Ltd.
4. "Water and Wastewater Technology"- G.S. Birdie and J.S. Birdie
5. "Water Supply"- Duggal K.N.S. Chand and Company.
6. "Water Supply"- Garg S.K., Khanna Publishers.
7. "Water Supply and Waste water Disposal"- Fair and Gayes, John Wiley Publication.
8. "Water Supply Engineering" -B.C.Punmia,AshokJain,Arun Jain, Laxmi Publications

Reference Books:

1. Manual on Water Supply and Treatment- Government of India Publication, 1993
2. "Water and Waste Water Engineering" - Fair G. M, Geyer J. C, and Okun D. A, Vol. I & II", John Wiley Publication, 1966.
3. "Water and Waste Water Technology", Prentice Hall of India Private Limited, 1996.Hammer Structure of question paper for End Semester Evaluation

Guidelines Regarding Question Paper Setting:

1. Section I - Q. No. 1 to 3 and Section II - Q. No. 4 to 6
2. All questions are compulsory.
3. Internal optional questionsare allowed, weightage of optional question should not be more than 30% of total marks i.e. 21 marks out of 70 marks.

End Semester Examination Paper Pattern

Question No.	Based on Unit No.	Marks
1	1	12
2	2	12
3	3	11
4	4	12
5	5	12
6	6	11

Third Year B.Tech. (Civil) Semester - VI

Open Elective-II (Soil and Water Conservation Techniques)

(Offered by Faculty of Civil Engineering to All Faculties)

Course	Teaching Scheme				Evaluation Scheme				
						Theory (Marks)		Practical (Marks)	
	L	T	P	Credit	Scheme	Max.	Min. for passing	Max.	Min. for passing
OE - II (OEC-CV605)	03	--	--	03	ISE	--	--	--	--
					CIE	30	12	--	--
					ESE	70	28	--	--

ISE: In Semester Evaluation CIE: Continuous Internal Evaluation ESE: End Semester Examination

Course Objectives:

1. To understand the concept of soil and water conservation.
2. To apply the knowledge of conservation for societal benefit.
3. To evaluate the specific needs of soil and water conservation in given area.

Course Outcomes:

After successful completion of this course students will be able to:

1. Understand methods of soil and water conservation.
2. Develop an integrated model for sustainable natural conservation.
3. Explain the groundwater exploration techniques and its artificial recharge.
4. Analyze the needs for protection of banks and preservation of soil.

SECTION I

Unit 1: Introduction **4 hrs**

1.1 Conce pt of soil erosion and water conservation

1.2 Princip les of Soil Erosion – Causes, Types, Agents, Factors affecting, Mechanics of soil erosion.

Unit 2: Soil Conservation Methods **9 hrs**

2.1 Introduction, Erosion due to water,

2.2 Terraces for water erosion control-Terraces and their design, Bench terracing, Types of bench terraces, Alignment of bench terraces,

2.3 Bunding Methods- Measures for water erosion control, Bunds (contour bunds, graded bunds), Construction of bunds

2.4 Gully Erosion - Classification of Gullies, Principles of Gully Control, Gully Control Measures;

2.5 Mainte nance of Bench Terraces, bunding and gully.

Unit 3: Stream Bank Erosion and Protection **5 hrs**

3.1 Introduction - Susceptible area to stream bank erosion, Process of stream bank erosion, Bank scour, Mass failure

3.2 Impacts of stream bank erosion - Causes of stream bank erosion, Control measures for stream bank erosion

3.3 Objectives and methods of river training works.

SECTION II

Unit 4: Water Harvesting Structures **5 hrs**

4.1 Import ance of water harvesting, Types of water harvesting

4.2 Water harvesting technique, Runoff vs. flood water harvesting

4.3 Perfor mance of WHS - Check dams, Nala bund, MI tank, Percolation tank

Unit 5: Modeling of Watershed Process **5 hrs**

5.1 Watershed model and modeling, Benefits of watershed modeling, Watershed models

5.2 Case study – Watershed, Modelling for soil and water conservation.

Unit 6: Groundwater Conservation **8 hrs**

6.1 Introduction, Sources of ground water, Porosity and permeability, Types of aquifers, Zones of ground water

6.2 Ground water regulations, Ground water conservation techniques, Artificial recharge systems, Causes, effects and solutions of ground water depletion.

NOTE: One assignment on each unit.

Text Books:

1. "Soil and Water Conservation Engineering" - Dr. R. Suresh, Standard Publications

2. "Hydrology and Soil Conservation Engineering including Watershed Management" - Ghanshyam Das, PHI
3. "Watershed Management" - GVS Murthy, New Age international Publication.

Reference Books:

1. "Principles of Soil Conservation and Management" - Hamberto Blanco and Rattan Lal, Springer
2. "Manual of Soil and Water Conservation Practices" -Gurmal Singh, C. Venkatraman, G. Sastry, B. P. Singh
3. "Soil Erosion Research Methods" - R. Lal, Lib. of CongreeCatloing in Publication Data.
4. "Soil and Water Conservation in Semiarid Area" - Norman W. Handsom, United Book Prints
5. "Groundwater Hydrology" - D.K. Todd, Wiley Publication

Guidelines Regarding Question Paper Setting:

1. Section I - Q. No. 1 to 3 and Section II - Q. No. 4 to 6
2. All questions are compulsory.
3. Internal optional questions are allowed, weightage of optional question should not be more than 30% of total marks i.e. 21 marks out of 70 marks.

End Semester Examination Paper Pattern

Question No.	Based on Unit No.	Marks
1	1	12
2	2	12
3	3	11
4	4	12
5	5	12
6	6	11

Third Year B.Tech. (Civil) Semester - VI

Open Elective-II (Disaster Risk Management)

(Offered by Faculty of Civil Engineering to All Faculties)

Course	Teaching Scheme				Evaluation Scheme				
	L	T	P	Credit	Scheme	Theory (Marks)		Practical (Marks)	
						Max.	Min. for passing	Max.	Min. for passing
OE - II (OEC-CV605)	03	--	--	03	ISE	--	--	--	--
					CIE	30	12	--	--
					ESE	70	28	--	--

ISE: In Semester Evaluation CIE: Continuous Internal Evaluation ESE: End Semester Examination

Course Objectives:

1. To provide basic conceptual understanding of disasters and its relationships with development.

2. To gain understand approaches of disaster preparedness, response and recovery.
3. To enhance awareness of Disaster Risk Management institutional processes in India
4. To build skills to respond to disasters.

Course Outcomes:

After successful completion of this course students will be able to:

1. Gain the ability to understand and categories the disaster.
2. Apply preparedness plans for disaster response.
3. Setting up of early warning systems for risk reductions
4. Application of Sphere Standards Indian context

SECTION I

Unit 1: Introduction **5 hrs**

1.1 Concepts and definitions: Disaster, Hazard
1.2 Vulnerability, Risks severity, Frequency and details, Capacity, Impact
1.3 Prevention, Mitigation

Unit 2: Types of Disaster **6 hrs**

2.1 *Natural Disasters:* Floods, Draught, Cyclones, Volcanoes, Earthquakes, Tsunami, Landslides, Thunder storms, Forest fires, Avalanches.
2.2 *Manmade Disasters:* Industrial pollution, Artificial flooding in urban areas, Nuclear radiation, Chemical and biological spills, Transportation accidents (air, sea, rail and road), Terrorist strikes

Unit 3:Disaster Impacts **7 hrs**

3.1 Environmental, Physical, Social, Ecological, Economic, Political
3.2 Health, Psycho-social issues
3.3 Demographic aspects (gender, age, special needs)
3.4 Global and national disaster trends
3.5 Climat
e change and urban disasters.

SECTION II

Unit 4:Disaster Risk Reduction (DRR) **6 hrs**

4.1 *Pre-Disaster:*Risk assessment and analysis, Risk mapping, Zonation and micro zonation, Prevention, Mitigation, Early warning systems, Preparedness,Capacity assessment, Structural and non-structural measures
4.2 *During-Disaster:*Evacuation, Disaster communication, Search and rescue, Emergency operation centre, Incident command system, Relief and rehabilitation.
4.3 *Post-Disaster:*Damage and needs assessment, Restoration of critical infrastructure, Early recovery, Environmental response (water, sanitation, food safety, waste management), Disease control, Security, Communications

Unit 5:Disasters, Environment and Development **6 hrs**

5.1 Factors affecting vulnerability such as impact of developmental projects and environmental modifications (including of dams, land use changes, urbanization)
5.2 Sustainable and environmentally friendly recovery
5.3 Reconstruction and development methods

Unit 6: Disaster Management in India **6 hrs**

6.1 Disaster Profile of India – Mega Disasters of India and Lessons Learnt Disaster Management Act 2005

6.2 Roles and responsibilities of government, Community, Local institutions, NGOs and other stakeholders

6.3 Policies and legislation for disaster risk reduction, DRR programmes in India and the activities of National Disaster Management Authority

6.4 Applications of Science and Technology -Geo-informatics in Disaster Management (RS, GIS, GPS and RS)

NOTE: One assignment on each unit.

Text Books:

1. "Disaster Risk Reduction in South Asia" - Pradeep Sahni, Prentice Hall.
2. "Disaster Management" - Ghosh G.K., APH Publishing Corporation
3. "Manual on natural disaster management in India" - M C Gupta, NIDM, New Delhi
4. "An overview on natural & man-made disasters and their reduction" - R K Bhandani, CSIR, New Delhi
5. "Disasters in India Studies of grim reality" - Anu Kapur, Rawat Publishers, Jaipur
6. "Management of Natural Disasters in developing countries" - H.N. Srivastava and G.D. Gupta, Daya Publishers, Delhi
7. "Disaster Management Act 2005", Publisher by Govt. of India
8. "National Disaster Management Policy, 2009", GoI
9. "Space Technology for Disaster management: A Remote Sensing & GIS Perspective" - P.S. Roy, Institute of Remote Sensing (NRSA) Dehradun.
10. "Natural Disaster" - R.K. Sharma and G. Sharma, APH Publishing Corporation, New Delhi.
11. "Disaster Management in the Hills" - Satendra Singh, Concept Publishing Company, New Delhi.
12. "Disaster Management through Panchayati Raj" - K Taori, Concept Publishing Company, New Delhi

Reference Books:

1. "Handbook of Disaster Management: Techniques & Guidelines" - B. K. Singh, Rajat Publication.
2. http://ndma.gov.in/ (Home page of National Disaster Management Authority)
3. http://www.ndmindia.nic.in/ (National Disaster management in India, Ministry of Home Affairs).
4. "Disaster Medical Systems Guidelines". Emergency Medical Services Authority, State of California, EMSA no.214, June 2003
5. "IASC Guidelines on Mental Health and Psychosocial Support in Emergency Settings", Inter-Agency Standing Committee (IASC), Feb. 2007, Geneva
6. "World Disasters Report, 2009", International Federation of Red Cross and Red Crescent, Switzerland

S. Y. B. Tech (Computer Science and Engineering) Sem – III

7. SOFT SKILLS (HM-CS307)

TEACHING SCHEME	EXAMINATION SCHEME
Theory : ---	**Theory** :---
Tutorial : ---	**Term work:** 25 Marks
Practical: 2 Hrs. / Week	**Practical** : 25Marks
Credits:- 1	

Prerequisite: English language

Course Objectives:

1. To make the engineering students aware of the importance, the role and the content of soft skills through instruction, knowledge acquisition, demonstration andpractice.
2. To develop and nurture the soft skills of the students through individual andgroup activities.
3. To expose students to right attitudinal and behavioral aspects and to build the same throughactivities
4. To encourage the all round development of students by focusing on softskills.

Course Outcomes:

Upon successful completion of this course, the student will be able to –

1. Effectively communicate through verbal/oral communication and improve thelistening skills
2. Actively participate in group discussion / meetings / interviews and prepare &deliver presentations.
3. Function effectively in multi-disciplinary and heterogeneous teams through the knowledge ofteam work, Inter-personal relationships, conflict management and leadershipquality.

Contents

Unit No	
1	**Understanding Communication Skills:** Verbal Communication - Effective Communication - Active listening – Articulation Paraphrasing – Feedback Non- Verbal Communication- Body Language of self and others
2	**Behavioral Skills /Self Development:** SWOT Analysis, Confidence improvement, values, positive attitude, positive thinking and self esteem.
3	**Leadership and Team Building** Culture and Leadership- Salient Features of Corporate Culture, Leadership Styles.Leadership Trends,Team Building- Team Development Stages, Types of Teams, Attributes of a successful team – Barriers involved
4	**Developing Writing skills** E-mail writing, report writing, resumes writing, practice.

Stress and Time Management

5 Stress in Today's Time- Identify the Stress Source, Signs of Stress, Ways to Cope with Stress.Healthier Ways to Combat Stress, Steps to be taken in the Organizations: Open communication, Time Management, Working towards Your Goals, Smart Work, Prioritize yourTasks

Professional Skill

6 Ethics, Etiquette and Mannerism-All types of Etiquette (at Meetings, Etiquette at Dining. Involuntary Awkward Actions, Public Relations Office(PRO)'s Etiquettes) Technology Etiquette: Phone Etiquette, Email Etiquette, Social Media Etiquette, Video Conferencing Etiquette, InterviewEtiquette.
Dressing Etiquettes: for Interview, offices and social functions.
Ethical Values: Importance of Work Ethics, Problems in the Absence of Work Ethics.

TERM WORK:

1. The instructor shows videos to enhance skills supporting career aspects and discussion about same videos. Multiple set of observations based on videos can be prepared by students.
2. Multiple set of activity based assignments can be prepared to allow multiple skills exposurefor example a group task encouraging discussions, team building,value sharing, leadership and role play all at the same time. Every student must be given adequate opportunity to participate actively in each activity.
3. Each student will write one report based on visit / project / business proposaletc.
4. Faculty may arrange one or more sessions from following: Yoga and Meditation. Stress management, relaxation exercises, and fitness exercises. Time management and personal planningsessions.
5. The student must prepare the journal in the form of report elaborating the activities performed in the lab. Continuous assessment of laboratory work is to be done based on overall performance and lab assignments performance of student. Each lab assignment assessment will assign grade/marks based on parameters with appropriate weightage. Suggested parameters for overall assessment as well as each lab assignment assessment include- timely completion, performance, punctuality, neatness, enthusiasm, participation and contribution in various activities-SWOT analysis, presentations, team activity, event management, group discussion, Group exercises and interpersonal skills and similar otheractivities/assignments.

TEXT BOOKS:

1. Developing Communication Skills by Krishna Mohan and MeeraBanerji;MacMillan India Ltd., Delhi
2. Gajendra Singh Chauhan, Sangeeta Sharma: Soft Skills – An Integrated Approach to Maximize Personality, WILEY INDIA, ISBN:13:9788126556397
3. Essentials of Effective Communication, Ludlow and Panthon; Prentice Hall ofIndia.

REFERENCE BOOKS:

1. Indrajit Bhattacharya, —An Approach to Communication Skills‖, Delhi, Dhanpat Rai,2008.
2. Seven Spiritual Laws of Success - DeepakChopra
3.Simon Sweeney, —English for Business Communicationl, Cambridge University Press, ISBN13:978-0521754507.

T. Y. B. Tech (Computer Science and Engineering) Sem – VI

5. Open Elective Course - II (OEC - CS606)

Cyber Security (OEC - CS606)

TEACHING SCHEME	EXAMINATION SCHEME
Theory : 3 Hrs./Week	**Theory** : ESE 70 Marks CIE 30 Marks
Tutorial : -----	**Term work** : -----
Practical : -----	**Practical** : -----

Prerequisite: Fundamental knowledge of Data Communication, Networking and Information Security.

Course Objectives:

1. To gain knowledge about securing both clean and corrupted systems, protect personal data, and secure computer networks
2. To examine secure software development practice
3. To understand key terms and concepts in I.T. ACT
4. To incorporate approaches for incident analysis and response

Course Outcomes:

On completion of the course, student will be able to

1. Explain the cyber security concepts.
2. Describe the cyber security vulnerabilities and prevention techniques.
3. Explain the different rules and regulations under I.T. ACT.
4. Explain the concepts of digital forensics & incident management

UNIT NO.	UNIT NAME & DETAILS	NO. OF LECTURES
1.	**Computer and Network Security** Introduction to Computer Security - Introduction, How Seriously Should You Take Threats to Network Security?, Identifying Types of Threats, Basic Security Terminology, Concepts and Approaches, Online Security Resources Networks and the Internet : Introduction, Network Basics, How the Internet Works, Basic Network Utilities , Advanced Network Communications Topics	06
2.	**Cyber Frauds, DoS, Viruses:** Cyber Stalking, Fraud, and Abuse: Introduction, How Internet Fraud Works, Identity Theft, Cyber Stalking, Protecting Yourself	06

	Against Cyber Crime. Denial of Service Attacks: Introduction, DoS, Illustrating an Attack, Malware: Introduction, Viruses, Trojan Horses, The Buffer-Overflow Attack. The Sassier Virus/Buffer Overflow, Spyware, Other Forms of Malware, Detecting and Eliminating Viruses and Spyware	
3.	**Techniques Used by Hackers :** Introduction, Basic Terminology, The Reconnaissance Phase, Actual Attacks, Malware Creation, Penetration Testing	06
4.	**Computer Security Technology:** Introduction, Virus Scanners, Firewalls, Antispyware, IDS, Digital Certificates, SSL/TLS, Virtual Private Networks, Wi-Fi Security	06
5.	**I.T. ACT:** Introduction, Cyber Security Regulations, Roles of International Law, the state and Private Sector in Cyberspace, Cyber Security Standards. The INDIAN Cyberspace, I.T. Act	06
6.	**Introduction to Forensics:** Introduction, General Guidelines, Finding Evidence on the PC, Finding Evidence in System Logs , Getting Back Deleted Files, Operating System Utilities, Operating System Utilities, Mobile Forensics: Cell Phone Concepts	06

Text Books:

1. Computer Security Fundamentals - Chuck Easttom, Pearson, third edition.

Reference Books:

1. Jason Luttgens, Matthew Pepe, Kevin Mandia, Incident Response & Computer Forensics, McGraw-Hill Osborne Media, 3 rd edition , 2014.
2. Keith J. Jones, Richard Bejtlich, Curtis W. Rose, Real Digital Forensics: Computer Security and Incident Response, Paperback – Import, 2005.
3. John Sammons, the Basics of Digital Forensics: The Primer for Getting Started in Digital Forensics Paperback, February 24, 2012.
4. Hacking Exposed: Network Security Secrets & Solutions, Stuart McClure, Joel Scambray and George.Kurtz, McGraw-Hill, 2005.
5. Ethical Hacking, Thomas Mathew, OSB Publisher, 2003.
7. Dave Shackleford, Virtualization Security: Protecting Virtualized Environments, John Wiley & Sons, 2012.
8. BRAGG, Network Security: The Complete Reference, McGraw Hill Professional, 2012

Institutional integrates cross cutting issues relevant to Gender

1.3.1 Institutional integrates cross cutting issues relevant to Gender

Measures initiated by the Institution for the promotion of gender equity during the year

Gender equity & sensitization in curricular and co-curricular activities, facilities for women on campus

To promote gender equity, our institute has implemented a comprehensive approach that addresses biases, barriers, and cultural norms, as outlined below:

1. **Gender Sensitization Programs**: The institute regularly organizes special programs aimed at promoting gender awareness among all stakeholders.
2. **Merit-Based Recruitment**: Recruitment processes for all positions are conducted openly and transparently, focusing purely on merit, irrespective of gender.
3. **Safe and Secure Campus**: The campus is equipped with a robust security system, ensuring safety for all. Emergency response measures include a dedicated vehicle for urgent needs. Additionally, maternity leave is provided in accordance with regulations.
4. **Equal Opportunities for Students**: Both male and female students are given equal opportunities in academics and administrative roles.
5. **Girls' Hostel Safety**: "The girls' hostel is managed outside the campus in a private facility, with an agreement to provide security, including a full-time warden and security personnel working in shifts. CCTV cameras are installed at every location."
6. **Support Systems**: An Anti-Raging and Internal Grievance comity addresses safety, security, and social issues.
7. **Counseling and Common Room Facilities**: Regular mentor-mentee meetings provide academic and stress-related counseling. Separate common rooms for girls are equipped with amenities such as a first-aid box, rest area, sanitary napkin vending machine.
8. **Gender Equity in Activities**: The institute provides equal opportunities for all girls to lead and represent various academic and co-curricular activities.

The institute’s proactive measures ensure a safe, inclusive, and equitable space for all, reinforcing its commitment to gender equity.

Dinkarrao K. Shinde Smarak Trusts

DR.A. D. SHINDE COLLEGEOFENGINEERING.

Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502

Academic Year 2024-25

ANNUAL GENDER SENSITIZATION ACTION PLAN

Our institute is dedicated to fostering a positive change in attitudes and supporting gender equity within the institution and in our outreach activities. Below are some key initiatives undertaken:

1.conducted cyber security awareness activities to ensure pupils understand safe online practices and their responsibilities in the digital world.

2. Organized **Dandiya program** as part of **Dasara celebrations** for female students

3.Established statutory bodies to support female students.

4.Organized a self-defense training session to empower female students with the necessary skills and confidence to protect themselves in challenging situations.

5.Celebrated **International Women's Day** and **Savitri Bai Phule Jayanti** every year.

6.Allocated faculty members for student mentorship to monitor and track the progress of every student.

7.Organized an **Induction Program** for students to familiarize them with the institution's policies, processes, practices, culture, and values. The program also introduces them to the academic and administrative setup, as well as the various branches and methods of study.

8.Organized Expert talk on Entrepreneur and Innovation as Career Opportunity.

Gender Parity Among Stakeholders

Our institute has many stake holders. These are as follows:

1. Students admitted to the regular Programs of the institute.
2. Teachers working in various Departments
3. Administrative Staff of the institute
4. Officers of the institute and Statutory Bodies of the institute.

Following are the details of gender parity (Male- Female ratio) among all these stakeholders

STUDENTS ADMITTED TO THE REGULAR PROGRAMS OF THE INSTITUTE

Our institute providing various graduate Programmes such as, Mechanical, Electrical, Electronics and computer science, Computer science and Engineering and Civil Engineering.

The below statistics give the details of male female student ratio in faculties Mechanical, Electrical, Electronics and computer science, Computer science and Engineering and Civil Engineering.

Male Female Ratio of Computer science and Engineering				
Year	No of students		Ratio	
	Male	Female	Male	Female
2024-2025	84	89	48.55	51.44

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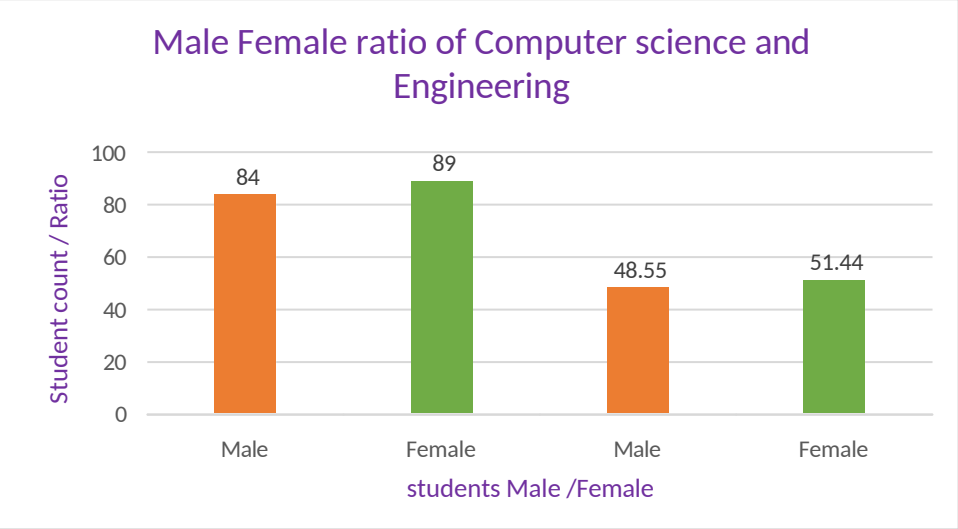
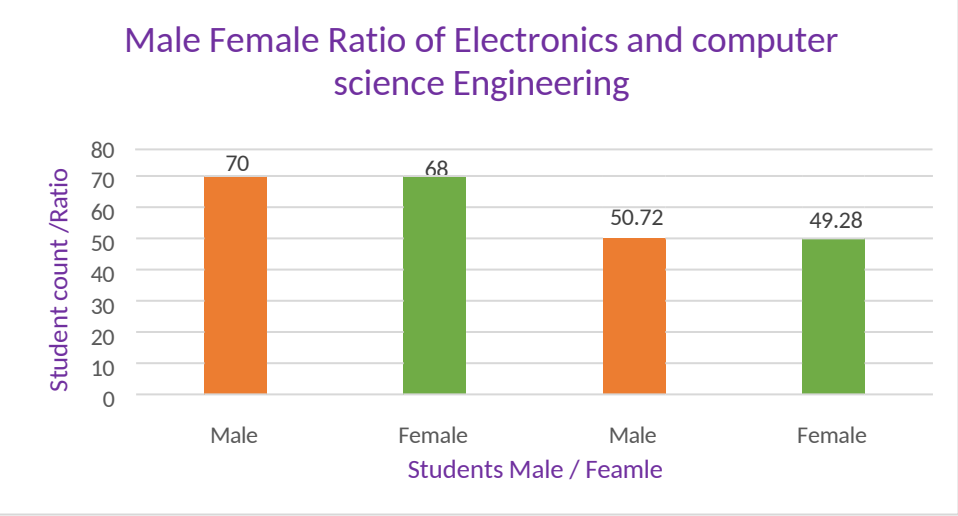
Academic Year 2024-25



Male Female Ratio of Electronics and computer science Engineering				
Year	No of students		Ratio	
	Male	Female	Male	Female
2024-2025	70	68	50.72	49.28



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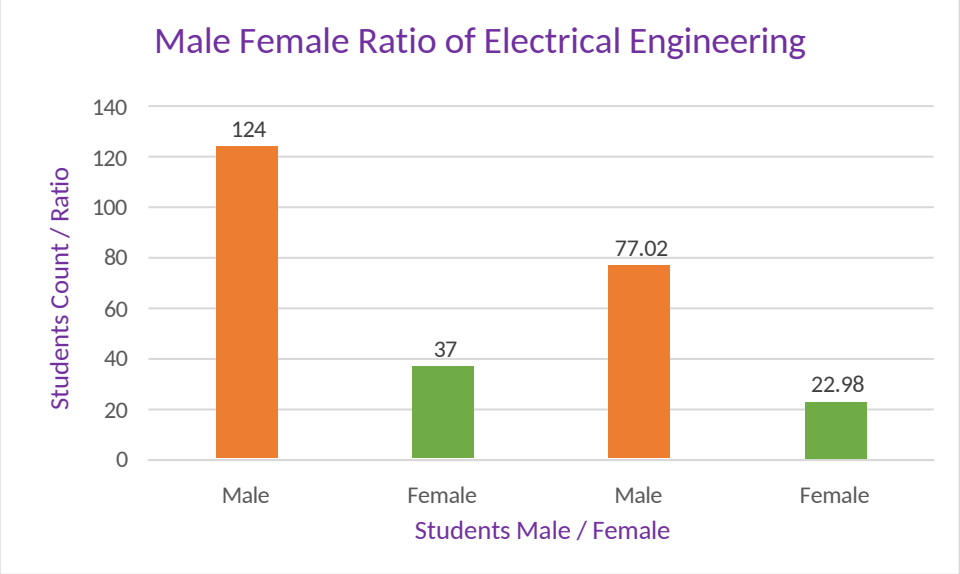
Academic Year 2024-25

Male Female Ratio of Electrical Engineering				
Year	No of students		Ratio	
	Male	Female	Male	Female
2024-2025	124	37	77.02	22.98



Male Female Ratio of Civil Engineering				
Year	No of students		Ratio	
	Male	Female	Male	Female
2024-2025	126	22	85.13	14.86

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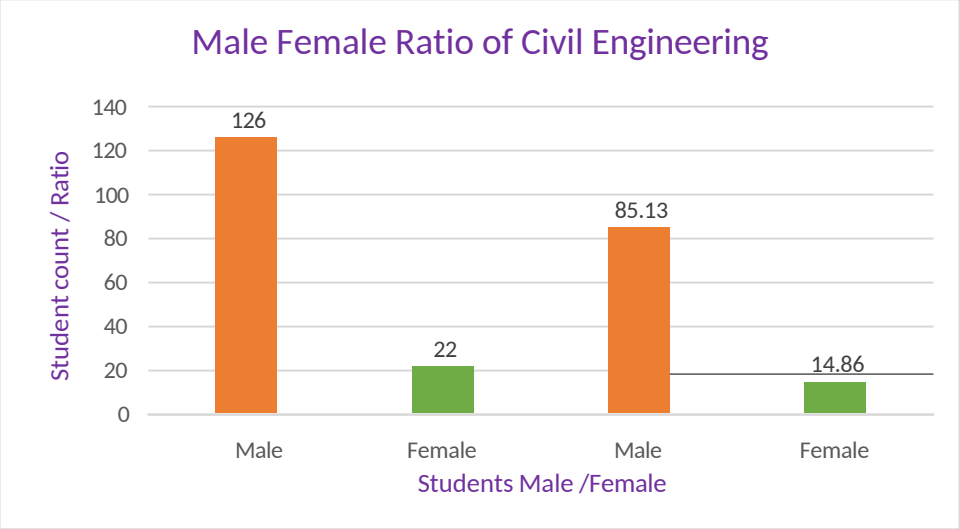
Academic Year 2024-25



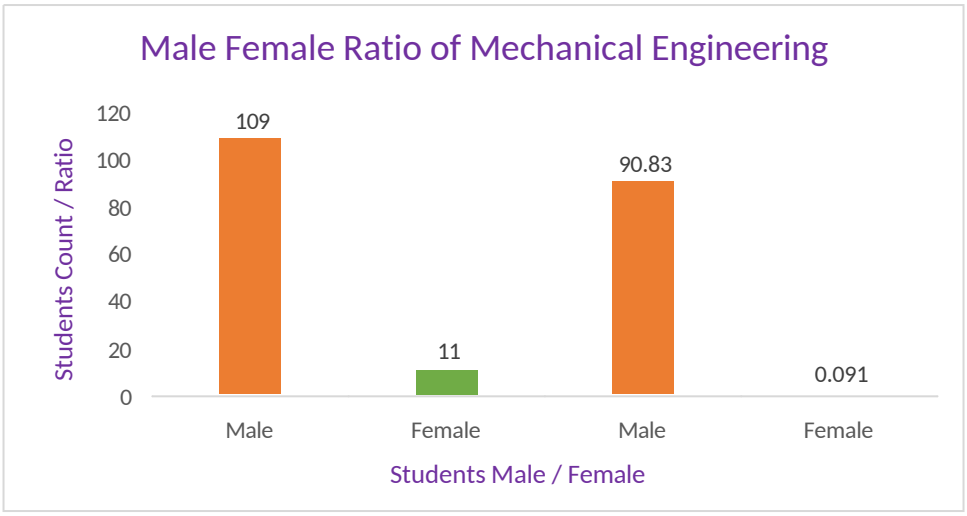
Male Female Ratio of Mechanical Engineering				
Year	No of students		Ratio	
	Male	Female	Male	Female
2024-2025	109	11	90.83	0.091

Dinkarrao K. Shinde Smarak Trusts

DR.A. D. SHINDE COLLEGEOFENGINEERING.

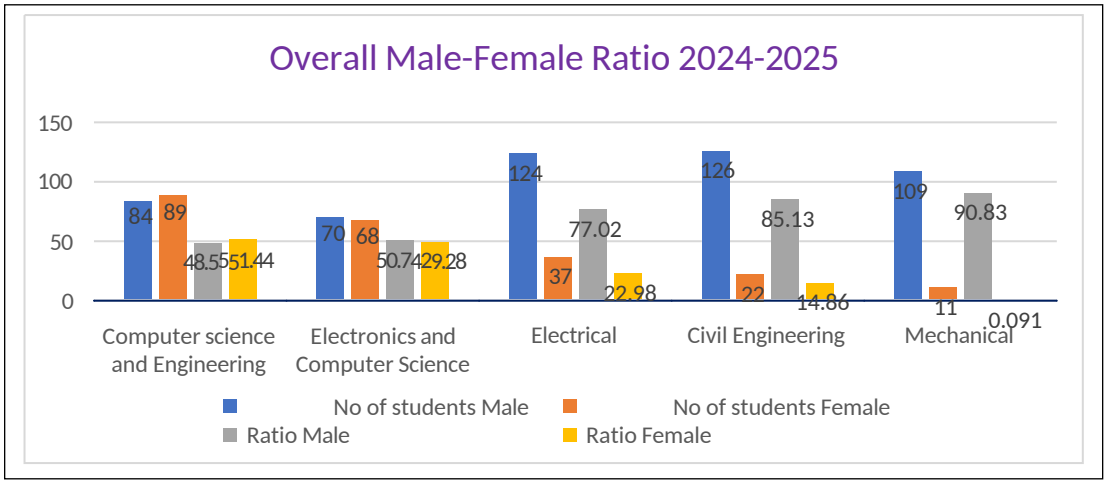
Bhadgaon, Gadhinglaj. Dist: Kolhapur Pin:416502

Academic Year 2024-25



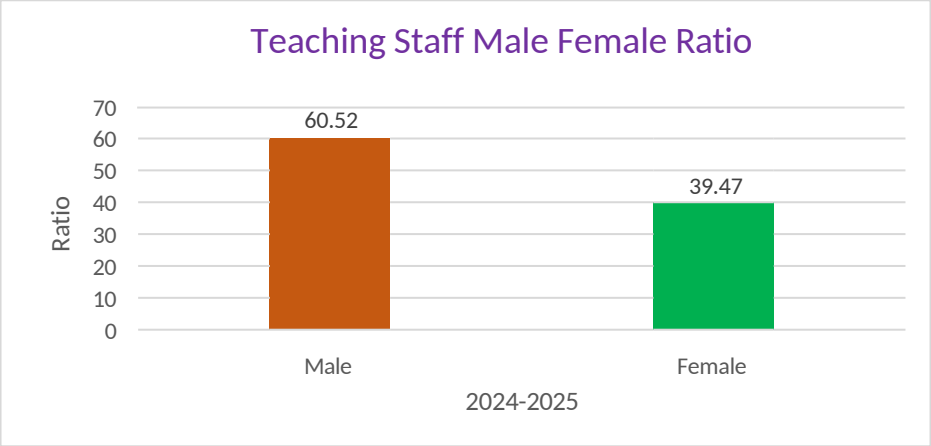
Overall Male Female Students Ratio for Assessment Period 2024-2025

Overall Male Female Ratio for **Assessment Period 2024-2025**				
Department	No of students		Ratio	
	Male	Female	Male	Female
Computer science and Engineering	84	89	48.55	51.44
Electronics and Computer Science	70	68	50.72	49.28
Electrical	124	37	77.02	22.98
Civil Engineering	126	22	85.13	14.86
Mechanical	109	11	90.83	0.091



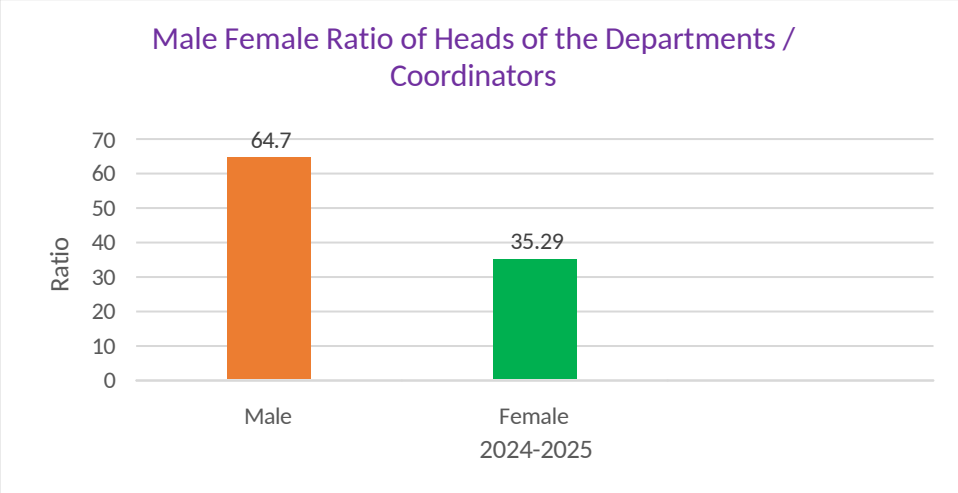
Teachers working in institute departments

Teaching Staff Male Female Ratio			
Year	Male	Female	Total
2024-2025	46	30	76
Ratio	60.52	39.47	



Women heads/ coordinators

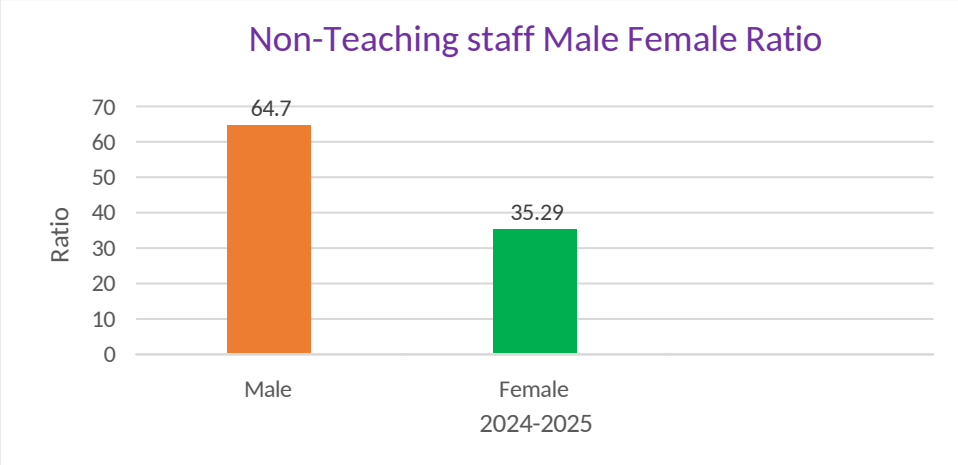
Male Female Ratio of Heads of the Departments / Coordinators				
Year 2024-2025			Ratio	
Male	Female	Total	Male	Female
11	6	17	64.70	35.29



Administrative staff of the institute

Non-teaching staff male female ratio

Non-Teaching staff Male Female Ratio				
Year	No of Non-teaching members		Ratio	
	Male	Female	Male	Female
2024-2025	24	15	61.53	38.46

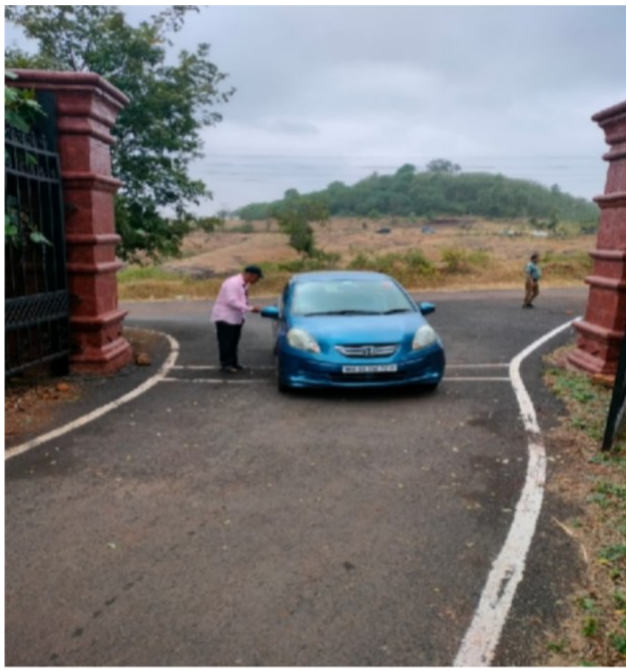


Officers and statutory bodies of the institute

Male female ratio of institute officers and statutory bodies

Male female ratio of institute officers and statutory bodies					
Category	No. of Officers			Ratio	
	Male	Female	Total	Male	Female
Governing Body	5	4	9	55.55	44.44

Safety and Security



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CCTV

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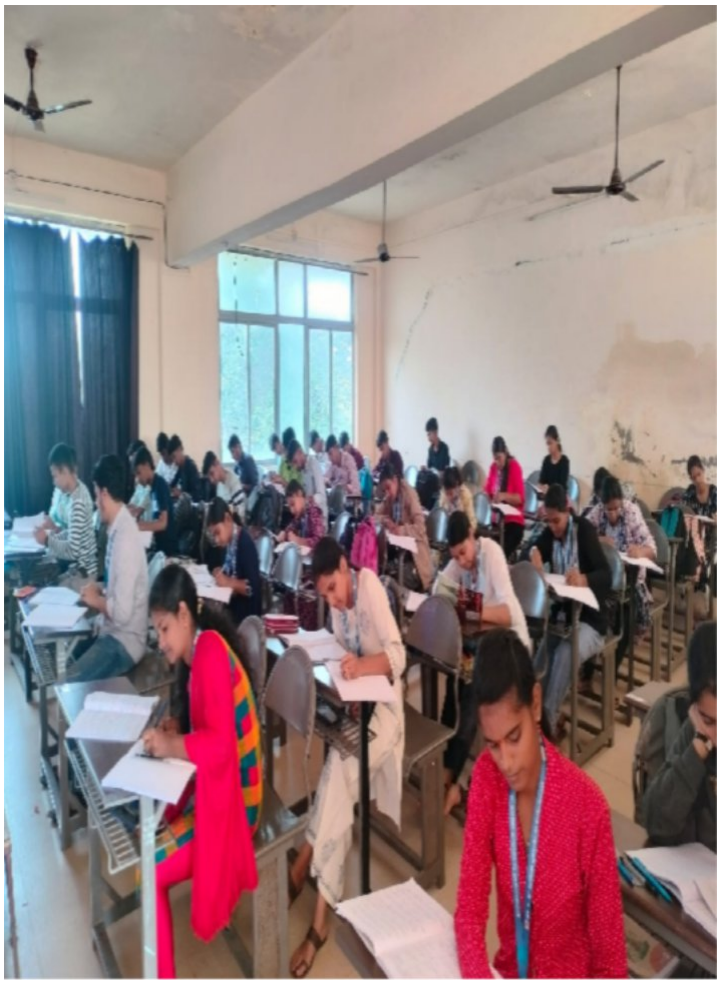
Student Wear Id Cards



Girls Common Rooms

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Awareness Session on Cyber Security

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Self-defense training

Demonstrating Self-Defense Skill

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Women's Day celebration

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Expert talk on Entrepreneur and Innovation as Career Opportunity

आयुष्यात नावीन्याचा शोध घ्या

विनया गोर : डॉ. शिंदे अभियांत्रिकीमध्ये व्याख्यान

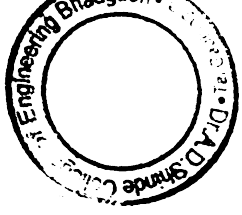
सकाळ वृत्तसेवा

गडहिंग्लज, ता. २० : समोर येणाऱ्या संकटांना तोंड देण्यासाठी विद्यार्थ्यांनी आत्मविश्वास वाढवायला हवा. आयुष्यात वाटचाल करताना नवनवीन गोष्टी शिकत राहिले पाहिजे, असे मत अमेरिकास्थित विनया गोर यांनी व्यक्त केले.

भडगाव (ता. गडहिंग्लज) येथील डॉ. ए. डी. शिंदे अभियांत्रिकी महाविद्यालयात आयोजित व्याख्यानात त्या बोलत होत्या. संस्थेच्या सचिव स्वाती कोरी यांची प्रमुख उपस्थिती होती. अमेरिका, युरोप व आशिया खंडाच्या देशांमधील कंपन्यांमध्ये बिझनेस लीडर म्हणून काम केलेल्या गोर यांनी आपला जीवन प्रवास उलगडून सांगताना विद्यार्थ्यांना विविध टिप्स दिल्या. त्यांच्या प्रेरणादायी व्याख्यानातून विद्यार्थ्यांना परिस्थितीनुरूप लीडर म्हणून आपले निर्णय कसे घ्यावेत, आपली मते अमलात आणताना टीम लीडर म्हणून सहकाऱ्यांचे सहाय कोणत्या पद्धतीने आपण मिळवू शकतो, याचे मार्गदर्शन स्व-अनुभवातून केले. पुरुषप्रधान संस्कृतीमध्ये स्वतःला सिद्ध करण्यासाठी अनेक अडचणींना सामोरे गेल्याचेही त्या म्हणाल्या.

सॉफ्ट स्किल्स कम्युनिकेशन, स्किल्स इमोशनल इंटलिजन्स गुणांच्या विविध देशांत काम करताना तेथील संस्कृतीशी जुळवून घेताना कसा उपयोग होतो, यानेही मार्गदर्शन केले. प्राचार्य डॉ. दिनकर घेवडे यांनी पाहुण्यांची ओळख करून दिली. सचिव स्वाती कोरी यांचे भाषण झाले. इन्स्टिट्यूट इनोव्हेशन कौन्सिलतर्फे कार्यक्रमाचे आयोजन केले.

भडगाव : डॉ. ए. डी. शिंदे कॉलेज ऑफ इंजनिअरिंगमध्ये आयोजित व्याख्यानाच्या उद्घाटनप्रसंगी विनया गोर, स्वाती कोरी, डॉ. दिनकर घेवडे आदी उपस्थित होते.



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Organized Annual Sports Meet

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Dr. A.D. Shinde College of Engineering

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

Academic Year 2024-25

Institutional integrates cross cutting issues relevant to Environment and Sustainability.

- **World Environment Day**
- **Energy Conservation by using LED lamps**

Dinkarrao K. Shinde Smarak Trust's

Dr. A.D. Shinde College of Engineering

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

Academic Year 2024-25

World Environment Day 2024-25

Dinkarrao K. Shinde Smarak Trust's

Dr. A.D. Shinde College of Engineering

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

Date: 04/06/2024

NOTICE

All the students are hereby informed that, on 5th June 2024 we are going to arrange "Tree plantation Event" on the occasion of **"World Environment Day".** So, all the students have to be present in college sharp at 09.30 am.

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

Principal

(Dr. D. V. Ghewade)
PRINCIPAL
A.D.Shinde College of Engineering
Bhadgaon,Tal.Gadhinglaj,Dist.Kolhapur

Dinkarrao K. Shinde Smarak Trust's

Dr. A.D. Shinde College of Engineering

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

Report on word environment day

Event Details	
Activity Title	Tree Plantation
Date	05/06/2024
Venue	DADSCOE College Campus.
Time	10.00 am
Activity Coordinator	Prof. S.A.Killedar

Objectives

1. Increase Global Environmental Awareness.
2. Promote Sustainable Practices and Lifestyles.
3. Encourage Positive Action for the Environment and Highlight the Importance of Biodiversity and Ecosystem Protection.

Description

The **World Environment Day** celebration was organized with great enthusiasm at our institution in collaboration with the **National Service Scheme (NSS)** wing. Observed globally every year on **June 5th**, World Environment Day serves as an important reminder of our collective responsibility to protect and preserve the environment. Initiated by the **United Nations in 1972**, this day has evolved into one of the largest global platforms for public outreach, addressing pressing environmental issues and encouraging sustainable practices across communities worldwide. Each year, a specific theme is highlighted, motivating people to work together for a greener and healthier planet.

The program commenced with the **inauguration by the Hon. Principal**, who delivered an inspiring address on the vital role of trees in maintaining ecological balance. The Principal emphasized how increasing green cover helps combat climate change, purify the air, and ensure a healthy environment for future generations.

A **guest speaker**, a respected environmentalist, further enriched the event by sharing valuable insights on environmental conservation. Through his speech, he highlighted the ecological, social, and long-term community benefits of tree plantation, encouraging students to adopt sustainable lifestyles and become proactive environmental caretakers.

As part of the celebration, the college organized a **Tree Plantation Drive** on the campus. This initiative

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As part of the celebration, the college organized a **Tree Plantation Drive** on the campus. This initiative reflected the college's continuous commitment to environmental sustainability and climate action. Students, faculty members, and non-teaching staff participated with great zeal, planting a variety of saplings in designated areas of the campus. The drive aimed to increase the campus's green cover, promote biodiversity, and spread awareness about the importance of trees in maintaining a healthy ecosystem.

The participants took part enthusiastically, demonstrating teamwork and responsibility. The event not only provided hands-on experience in tree planting but also fostered a sense of environmental stewardship among the students. The planted saplings symbolize hope and a promise toward a greener future.

Overall, the World Environment Day celebration proved to be an enlightening and impactful event. It successfully conveyed the message of sustainability and encouraged everyone to take small but meaningful steps toward protecting our environment. The collaboration with the NSS unit played a crucial role in mobilizing student volunteers and making the programme a memorable success.

Event Co-Ordinator

Dr. A.D. Shinde College of Engineering Bhadgaon Tal. Gadhinglaj

Principal

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

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पुण्य नगरी

शिंदे कॉलेज ऑफ इंजिनिअरिंगमध्ये जागतिक पर्यावरण दिवस साजरा

गडहिंग्लज : प्रतिनिधी

भडगाव (ता. गडहिंग्लज) येथील डॉ. ए. डी. शिंदे कॉलेज ऑफ इंजिनिअरिंगमध्ये जागतिक पर्यावरण दिवस साजरा करण्यात आला. यावेळी राष्ट्रीय सेवा योजना विभागामार्फत वृक्षारोपण व जनजागृती करण्यात आली. सुरेश साखरे यांच्या हस्ते वृक्षारोपण करण्यात आले.

यावेळी सुरेश साखरे यांनी वैश्विक वातावरणाचा गंभीरप्रश्न मानवासमोर उभा ठाकला आहे आणि याचे विपरीत परिणाम आपण भोगत असल्याचे दुरदृश्य आपण पाहत आलोत. यासाठी जास्तीत जास्त वृक्षारोपण करून पर्यावरण समतोलासाठी हातभार लावणे गरजेचे असल्याचे सांगितले. यावेळी संस्थेमार्फत एक हजार रोपांची लागवड महाविद्यालय परिसरात करण्यात आली. कार्यक्रमास डॉ. डी. ढवळे, ग्रंथपाल उर्मिला शिंदे, सचिव स्वाती कोरी यांसह सर्व शिक्षक शिक्षकेतर कर्मचारी, विद्यार्थी उपस्थित होते.

Smart Kolhapur Edition
Jun 6, 2024 Page No. 03

Tree plantation News

Tree plantation by Staff

Dinkarrao K. Shinde Smarak Trust's

Dr. A.D. Shinde College of Engineering

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Tree plantation by students

Dinkarrao K. Shinde Smarak Trust's

Dr. A.D. Shinde College of Engineering

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

Academic Year 2024-25

Energy conservation by Using LED Lamp

1.3.1 Institutional integrates cross cutting issues relevant to Environment and Sustainability

The Institution has facilities for alternate sources of energy and energy conservation measures:

1. Use of LED Tub lights:

Early in our college SYSKA company bulbs are used it is replaced by HPL LED Tube lights to save energy. In each cabin we connected LED Tube lights quantity of LED Tube lights connected in each department is given below. Each have 20 watts.

S.NO	NAME OF CABIN	QUNTITY OF LED TUBLIGHTS
1	Principle cabin	04
2	Board Roam	03
3	Office	10
4	IQAC	02
5	TP Cell	01
6	Seminar Hall	10
7	Library	10
8	Classrooms	42
9	Smart classroom's	12
10	ECS Department	35
11	CS Department	23
12	EE Department	29
13	Civil Department	32
14	Mechanical Department	30
16	Science and humanity Department	15
17	Boys Washrooms	14
18	Boys common roam	04
19	Girls Washrooms	11
20	Girls common roam	04
21	Varandas	39
TOTAL		**330 LED tube lights are used**

NOTE: 100% LED BULBS ARE UESD IN COLLEGE SO WE ARE SAVE THE LIGHT ENERGY.
Earlier Energy consumption=PT=200WH=0.2Kwh
NOW PT =100WH=0.1Kwh SO Total we save 0.1kwh*330=33Kwh energy is saved by using LED tube lights.

Dinkarrao K. Shinde Smarak Trust's

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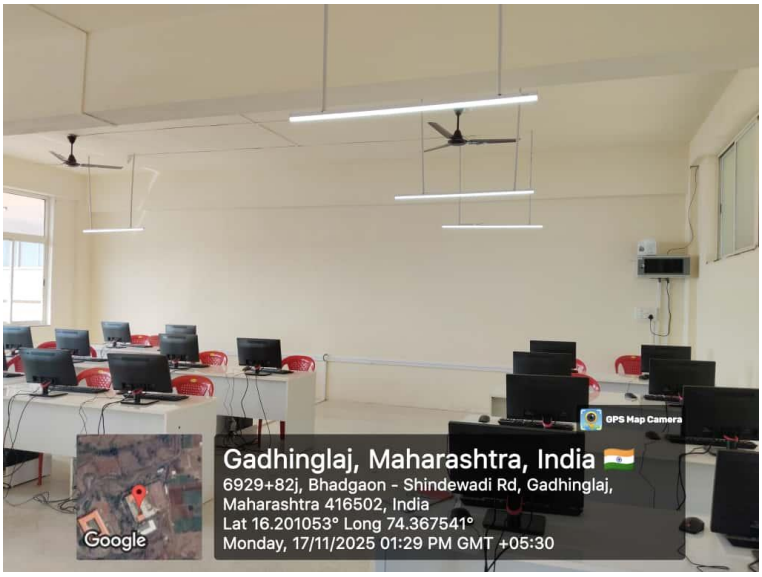
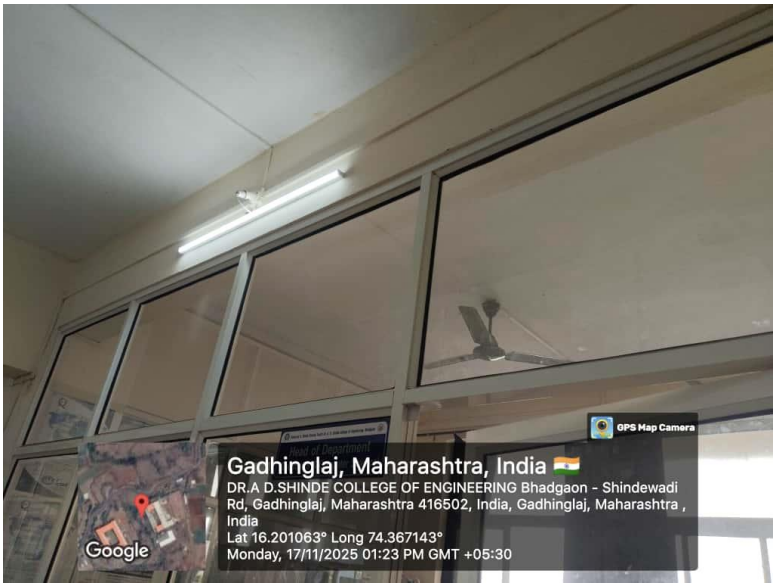
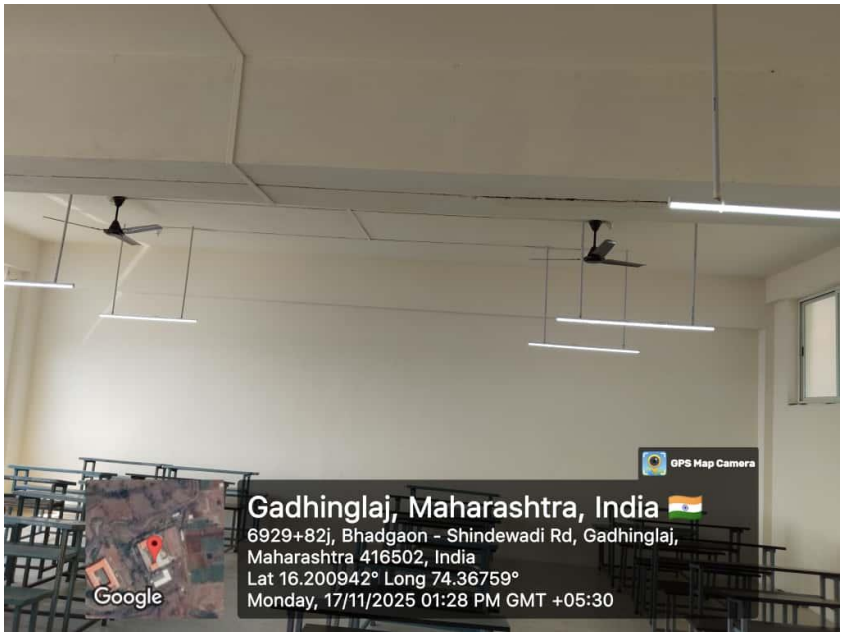
Academic Year 2024-25



ECS Programming Lab1



CS Programming Lab1



Sunita Williams class

Power Electronics lab

2. Use of Solar Pannel:

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Academic Year 2024-25

A **20 kW grid-connected solar power system** has been installed on the campus to promote sustainable and eco-friendly practices. The system supports the institution in meeting a part of its daily electricity requirement through renewable energy, thereby reducing the overall power consumption from the grid.

Solar Side View

Solar Front View