

Dr. J.J.Magdum Trust's

Dr.J.J.Magdum College of Engineering, Jaysingpur

STUDENTS INFORMARTION MANUAL
T.Y. B.Tech (2024-25)(Sem-I)



Department of Civil Engineering

Name of Student :

P.R.N.Number :

Roll Number :

Division :

Academic Year :

Mobile Number :

E-mail ID :

Institute Information

Dr J J Magdum College of Engineering was established by Dr J J Magdum Trust, Jaysingpur in the year 1992 with an objective to promote the cause of higher education. The institute is approved by All India Council of Technical Education (AICTE), New Delhi and Government of Maharashtra, affiliated to Shivaji University, Kolhapur. The college offers B. Tech program in Mechanical, Civil, Computer Science Engineering, Electronics & Tele-Communication, Information Technology and M. Tech program in Civil Engineering-Construction Management.

Undergraduate

Programme

Branch	Degree	Intake
Civil Engineering	B.Tech. (Civil Engineering)	60
Mechanical Engineering	B.Tech. (Mechanical Engineering)	60
Computer Science & Engineering	B.Tech.. (Computer Science & Engineering)	60
Information Technology	B.Tech. (Information Technology)	60
Electronics & Telecommunication Engg.	B.Tech. (Electronics & Telecommunication Engg)	60

Post Graduate Programme

Branch	Degree	Intake
Civil(Construction Management) Engineering	M.Tech.(Civil-Construction Management)	18

Dr.J.J.Magdum Trust's

Dr.J.J.Magdum College of Engineering

Gat No. (314/330), Shirol – Wadi Road,(Agar Bhag),

Jaysingpur : 416101, Tal : Shirol, Dist : Kolhapur. State : Maharashtra

Website: www.jjmcoe.ac.in, E-mail: principal@jjmcoe.ac.in



Vision of Institute

To be a Leading academic organization, creating skilled and Ethical Human Resources by leveraging Technical Education for Sustainable Development of Society.

Mission of Institute

- M1. To produce Competent Technocrats to meet modern societal and industrial challenges.
- M2. To create ethical and skilled human resources through quality education and various extension activities and outreach programs
- M3. To leverage technical expertise to solve societal issues for its Sustainable Development

Quality Policy

We strive for continual improvement in our performance through methodical academic monitoring, student participation, and use of the innovative teaching-learning processes.

DEPARTMENT OF CIVIL ENGINEERING

The Department of Civil Engineering was established in the year 1992 with a sanctioned intake of 60 along with the establishment of institute intake increases 120 in 2011-12. P.G. Course in Construction & Management started in 2010-11. The department has a good intermingle of experienced and young faculty which works as a team to strengthen the department.

Vision of Department

To contribute to the growth of technical education by providing competent technical manpower with high ethical values.

Mission of Department

To prepare students of high quality with sound knowledge of both theory and practice in Civil Engineering and also exposing them to latest technology in the industry

Programme Educational Objectives (PEO's)

The PEOs of the Programme are;

PEO 1: To prepare graduates for prosperous careers across different sectors of the Civil Engineering Profession by imparting a strong base in mathematical analysis, scientific thinking, and the essential engineering principles required to resolve practical issues.

PEO2: To equip graduates for employment opportunities across government, public, and private sectors within diverse spheres of Civil Engineering.

PEO3: To inspire and train the graduates with the skills required for higher studies as well as to nurture their entrepreneurial aspirations.

Programme Outcomes (PO's)

At the end of successful completion of program, the graduates will be able to,

1. **Engineering Knowledge:** Apply knowledge of mathematics, science, engineering Fundamentals and an engineering specialization to the solution of complex engineering pr
2. **Problem Analysis:** Identify, formulate, research literature and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.
3. **Design/Development of Solutions:** Design solutions for complex engineering problems and design system components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal and environmental
4. **Conduct investigations** of complex problems using research-based knowledge and research methods including design of experiments, analysis and interpretation of data and synthesis of information to provide valid
5. **Modern Tool Usage:** Create, select and apply appropriate techniques, resources and modern engineering and IT tools including prediction and modeling to complex engineering activities with an under-standing of the limitations.
6. **The Engineer and Society:** Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering
7. **Environment and Sustainability:** Understand and the impact of professional engineering solutions in societal and environmental contexts and demonstrates knowledge of and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering
9. **Individual and Teamwork:** Function effectively as in visual, and as a member or leader in diverse teams and in multidisciplinary s
10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations and give and receive clear
11. **Project Management and Finance:** Demonstrate knowledge and understanding of engineering and management principles and apply these too noels on work, as a member and leader instead, to manage projects and in multidisciplinary environment
12. **Lifelong Learning:** Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological

Program Specific Outcomes (PSO)

The graduates of this Programme will be able,

PSO 1: To meet the needs of public in the design and execution of quality construction work considering societal and environmental factors.

PSO 2: To analyse and design regular and complex structures.

PSO 3: To work effectively as an individual or in a team having acquired leadership skills and manage projects in multidisciplinary environme

STUDENTS ROLE

As our society/ nation grows & becomes technologically more strong / complex, it needs more trained Engineers. Students can contribute to this professional growth by playing an effective & disciplined role during their studies.

Responsibilities:

1. Punctuality, 100% Attendance & Active participation in All Academic Activities
2. Self-Discipline & good relations with other students, teaching & support staff.
3. Positive attitude, motivation and technical thinking.
4. Participation in Co-Curricular & Extra-Curricular activities.
5. Always carrying Identity Card & following the College Dress Code.
6. Pursuing all-round personality development with good generic skills.
7. Following the Code-of-Conduct by the Department, Institute & University.

Code-of-Conduct:

1. Coming late to Lectures/Practical's, common off, leave without permission is serious offence.
2. Roaming in the campus during academic work or disturbing the campus activities through shouting/ misconduct is not permitted.
3. Use of personal unauthorized electronic gadgets in department premises is objectionable.
4. Attendance less than 75% will lead to semester defaulter & make you ineligible for Exams.
5. Any form of violence, ragging, use of tobacco, alcohol or drugs on campus are serious offences punishable with rustication from the institute &/ legal action.

Let us all- Society, parents, teachers and students join hands & put our best efforts to imbibe the above mentioned behavior in our students.

Laboratory and Classroom Instructions

Laboratory instructions:

- Handle all Devices /equipments carefully
- Follow safety procedures & avoid damage to self and equipment
- Inform to respective faculty before beginning your experiment
- Help to conserve energy, Switch off the equipments tubes & fans before leaving the laboratory
- Inform the lab assistant or lab in-charge when any fault arises during the performance of an experiment
- Report any not working equipment to the lab instructor; don't open/ remove the cover/ attempt to repair any equipment.
- Do not move the instruments from one laboratory to another , without permission

Classroom instructions:

- Maintain silence in class rooms
- Don't write anything on seating bench and walls of classroom.
- Keep your mobiles switched off
- Attend classes regularly and be punctual for your classes.
- Your reason of absence should be timely informed to your class teacher with written application.
- Help to conserve energy, Switch off fans and tubes before leaving the classroom.
Keep the Classrooms clean

Institute Academic Planner (2024- 2025 Part- I)

Sr. No.	Section/ Head	Activity	Date
1	SUK Calender	Start of academic year- SY, TY, B.Tech & M.Tech	1-Jul-2024
2	NSS	One day cleaning activity at college campus.	15-Jul-2024
3	NSS	One day cleaning activity at adopted Village(Jambhali)	20-Jul-2024
4	R&D	Expert Session on “ Selecting the good project topic and writing synopsis ” (Session to be conducted by each department)	20-Jul-2024
5	FY Department/Registrar	BoS First Year B.Tech	25-Jul-2024
6	R&D	Synopsis presentation and DRC meeting for project synopsis approval	31-Jul-2024
7	NSS	Tree Plantation Program	3-Aug-2024
8	Respective Department/Registrar	BoS SY/TY/ B.Tech	Second Week of August
9	JJM Trust	Independence Day	15-Aug-2024
10	Exam Cell	CIE-I (SY, TY & B.Tech)	16 to 17-Aug-2024
11	R&D	SORT Inauguration & Expert session on research topic	20-Aug-2024
12	Women Cell	Inauguration of Women Cell to empower women/girls of the Institute by conducting various activities	21-Aug-2024
13	Respective Department	Result Decleration CIE-I	23-Aug-2024
14	FY Department	Induction/Orientation of FY Students	26 to 31-Aug-2024**
15	Respective Department	Parents Meet	31-Aug-2024
16	Respective Department	Advisory board meeting	Last Week of August
17	AI&DS	Two-day Workshop for faculty on T.Y. Syllabus training of AIDS	Last Week of August
18	FDC	One day workshop on induction program for newly appointed faculty	Aug-24

19	Dean Academics	Academic Council	First Week of September
20	R&D	First assessment of project (Introduction and literature review presentation) 8/31/2024	2-Sep-2024
21	R&D	Expert session on “ Research publication” (Session to be conducted by each department)	3-Sep-2024
22	R&D	Expert Lecture for faculty & students on IPR	6-Sep-2024
23	NSS	Collection of Nirmalya during Ganesh Festival	12 to 17-Sep-2024
24	R&D	Expert Session on Patent Drafting Process for Final Year B.Tech and MCA students	13-Sep-2024
25	R&D	SORT activity-II	21-Sep-2024
26	Women Cell	One day session on to make aware all the ladies/girls about their health by Fitness Instructor	21-Sep-2024
27	Exam Cell	CIE-II (SY, TY & B.Tech)	30-Sep-2024
28	CSE	Two-day Workshop for faculty on Data Analytics	Sep-24
29	Exam Cell	CIE-II (SY, TY & B.Tech)	1-Oct-2024
30	R&D	Second assessment of project (Methodology and future work presentation)	5-Oct-2024
31	Respective Department	Result Decleration CIE-II	7-Oct-2024
32	Alumni Cell	Alumni Meet	13-Oct-2024
33	Women Cell	Workshop on any activity ralated environmental awareness among all the students/faculty/staff by nature lover/ ecologist/ coservationist	19-Oct-2024
34	ENTC	One day workshop for faculty on 3D printing	Oct-24
35	CSE	Two-day Workshop on Linux OS for non-teaching staff	Oct-24
36	MCA	One day Workshop on cloud computing for faculty	Oct-24
37	FDC	One week STTP in coordination with any two departments	Nov-24
38	SUK Calender	Semester End (SY, TY & B.Tech)	30-Nov-2024
39	SUK Calender	Semester End- M.Tech	7-Dec-2024
40	JJM Trust	Dr. J.J.Magdum Jayanti	31-Dec-2024

	Civil	Two-day workshop on For Faculty Structural health monitoring and audit of building	Last week of December
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July-24						
SUN	MON	TUE	WED	THU	FRI	SAT
	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			

Sr.No.	Date	Activity	Section/Head
1	1-Jul-2024	Start of academic year- SY, TY, B.Tech & M.Tech	NSS
2	15-Jul-2024	One day cleaning activity at college campus.	NSS
3	20-Jul-2024	One day cleaning activity at adopted Village(Jambhali)	R&D
4	20-Jul-2024	Expert Session on “ Selecting the good project topic and writing synopsis ” (Session to be conducted by each department)	R&D
5	31-Jul-2024	Synopsis presentation and DRC meeting for project synopsis approval	R&D

August-24						
SUN	MON	TUE	WED	THU	FRI	SAT
				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

Sr.No.	Date	Activity	Section/Head
1	3-Aug-2024	Tree Plantation Program	NSS
2	15-Aug-2024	Independence Day	JJM Trust

3	16 to 17-Aug-2024	CIE-I (SY, TY & B.Tech)	Exam Cell
4	16-Aug-2024	SORT Inauguration & Expert session on research topic 8/20/2024	R&D
5	17-Aug-2024	Inauguration of Women Cell to empower women/girls of the Institute by conducting various activities 8/21/2024	Women Cell
6	23-Aug-2024	Result Declaration CIE-I	Respective Department
7	31-Aug-2024	Parents Meet	Respective Department

September-24						
SUN	MON	TUE	WED	THU	FRI	SAT
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					

Sr.No.	Date	Activity	Section/Head
1	2-Sep-2024	First assessment of project (Introduction and literature review presentation) 8/31/2024	R&D
2	3-Sep-2024	Expert session on “ Research publication” (Session to be conducted by each department)	R&D
3	6-Sep-2024	Expert Lecture for faculty & students on IPR	R&D
4	12 to 17-Sep-2024	Collection of Nirmalya during Ganesh Festival	NSS
5	13-Sep-2024	Expert Session on Patent Drafting Process for Final Year B.Tech and MCA students	R&D
6	21-Sep-2024	SORT activity-II	R&D
7	21-Sep-2024	One day session on to make aware all the ladies/girls about their health by Fitness Instructor	Women Cell
8	30-Sep-2024	CIE-II (SY, TY & B.Tech)	Exam Cell

October-24						
SUN	MON	TUE	WED	THU	FRI	SAT

		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			

Sr.No.	Date	Activity	Section/Head
1	1-Oct-2024	CIE-II (SY, TY & B.Tech)	Exam Cell
2	5-Oct-2024	Second assessment of project (Methodology and future work presentation)	R&D
3	7-Oct-2024	Result Declaration CIE-II	Respective Department
4	13-Oct-2024	Alumni Meet	Alumni Cell
5	19-Oct-2024	Workshop on any activity related environmental awareness among all the students/faculty/staff by nature lover/ ecologist/ coservationist	Women Cell

Dean, Academics

Principal

Campus Director

Time Table

Academic Year: 2024-25

Department: Civil Engineering

Class Room No.:B215

Class Teacher:Prof Mrs S P Madnaik

Semesters: I

Class: TY B.Tech

W.e.f.: 9/9/2024

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
09.30 am-10.30 am	DSS	GT I	EE I	WRE I	BPD	BPD
10.30 am-11.30 am	OE I	WRE I	DSS	GT I	EE I	BPD
11.30 am -11.40 am	SHORT RECESS					
11.40 am -12.40 pm	GT I	A1 DSS A2 BPD*	GT I	EE I	A1 WRE I A2 EE I	
12.40 pm -01.40pm	WRE I		OE I	DSS		
01.40 pm-02.30 pm	LONG RECESS					
02.30 pm-03.30 pm	A1 BPD A2 DSS	A1 EE I	A1 BPD	A1 GT I	DSS	--
03.30 pm-04.30 pm		A2 GT I	A2 WRE I	A2 BPD*	OE I	--

Name of the Subject	Abb.	Name of Teacher	Place of Practical
Water Resources Engineering-I (TH & PR)	WRE-I	Prof. Ms. S. S. Khot (Th+Pr.1,2)	Tutorial room
Building Planning and Design (TH & PR)	BPD	Prof. V. A. Patil (Th+Pr. 1) Dr. J. S. Lambe (Pr. 2)*	Drawing Hall
Design of Steel Structure (TH)	DSS	Prof. K. G. Ghodake (Th+Pr. 1,2)	-----
Environmental Engineering-I(TH & PR)	EE-I	Prof. Mrs. D. A. Latthe (Th+Pr.1,2)	Environmental Lab
Geotechnical Engineering-I(TH&PR)	GT-I	Prof. Mrs. S. P. Madnaik(Th+Pr.1,2)	GT Lab
Open elective - I	OE I	Prof. Mrs. D. A. Latthe	-----

Third Year CIVIL ENGINEERING – CBCS PATTERN

SEMESTER – V

Sr. No	Course (Subject Title)	TEACHING SCHEME									EXAMINATION SCHEME											
		THEORY			TUTORIAL			PRACTICAL			THEORY					PRACTICAL			TERM WORK			
		Credits	No. of Lecture	Hours	Credits	No. of Lecture	Hours	Credits	No. of Lecture	Hours	Hours	Mode	Marks	Total Marks	Min	Hours	Max	Min	Hours	Max	Min	
1	PCC-CV501	3	3	3	-	-	-	1	2	2		CIE	30	100	40	As per BOS Guidelines	25	10	2	50	20	
											ESE	70										
2	PCC-CV502	4	4	4	-	-	-	1	2	2		CIE	30	100	40			-	-	2	25	10
											ESE	70										
3	PCC-CV503	3	3	3	-	-	-	1	2	2		CIE	30	100	40			-	-	2	25	10
											ESE	70										
4	PCC-CV504	4	4	4	-	-	-	1	2	2		CIE	30	100	40			25	10	2	50	20
											ESE	70										
5	PCC-CV505	2	2	2	-	-	-	2	4	4		-	-	-	-			50	20	2	50	20
6	OEC-CV506	3	3	3	-	-	-	-	-	-		CIE	30	100	40			-	-	-	-	-
											ESE	70										
	TOTAL	19	19	19	-	-	-	6	12	12				500			100			200		

SEMESTER – VI

1	PCC-CV601	3	3	3	1	1	1	-	-	-		CIE	30	100	40	As per BOS Guidelines	-	-	2	25	10	
											ESE	70										
2	HM-CV602	4	4	4	-	-	-	1	2	2		CIE	30	100	40			25	10	2	25	10
											ESE	70										
3	PCC-CV603	4	4	4	-	-	-	1	2	2		CIE	30	100	40			25	10	2	25	10
											ESE	70										
4	PCC-CV604	4	4	4	-	-	-	1	2	2		CIE	30	100	40			-	-	2	25	10
											ESE	70										
5	OEC-CV605	3	3	3	-	-	-	-	-	-		CIE	30	100	40			-	-	-	-	-
											ESE	70										
6	PCC-CV606	-	-	-	-	-	-	2	4	4		-	-	-	-		50	20	2	50	20	
7	MC-CV607	-	-	-	-	-	-	1	2	2		-	-	-	-		-	-	2	50	20	
8	*SI-CV707	-	-	-	-	-	-	-	-	-		-	-	-	-		-	-	-	-	-	
	TOTAL	18	18	18	1	1	1	6	12	12				500			75			225		
	TOTAL	37	37	37	1	1	1	12	24	24				1000			175			425		

CIE- Continuous Internal Evaluation

ESE – End Semester Examination



SHIVAJI UNIVERSITY, KOLHAPUR

REVISED SYLLABUS

THIRD YEAR (B. Tech) CBCS

CIVIL ENGINEERING

To be introduced from the academic year 2020-21

(i.e. from June 2020) onwards

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 hydro meteorological 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 hydro meteorological 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
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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. "Irrigation 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

Assignment Questions

1. Explain hydrologic cycle with sketch.
2. Describe various types of precipitation
3. Enlist & explain types of rain gauge with neat sketch.
4. What are the various selection criteria for raingauge station.
5. What are the different methods of evaporation with neat sketch.
6. How will you control evaporation from reservoir
7. Define hydrograph. Explain various components of it

8. Define runoff. What are the various factors affecting the runoff.
 9. What is UH? Give limitations assumption and use of unit hydrograph?
 10. Write various methods of estimating runoff
 11. Write a note on – a) design flood
b) standard project flood
c) probable maximum flood
d) recurrence period
 12. What is the procedure of construction of unit hydrograph
 13. Methods of measurement of peak flood
 14. Explain the darcy law for ground water movement and its range of validity
 15. Write note on occurrence of groundwater table.
 16. Derive the expression for discharge for steady flow to the well in an unconfined aquifer. Explain in terms of radius of influence.
 17. Differentiate between tube well and open well
 18. Write the procedure to construct the TUBE well
 19. Define irrigation and its necessity.
 20. Explain the various types of irrigation systems
 21. Explain the various crop seasons in india.
 22. What is mean by duty, delta & base period. Derive the relation between them.
 23. What are the various factors affecting the duty.
 24. What are the methods of calculating consumptive use of water
 25. Explain with layout of percolation tank & its design consideration.
 26. What do you understand by watershed management. Explain in details different activity performed in water shed management programme
 27. Explain with neat sketch KT weir.
 28. Explain with neat sketch general layout of various components of lift irrigation scheme.
-

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

Design of Steel Structures

Course	Teaching Scheme				Evaluation Scheme				
	L	T	P	Credit	Scheme	Theory (Marks)		Practical(Marks)	
						Max	Min. for Passing	Max	Min. for Passing
DSS (PCC-CV502)	04	---	02	05	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 the behavior of elements of steel structure.
2. To understand the design concept of steel structure and its members by LSM.

Course Outcomes:

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

1. Describe the design philosophy, behavior of steel structure and failure mechanism.
2. Analyze and design different types of bolted & welded connections.
3. Assess the strength of structural members as per Indian Standards.
4. Analyze and design members subjected to tension, compression and flexure.

SECTION- I

Unit 1: Introduction and Connections

8hrs

1.1 *Introduction*: Design philosophy, Advantages and disadvantages of steel structures, Types of steel structures, Grades of structural steel, Loads and load combinations, Partial safety factors for load and materials for steel structures.

1.2

Connections: Bolted & welded- Analysis and design of axially and eccentrically loaded bolted and welded connections.

Unit 2: Tension Members

8hrs

- 2.1 Common sections, Net area, Modes of failure, Load carrying capacity.
- 2.2 Design of tension members.

Unit 3: Compression Members

8hrs

- 3.1 Compression member as strut common sections, Economical sections, Effective length, Slenderness ratio, Modes of failure, Classification of cross section, Behavior of compression member, Load carrying capacity
- 3.2 Design of compression members- Single and double angle.

SECTION- II

Unit 4: Column and Column Bases

8hrs

- 4.1 *Columns*: Design of column subjected to axial and eccentric loading, Design of lacing, Battening system, Column splices.

- 4.2 *Column Bases*: Design of slab base & gusseted base subjected to axial and eccentric loading, Design of concrete pedestal (dimensions only)

Unit 5: Beams

8hrs

- 5.1 Beam in flexure - Types of sections, Behavior, Design of laterally supported and unsupported beams, Rolled steel sections, Built up beams/compound beams using flange plates, Curtailment of flange plates,
5.2 Design for strength and serviceability
5.3 Web buckling & web crippling.

Unit 6: Gantry Girder

8hrs

- 6.1 Forces acting on gantry girder, Commonly used sections
6.2 Design of gantry girder as laterally unsupported beam
6.3 Connection details

Term Work:

One assignment per unit with minimum four numerical in each assignment

Text Books:

1. "Limit State Design of Steel Structures" - Duggal S.K. - Tata McGraw-Hill Education private Ltd., New Delhi, 2nd Edition 2014
2. "Design of Steel Structures: By Limit State Method as Per IS: 800 – 2007" - Bhavikatti S. S., I K International Publishing House.
3. "Limit State Design in Structural Steel" - Shiyekar M. R., 2nd Edition, PHI Publisher
4. "Design of Steel Structures" - Dayaratnam, Wheeler Publications, New Delhi.
5. "Design of Steel Structures" – B. C. Punmia, A. K. Jain and Arun Kumar Jain, Laxmi Publication

Reference Books:

1. "LRFD Steel Design" - William T. Segui, PWS Publishing
2. "Design of Steel Structures" - Edwin H. Gaylord, Charles N. Gaylord James, Stallmeyer, Mc-Graw Hill
3. "Design of Steel Structures" - Mac. Ginely T.
4. "Design of Steel Structures" - Kazimi S. M. and Jindal R. S., Prentice Hall India.
5. "Design of Steel Structures" - Breslar, Lin Scalzi, John Willey, New York.
6. "Steel Structure" - Controlling Behaviour Through Design, Englekirk, WILEY.

I.S. Codes:

1. IS: 800 – 2007
2. IS: 875 (part I, II and III)
3. SP6 (1) & SP 6 (6),
4. IS: 816
5. IS: 808.

Guidelines Regarding Question Paper Setting:

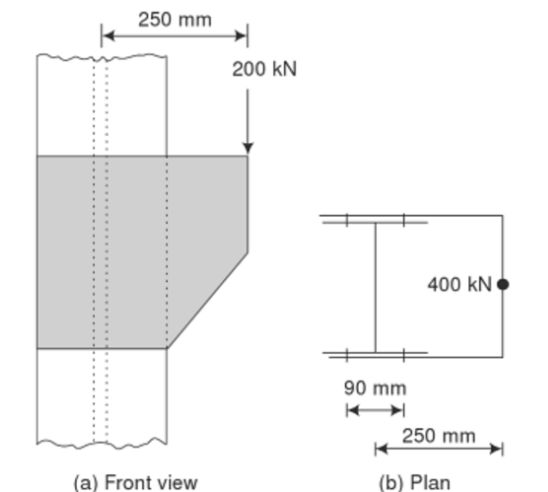
1. IS: 800 – 2007 is permitted in examination.
 2. Q. No. 1 and Q. No. 5 are compulsory.
 3. Attempt any two questions from Q. No. 2, 3, 4 and any two questions from Q. No. 6, 7, 8
-

End Semester Examination Paper Pattern

Question No.	Based on Unit No.	Marks
1.	1, 2, 3 – Theory	7
2.	1 – Problem	14
3.	2 – Problem	14
4.	3 – Problem	14
5.	4,5,6 – Theory	7
6.	4 – Problem	14
7.	5 – Problem	14
8.	6 – Problem	14

Assignment Questions

1. Differentiate between working stress methods & limit state method.
2. Plate bracket carrying a load of 150kN at an eccentricity of 100mm is connected to the flange of steel I-section. Determine size of fillet weld. The depth of bracket is 300mm at member face . The weld is applied on both the sides of bracket.
3. Design welded connection for an angle 75 x 75 x 8 carrying an axial tensile load of 100Kn connected to one side of gusset plate 8mm thick.
4. Design a bolted bracket connection to support an end reaction of 400kN because of the factored loads supported by the beam. The eccentricity of the end reaction is shown in the figure. The steel used is of grade Fe410. Use bolts of grade 4.6. The thickness of bracket plate may be taken as 10mm



5. Design a tension member to carry factored load of 500kN by LSM consisting of pair of unequal angles back to back connected to opposite side of gusset plate by weld. Design connections & draw neat sketch.

6. Explain step by step procedure to be followed in the design of tension member.
 7. Find out design strength of angle $100 \times 100 \times 10$ connected to gusset plate 12mm thick through 100mm long leg using M20 bolt of class 4.6. The yield & ultimate strength of steel are E250 & 420MPa.
 8. Explain step by step procedure to be followed in the design of Compression member
 9. Calculate safe compressive load carrying capacity of double angle discontinuous strut composed of 2ISA $80 \times 50 \times 6$ with long leg connected back to back on either side of gusset plate 10mm thick. The length of strut between c/c of intersection is 3m & tacking done.
 10. Design a single unequal angle strut to carry a load of 90 kN. The angle is connected by its longer leg to 8 mm thick gusset plate. The effective length of the member is 2.5 m. Also design the plate bolted end connections.
 11. Design the base for column carrying compressive load 500kN with an eccentricity of 30mm from column centre line along minor axis (y-y axis). The section of column is 300 ISHB. Draw neat sketch showing all connection details work out in design.
 12. What are the types of column bases provided for steel structures?
 13. Design a column to carry axial compression of 1400kN & having a length of 6m. It is effectively held in position at both ends, but restrained against rotation. Design built-up section by using two channel sections.
 14. Design a slab base for a steel column ISMB 350 having width of flange 250 mm and carrying an axial compressive load of 1000 kN. If permissible compressive stress in concrete is 4 MPa & permissible bending stress in base plate is 185 MPa Take bearing capacity of soil = 300kN/m²
 15. Design a suitable moment resisting base for a column subjected to an axial load of 360 kN and moment of 130 kNm. The column section is ISHB 400 @ 822 N/m. Safe bearing pressure in concrete is 4000kN/m².
 16. Differentiate between Laterally restrained beam & Laterally unrestrained with neat sketch.
 17. Design laterally restrained beam having effective span of 4m subjected to UDL of 15kN/m including self-weight & point load 10kN at mid-point vertically downwards. Take check for deflection & shear.
 18. Design laterally restrained beam having effective span of 4m subjected to UDL of 10kN/m including self-weight & point load 20kN at mid-point vertically downwards. Take check for deflection & shear
 19. The roof of a hall of 12m x 8m consists of a RC slab 100mm thick. And a 50mm floor finish. The slab is supported on steel beams spaced at 3m Centre to center. The live load on the slab is 2KN/sqm. Design an intermediate steel beam I section. Assume that the slab provides adequate lateral restraint to the compression flange of the steel beam.
-

20. Draw the neat sketch of crane system with all components.
21. Design a simply supported gantry girder of 6m effective span to carry two cranes of the capacity of 100kn each working in tandem. The weight of each crane excluding the crab is 150KN and weight of each crab is 20KN. The weight of the rail is 300N/m. The minimum approach of the crane hook is 1.0m. The wheel base is 3.8m. The height of rail is 75mm. Assume that the gantry girder is laterally unsupported. The expected number of stress cycles = 2×10^6 .
-

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 and Service 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, Ashok Jain, 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 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

Assignment Questions

Unit 1

- 1 Write A Note On Population Forecasting.
 - 2 Explain Considerations While Designing Of Intake Well .
 - 3 Explain the Significance Of Water Treatment For Drinking Purpose
 - 4 Discuss Various Factors On Which Demand Of Water Is Based On
 - 5 what is design period, explain factors affecting design period
-

Unit 2

- 1 Explain Types Of settling
- 2 Write a Note On aeration.
- 3 Explain Theory Of Sedimentation.
4. Mention Design Parameters For Rapid Mixer
- 5 Explain in brief Clariflocculator.

Unit 3

- 1 Explain Detail Operation Of Rapid Sand Filter With Diagram
2. Explain Need Of Water Softening, Explain Any One Process In Detail
3. Explain Forms Of Chlorination.
4. Explain Break Point Chlorination In Detail.

Unit 4

1. Explain The Capacity Determination Of Reservoir By Graphical Method
2. Write A Note On Pumping Main And Gravity Main.
3. Explain Pressure Testing Process In Detail.
- 4 Explain The Control Measures Taken For Pipe Of Corrosion.

Unit 5

1. What are The Various Methods Of Water Distribution System
2. What Are The Various Patterns Of Water Distribution System
3. Explain The Requirements Of Water Distribution System
4. Explain Hardy Cross Method Of Network Analysis
- 5 Explain equivalent pipe method in brief

Unit 6

1. Explain Water Meter In Detail
 2. Explain Maintenance Of Water Distribution System
 3. Explain Necessity Of Water Audit.
 4. Write A Note On Gate Valve Or Sluice Valve.
-

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

Geotechnical Engineering - I

Course	Teaching Scheme				Evaluation Scheme				
	L	T	P	Credit	Scheme	Theory (Marks)		Practical(Marks)	
						Max.	Min. for passing	Max.	Min. for passing
GTE - I (PCC-CV504)	04	--	02	05	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 provide a coherent development to the students for the courses in sector of Geotechnical Engineering & Soil Improvement Techniques etc.
2. To present the foundations of many basic Engineering tools and concepts related Geotechnical Engineering.
3. To give an experience in the implementation of Engineering concepts which are applied in field of Geotechnical Engineering
4. To involve the application of scientific and technical principles of planning, analysis, design of foundation along with soil improvement techniques.

Course Outcomes:

After successful completion of this course, student will be able to:

1. Able to evaluate the Index and Engineering properties of soil
2. Understand the fundamental relationships in properties of soils
3. Evaluate the stress calculations in soil under different soil conditions
4. Understands the process and importance of compaction and consolidation
5. Know the shear strength of soil and its determination
6. Analyze the lateral pressure on vertical retaining walls

SECTION I

Unit1: Soil Properties

10hrs

- 1.1 Origin of soil, Soil structure, Soil phase systems, Weight volume relationship
- 1.2 *Index Properties of Soil*: Unit weights, water content, specific gravity, void ratio, porosity, air content, degree of saturation their relationships and significance
- 1.3 Particle size distribution by sieve analysis and hydrometer analysis
- 1.4 Atterberg's consistency limits (Liquid limit, plastic limit, shrinkage limit), Consistency indices, Activity
- 1.5 IS classification of soil, Casagrande plasticity chart

Unit 2: Permeability and Seepage Analysis**6hrs**

- 2.1 Darcy's law and its validity, Factors affecting permeability
- 2.2 Determination of permeability of soil by constant head, Variable head, Permeability of stratified (layered) soil
- 2.3 Concept of total stress, Pore pressure and effective stress, Different forms of water
- 2.4 Seepage pressure, Seepage force, Seepage force per unit volume, Critical hydraulic gradient, Quick sand condition, Piping
- 2.5 Flow net construction and characteristics, Applications of flow net, Determination of seepage loss

Unit3: Compaction and Consolidation**8hrs**

- 3.1 Concept of compaction, factors affecting compaction, Standard proctor test and modified proctor test as per IS 2720, Dry density and moisture content relationship, Zero air void line, Placement water content
- 3.2 Field compaction control, Field compaction equipment with their suitability.
- 3.3 Concept of consolidation, Factors affecting consolidation, Terzaghi's piston and spring analogy model, Terzaghi's theory of one-dimensional consolidation, Lab consolidation test to find coefficient of consolidation, Coefficient of volume change, Compression index, Coefficient of compressibility, NCC, UCC, OCC
- 3.4 Determination of coefficient of consolidation by square root of time fitting method and logarithm of time fitting method.

SECTION II**Unit4: Stress Distribution in Soil****6hrs**

- 4.1 Boussinesq theory assumptions and application to point load, Strip load, Circular sections, Pressure distribution diagrams on horizontal and vertical plane, Radial shear stress
- 4.2 Isobars and pressure bulbs, Use of Newmark's charts, Westergaard theory assumptions and application to uniformly loaded rectangular area.
- 4.3 Contact pressure for different footings in different soils, Equivalent point load method for stress calculation, Approximate method (2V:1H) method for stress calculation

Unit5: Shear Strength of Soil**10hrs**

- 5.1 Concept of shear stress and shear strength, Mohr-Coulomb's theory and failure envelopes for different types of soils such as C-soil, ϕ -soil, and C- ϕ soils, Representation of stress on Mohr's circle
- 5.2 Terzaghi's total stress and effective stress approach, Factors affecting shear strength of cohesive and cohesionless soils
- 5.3 Determination of shear strength of soil by Direct shear test, Triaxial compression test, under UU, CU & CD conditions, Unconfined compression test and vane shear test, Sensitivity, Skempton pore water pressure parameters

Unit6: Earth Pressure Theory**8hrs**

- 6.1 Concept of earth pressure, Plastic equilibrium, Earth pressure at rest, Active and passive condition, its practical applications.
 - 6.2 Rankine's earth pressure theory for cohesionless soils under dry, Partially and fully submerged condition, Horizontal back fill with surcharge, Total lateral force on wall
 - 6.3 Bell-Rankine's theory for cohesive soils under dry, partially and fully submerged condition, tension cracks in soil, Critical height, Coulomb's wedge theory for earth pressures
-

Term Work:

- A. Performance of at least ten experiments from the following:
1. Determination of specific gravity by pycnometer/density bottle method
 2. Determination of water content by oven drying method & Pycnometer method
 3. Particle size distribution by dry sieve analysis
 4. Particle size distribution by hydrometer analysis
 5. Determination of consistency limits (LL, PL, SL)
 6. Determination of field density by core cutter method
 7. Determination of field density by sand replacement method
 8. Determination of MDD & OMC by standard/Modified proctor test
 9. Determination of coefficient of permeability by variable head method/Constant head method
 10. Determination of shear strength parameters of soil by using direct shear test
 11. Determination of shear strength of soil using Triaxial, Unconfined and Vane shear Test (Any one)
- B. One assignment per unit with minimum four numerical in each assignment

Text Books:

1. "Soil Mechanics and Foundation Engineering" - B. C. Punmia, Laxmi Publication
2. "Soil Mechanics and Foundation Engineering" - K. R. Arora, Standard Publisher
3. "Soil Mechanics and Foundation Engineering" - V. N. S. Murthy, Marcell Decker
4. "Basic and Applied soil Mechanics" - A. S. R. Rao and Gopal Ranjan, New age International Publication
5. "Geotechnical Testing and Instrumentation" - Alam Singh, CBS Publisher
6. "Geotechnical Engineering" - C. Venkatramaiah, New age International Publication
7. "Geotechnical Engineering" - Purushottam Raj

Reference Books:

1. "Soil Mechanics" - Terzaghi and Peak, Jony Willey and Sons, New York
2. "Soil Testing" - T. W. Lambe, Willey Eastern Ltd, New Delhi

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 - Theory and Problem	12
2.	2 - Theory and Problem	11
3.	3 - Theory and Problem	12
4.	4 - Theory and Problem	11
5.	5 - Theory and Problem	12
6.	6 - Theory and Problem	12

Assignment Questions

Unit 1

- Q.1.** A soil sample has a porosity of 40%. The specific gravity of soil is 2.7. Calculate (a) Voids ratio, (b) dry density, (c) unit weight of soil if soil is 50% saturated & (d) unit weight of soil if the soil is completely saturated.
- Q.2.** If $C_u / C_c = 4$ & $C_u \times C_c = 9$, find C_u , C_c , D_{30} , D_{60} . Assume $D_{10} = 0.1\text{mm}$.
- Q.3.** Plastic limit, liquid limit and natural water content of soil sample is 40%, 65% & 48% resp. Find plasticity index, liquidity index and consistency index.
- Q.4.** Prove that maximum dry density of soil is 1.4 times the minimum for the value of $G=2.6$, $e_{min}=0.4$ & $e_{max}=1$.
- Q.5.** For a saturated soil whose $w = 40\%$ & $G = 2.71$, determine saturated and dry unit weights.

Unit 2

- Q.1.** A 3.0m thick sandy stratum exists below a clay layer 4.0m thick. The clay layer is at the bed of a lake with standing water height of 4.0m. Saturated density of clay and sand is 19.3 kN/m^3 & 21.8 kN/m^3 resp. Compute total stress, pore pressure and effective stress at mid height of the sandy stratum.
- Q.2.** The co-efficient of permeability of soil sample is found to be $1 \times 10^{-3} \text{ cm/sec}$ and the voids ratio of 0.4. Estimate the permeability of sand for a voids ratio of 0.6.
- Q.3.** A constant head permeability test was conducted on a cylindrical specimen of 10cm diameter and 15cm height. 160cm^3 of water was collected in 1.75 minutes under a head of 30cm. Compute coefficient of permeability, 'k' in m/year and velocity of flow in m/sec. If porosity of the sample is 40% calculate the seepage velocity.
- Q.4.** The water table in silty-sand deposit, 8 m thick, is at a depth of 3m below GL. Sand above WT is saturated by capillarity. γ_{sat} of sand is 19.62 kN/m^3 . Calculate effective pressures at 1m, 3m & 8m depths below GL. Plot pressure variations for σ , u , σ' .

Unit 3

- Q.1.** In standard proctor compaction test, the following results are obtained: Optimum moisture content = 20% Maximum dry density = 1.9g/cm^3
- Q.2.** Determine the porosity of compacted soil corresponding to OMC & MDD. Also determine dry density at 100% saturation. Take $G = 2.68$. The following observations were made in a Standard Proctor Test, with mould volume of 945c.c. and soil specific gravity of $G = 2.67$

No.	Trial 1	2	3	4	5	6
Mass of wet soil (kg)	1.7	1.89	2.03	1.99	1.96	1.92
Water content	7.7	11.5	14.6	17.5	19.7	21.2

Determine maximum dry density and optimum moisture content. Also plot ZAV line.

Unit 4

Q.1. A saturated layer of 9m thick clay overlies rock strata & is cover on top by a previous overburden .determine the time required for clay layer to reach half of its ultimate settlement. take $C_v = 5 \times 10^{-4} \text{ cm}^2/\text{sec}$ $(T_v)_{50} = 0.196$.

Q.2. The table summarizes the results of an oedometer test on a sample.

Pressure kN/m ²	0	13	27	54	108	214	480	960	1500
Dial reading (cm)	0.0	0.0	0.004	0.16	0.044	0.104	0.218	0.34	0.42

Initial height of sample = $H_i = 2.5 \text{ cm}$ Height of solid particles = $H_s = 1.25 \text{ cm}$.

Plot the curve & determine compression index & preconsolidation pressure.

Q.3. A clay layer, 8m thick is subjected to a pressure of 70 kN/m^2 . If the layer has a double drainage and undergoes 50% consolidation ($T_v = 0.196$) in one year. Determine the coefficient of consolidation. If coefficient of permeability is 0.04 m/year , determine the settlement in one year. Use $Y_w = 9.81 \text{ kN/m}^3$.

Q.4. In a consolidation test, the void ratio of the specimen which was 1.068 under the effective pressure of 214 kN/m^2 , changed to 0.994 when the pressure was increased to 429 kN/m^2 . Calculate the coefficient of compressibility, compression index and coefficient of volume compressibility.

Q.5. A saturated soil has $C_c = 0.28$, the void ratio at a stress of 12 kN/m^2 is 2.05 and its permeability is $35 \times 10^{-7} \text{ mm/s}$. Compute:

- i. change in void ratio if the stress is increased to 21.6 kN/m^2 .
- the settlement in (i) above if the soil stratum is 6m thick.

Unit 5

Q.1. On either side of point P the loads 600 kN and 1000 kN are located at 2.0m and 3.0m respectively. Find the total stress developed 2.0m below the point P using Boussinesq's equation.

Q.2. On ground surface a rectangular plate 1m x 1.5m is loaded with intensity of 800 kN/sqm . Find the stress 1.2m below the centre of the plate. Compare this if an approximate method of 1V:2H method is adopted.

Q.3. A rectangular area 4m x 2m is uniformly loaded with a load intensity 10 t/m^2 at the ground surface. Calculate the vertical pressure at a point 3m below one of its corners. By equivalent – area method, (making four parts).

Q.4. A point load of 1000 kN acts on the ground surface. Find and show the variation of vertical stress on a horizontal plane at a depth of 5m below the surface, for radial distances of 0, 1, 2 and 4m.

Q.5. A point load of 1000 kN acts on the ground surface. Find and show the variation of vertical stress on a vertical plane at a radial distance of 1m and at depths of 0.5, 1, 2 and 6m.

Q.6. A rectangular footing 2.4m x 2.0m carries a udl of 320 kN/m^2 . Find the vertical pressure at a depth of 4.2m below the center of the footing using Equivalent point load method.

Unit 6

Q.1. A cylindrical specimen of sand was tested in a triaxial test apparatus. Failure occurred under a cell pressure of 120 kN/sqm , at a deviator stress of 400 kN/sqm . Determine :

- Angle of internal friction
- Angle of failure plane wrt horizontal
- Normal and shear stresses on failure plane.

Q.2. Following are the results of four drained shear tests with size of specimen = 6cm x 6cm, height of specimen is 3cm.

Test No.	Normal load (N)	Shear Load (N)
1	200	155
2	300	230
3	400	310
4	500	385

Draw the graph for the shear stress against normal stress and determine shear strength parameters.

Q.3. A consolidated undrained test was conducted on a clay sample and the following results were obtained; find shear strength parameters with respect to effective stresses.

Q.4. Clean dry sand samples were tested in a large shear box 25cm x 25cm and the following results were obtained. Determine shear strength parameters.

Normal stress at failure (kN) 150 250
 Shear stress at failure (kN) 110 120

If the sample of the same soil is tested in a triaxial test with cell pressure of 150 kN/sqm, at what deviator stress would it fail?

Q.5. A cylindrical specimen of 38mm diameter and 76mm length was tested under unconfined compression strength test. The load at failure was 55 N and axial deformation was 10mm. Find shear strength parameters if the failure plane makes an angle of 56° with horizontal.

Q.6. A specimen of fine dry sand when subjected to a triaxial compression test, failed at a deviator stress of 400 kN/m^2 . Compute the lateral pressure to which the specimen would have been subjected to. Take $\phi = 44^\circ$.

Q.7. A shear box test conducted on a soil sample gives following observations: Normal Load (N)

360 720 1080 1440

Shear Load Proving Dial Readings (Divs.) 13 19 26 32

If the shear box is 60mm square and proving ring constant is 20 N per division, find out the shear strength parameters (C and ϕ) of the soil in kN/m^2 and degrees respectively.

Q.8. Two triaxial tests were conducted on a material. In the first test failure occurred at $\sigma_d = 750 \text{ kN/m}^2$ & a cell pressure of 250 kN/m^2 . In the other test cell pressure was 400 kN/m^2 and failure occurred at total pressure of 1600 kN/m^2 . Determine the shear parameters c & ϕ .

Q.9. A CU test was conducted on a sample with cell pressure = 100 kN/m^2 & $\sigma_d = 60 \text{ kN/m}^2$. The soil has $c = 0 \text{ kN/m}^2$, $\phi = 30^\circ$ (w.r.t. effective stresses) and $c_u = 0 \text{ kN/m}^2$ & $\phi_u = 13.3^\circ$ (w.r.t. total stresses). What was the pore pressure at failure?

Q.10. A specimen of clean dry sand is tested in a shear box. The soil fails at a horizontal stress of 40 kN/m^2 and a normal stress of 50 kN/m^2 .

Determine graphically:

- Φ value of sand
- Principal stresses of failure
- Directions of principal stresses with respect to σ axis.

Clearly explain the various steps taken by you to arrive at the graphical solution.

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

Building Planning and Design

Course	Teaching Scheme				Evaluation Scheme				
	L	T	P	Credit	Scheme	Theory (Marks)		Practical(Marks)	
						Max.	Min. for passing	Max.	Min. for passing
BPD (PCC-CV505)	02	--	04	04	ISE	--	--	50	20
					CIE	--	--	--	--
					ESE	--	--	50	20

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

Course Objectives:

1. To study dimensions and space requirements for various elements of the building in relation to human body measurements.
2. To study Planning, designing of various public buildings considering principles of planning and Building Bye- Laws and regulations.
3. To study procedures for preparing perspective drawings of various objects as well as buildings.
4. To study Architectural composition and terms.

Course Outcomes:

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

1. Specify dimensions and space requirements for various elements of the building in relation to human body measurements.
2. Plan, design public building considering principles of planning and Building Bye- Laws and regulations.
3. Prepare the submission and working drawings of public building.
4. Illustrate the procedures for preparing perspective drawings of various objects as well as buildings.
5. Apply knowledge of architectural composition and terms for betterment of aesthetic view.

Unit 1:Introduction

2hrs

- 1.1 Dimensions & space requirement in relation to body measurements
- 1.2 Human body figures and its applications in space design of service elements.

Unit 2:Planning and Design

14hrs

Site selection, site layout for various types of building such as:

- 2.1 *Educational Buildings:* Younger age range, Middle age range
- 2.2 *Building for Health:*Health centers, Hospitals
- 2.3 *Assembly Buildings:*Recreational halls, Cinema theatres, Restaurants, Hotels, Clubs

2.4 *Business and Mercantile Buildings*: Shops, Banks, Markets and malls

2.5 *Industrial Buildings*: Factories, Workshops, Cold storages

2.6 *Office Buildings*: Administrative buildings, Corporate office

2.7 *Buildings for Transportation*: Bus stations, Railway / metro stations

Unit 3: Perspective Drawings

6hrs

3.1 Elements of perspective drawings

3.2 Parallel perspective and angular perspectives of different objects and small buildings

Unit 4: Nature of Architecture

2hrs

4.1 Architectural composition and terms such as mass, space, proportion, symmetry, balance, contrast, pattern.

Term Work:

1. Sheet for human body dimensions for space design (different human body figures, dimensions and their relevant applications)
2. Visit to a building complex and a report based on that.
3. Planning and designing of a public building project (Max. five students group) for which drawings shall be prepared covering scope of:
 - i) Municipal drawing
 - ii) Layout plan showing site development details (Internal roads, parking, secondary structures for allied services)
 - iii) Working drawings with suitable scale (Furniture, electrification, plumbing)
 - iv) Elevation treatment.
4. Perspective view of the buildings planned above.
5. Line plan of buildings on graph paper of at least five remaining types of buildings not covered in 2.
6. Two exercises on parallel and angular perspective of simple objects.
7. Report for the building project stated in 2, including necessary sketches and design details.
8. Minimum one exercise of preparing a plan and elevation on CAD.

Text Books:

1. "Building Drawing with an integrated approach to Built-Environment" - Shah, Kale and Patki, Tata Mcgraw Hill publication.
2. "Principles of Building Drawing" – M.G.Shah and C.M.Kale, Macmillan India ltd.
3. "Planning and Designing Building" – Y.S.Sane, Modern Publication House, Pune

References Books:

1. "Building Planning" – Kumar Swami, Charotar Publication
 2. "Civil Engineering Drawing" – M.Chakaborty, UBS publication.
-

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

Open Elective – I (Energy & Environment) (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 - I (OEC-CV506)	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 study energy needs, demand and various renewable alternatives.
2. To understand potential of renewable energy resources.
3. To study technologies to harness the energy.
4. To understand advantages, limitations of resources and energy management.

Course Outcomes:

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

1. Compare conventional and renewable energy resources
2. Identify scope and potential of renewable energy
3. Analyze suitability of renewable energy resource.
4. Explain energy management principles and strategies

SECTION I

Unit 1: Introduction	5 hrs
1.1 Global energy, Environmental resources	
1.2 Energy needs	
1.3 Indian scenario- Energy consumption, Needs and crisis	
Unit 2: Renewable Sources of Energy	9 hrs
2.1 <i>Biogas</i> : Types & factors affecting, Community biogas plant	
2.2 <i>Solar Energy</i> : Introduction, Utilization methods, Merits and demerits & potential	
2.3 <i>Wind Energy</i> : Site selection criteria, Potential & scope	
2.4 <i>Tidal Energy</i> : Site suitability, Types	
Unit 3: Non-Renewable Sources of Energy	4 hrs
3.1 <i>Energy from Coal and Oil</i> : Introduction, Merits and demerits	
3.2 <i>Natural Gas & Geothermal Energy</i> : Introduction, Merits and demerits	
3.3 Relevance to other branches, Green building	

SECTION II

Unit 4: Environmental Impacts	5 hrs
4.1 Global Warming	
4.2 Greenhouse effect	
4.3 Acid rain	
Unit 5: Environmental Impact Assessment (E.I.A.)	6 hrs
5.1 Objectives	
5.2 General E.I.A. process	
5.3 Capability & limitations	
Unit 6: Energy Audit and Management	7 hrs
6.1 Definition and objectives	
6.2 Types and general guidelines for energy audit	
6.3 Principles of energy management, Energy planning	

NOTE: One assignment on each unit.

Text Books:

1. “Non-Conventional Energy Sources” - G. D. Rai, Khanna Publishers, 5th Edition, 2014.
2. “Solar Energy and Non-Conventional Energy Sources” - Dr. V. M. Domkundwar, Dhanpar Rai & Co. Ltd., 1st Edition, 2010.
3. “Non-Conventional Energy Sources” - R. K. Singal, Katson Publication, 2nd Edition, 2009

Reference Books:

1. “Renewable Energy Resources” - Jhon Twidell and Tony Weir, Roulledge Publication, 2nd Edition, 2005.
2. “Solar Energy” - Dr. S. P. Sukhatme, McGraw Hill Publication, 2nd Edition, 2005.
3. “Non-Conventional Resources of Energy” - G. S. Sawhney, PHI Publication, 5th Edition, 2010.

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	11
2.	2	12
3.	3	12
4.	4	11
5.	5	12
6.	6	12

Assignment Questions

1. Explain global energy
 2. Explain environmental resources of energy
 3. What is energy consumption
 4. Explain mechanism of Biogas power plant
 5. Explain solar energy and its applications
 6. Explain mechanism of wind turbine and its applications
 7. Explain applications of tidal energy
 8. Explain mechanism of thermal power plant
 9. Write impact of Global warming on environment
 10. Write impact of Greenhouse effect on environment
 11. Write impact of Acid rain on environment
 12. Write objectives of Environmental Impact Assessment
 13. Explain E.I.A Process
 14. What are the types of Energy Audit
 15. What are the general guidelines for Energy Audit
 16. What are the principles of Energy management
 17. What is energy planning?
 18. Write a note on -Energy Need
 19. Explain Green Building.
 20. What are the limitation s of EIA process.
-

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

Open Elective – I (Waste 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 - I (OEC-CV506)	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 study the effects of the various types of waste on human being, animals and environment.
2. To study the water & wastewater management and solid waste of urban area.
3. To study the various techniques and options for handling industrial wastewater, hazardous waste and air pollution of urban area.

Course Outcomes:

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

1. To evaluate the effects of various wastes on human beings, animals and on Environment.
2. To solve the water and wastewater treat by using conventional and advanced treatment methods.
3. To estimate quantity of solid waste, E-waste and biomedical wastes and to suggest their disposal methods.
4. To suggest reuse and recycles techniques of solid waste, E-waste and biomedical wastes and to suggest their disposal methods.
5. To characteristics and to select treatment options for selected industrial wastewater.
6. To discuss the impacts of hazardous waste and air pollution.

SECTION I

Unit 1: Introduction

6 hrs

- 1.1 Definition of waste, Types and sources of waste, Properties of waste
- 1.2 Effects on human beings and animals and on their environment
- 1.3 Introduction to various acts and rules for waste in India

Unit 2: Domestic Water and Wastewater Management

6 hrs

- 2.1 Importance of water and wastewater treatment, Water quality standards, Effluent standards
- 2.2 Flow diagram of water and wastewater treatment

- 2.3 Advanced wastewater treatments-RO
- 2.4 Nitrification and De-nitrification process, SBR techniques

Unit 3: Industrial Wastewater Management

6 hrs

- 3.1 Volume and strength reduction, Equalization, Neutralization
- 3.2 Propagation techniques
- 3.3 Flow diagram and treatment methods for pulp and paper, dairy, sugar & textile industries

SECTION II

Unit 4: Solid Waste Management

6 hrs

- 4.1 *Municipal Waste*:Types, Sources, Collection, Transportation and disposal methods
- 4.2 *Biomedical Waste*:Types, Sources, Collection and disposal methods
- 4.3 *Construction and Demolition Waste*:Problems of collection, Segregation, Transportation & limitations, Reuse and disposal of waste

Unit 5: Hazardous Waste Management

6 hrs

- 5.1 Definition of hazardous waste, Classification of waste
- 5.2 Processing techniques
- 5.3 Rules and regulation of disposal of waste

Unit 6: E-waste Management

6 hrs

- 6.1 Composition, Segregation
- 6.2 Reuse and recycle
- 6.3 Disposal techniques, E-waste management rules 2016

NOTE: One assignment on each unit.

Text Books:

1. “Water and Waste Water Technolog” - M.J. Hammer, Prentice-Hall of India Private Ltd.
2. “Environmental Engineering – Peavey” - H. S. Rowe and D. R. Tchobanoglous, McGraw Hill Book Company
3. “Water and Wastewater Technology” - G.S. Birdie and J.S. Birdie
4. “Waste Water Engineering Treatment & Disposal” -Mertcalf& Eddy, Tata McGraw Hill
5. “Solid Waste Management” - Dr. A. D. Bhide

Reference Books:

1. “Manual on Water Supply and Treatment”, Government of India Publication, 1993
2. “Manual on Sewerage & Sewage Treatment”, Ministry of Urban Development, Govt. of India.
3. “Manual on Municipal Solid Waste Management”, Ministry of Urban Development, Govt. of India.
4. “Solid Waste Management” - Gorge Tchobanoglous

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	11
2.	2	12
3.	3	12
4.	4	12
5.	5	11
6.	6	12

Assignment Questions

ASSIGNMENT NO 1

1. Define Waste. Types , Sources and properties
2. Give the difference between
 - Bio –degradable waste and non de gradable waste.
 - Industrial waste and commercial waste.
3. What are the effects on human beings and animals?
4. Enlist and explain about different acts and rules for controlling waste in India.

ASSIGNMENT NO 2

1. Give importance of water and water quality standards.
2. Explain how waste water is treated with flow diagram.
3. Explain about Nitrification and De-nitrification process.
4. Write about remedial measures for waste water.

ASSIGNMENT NO 3

1. Enlist the types of Industries responsible for waste water.
2. Explain about volume and strength reduction, Equalization and neutralization
3. Explain with flow diagram about treatment methods about pulp and paper industry, sugar and textile industry.

ASSIGNMENT NO 4

1. Explain about Municipal solid waste.
2. Explain about Biomedical solid waste.
3. Explain about Construction and demolition waste.

ASSIGNMENT NO 5

1. Define – Hazardous waste and its processing techniques.
2. Rules and regulation for disposal of waste – Write in brief

ASSIGNMENT NO 6

1. What is meant by E – Waste?
 2. Explain about recycling process about E waste.
 3. Write about E waste management rules 2016.
-

Department of Civil Engineering

RUBRIC for Project-Work Assessment

	UNACCEPTABLE	DEVELOPING	GOOD	EXCELLENT
Selection of Project	<input type="checkbox"/> Neither Sponsored nor well explored. <input type="checkbox"/> Very Low Utility. <input type="checkbox"/> Low Scope for Skills demonstration.	<input type="checkbox"/> Not Sponsored but some exploration. <input type="checkbox"/> Low Utility. <input type="checkbox"/> Some Scope for Skills demonstration.	<input type="checkbox"/> Partially Sponsored and sufficiently explored. <input type="checkbox"/> Acceptable Utility. <input type="checkbox"/> Adequate Scope for Skills demonstration.	<input type="checkbox"/> Fully Sponsored and well explored. <input type="checkbox"/> High Utility. <input type="checkbox"/> High Scope for Skills demonstration.
Clarity of Objectives.	<input type="checkbox"/> Little efforts put in Identification & Formulation. <input type="checkbox"/> Objectives Need major reworking. <input type="checkbox"/> Unclear Presentation of Intentions.	<input type="checkbox"/> Some efforts put in Identification & Formulation. <input type="checkbox"/> Objectives Need Some reworking. <input type="checkbox"/> Needs some clarity in Presentation of Intentions.	<input type="checkbox"/> Sufficient efforts put in Identification & Formulation. <input type="checkbox"/> Acceptable Objectives. <input type="checkbox"/> Acceptable clarity in Presentation of Intentions.	<input type="checkbox"/> Thorough efforts put in Identification & Formulation. <input type="checkbox"/> Very Clear Objectives. <input type="checkbox"/> High Clarity in Presentation of Intentions.
Problem Solving	<input type="checkbox"/> Little use of Engg. Knowledge. <input type="checkbox"/> No Engineering tools used. <input type="checkbox"/> Little use of Design Skills	<input type="checkbox"/> Some use of Engg. Knowledge. <input type="checkbox"/> Some Engineering tools used. <input type="checkbox"/> Some Design Skills used.	<input type="checkbox"/> Sufficient use of Engg. Knowledge. <input type="checkbox"/> Acceptable use of Engineering tools. <input type="checkbox"/> Acceptable use of Design Skills.	<input type="checkbox"/> Excellent use of Engg. Knowledge. <input type="checkbox"/> Sufficient use of Engineering tools. <input type="checkbox"/> Sufficient use of Design Skills
Team-Work.	<input type="checkbox"/> Unclear work distribution. <input type="checkbox"/> Very Low Team Communication. <input type="checkbox"/> Team attitudes are Negative.	<input type="checkbox"/> Some form of work distribution. <input type="checkbox"/> Low Team Communication. <input type="checkbox"/> Team Attitudes need improvement.	<input type="checkbox"/> Clear work distribution. <input type="checkbox"/> Acceptable Team Communication. <input type="checkbox"/> Team Attitudes are Acceptable.	<input type="checkbox"/> Very Clear work distribution. <input type="checkbox"/> Good team Communication. <input type="checkbox"/> Team Attitudes are very positive.
Demonstration and Report.	<input type="checkbox"/> Un-organized demonstration. <input type="checkbox"/> Very Low Attainment of objectives. <input type="checkbox"/> Report is imprecise, incomplete & inconclusive.	<input type="checkbox"/> Some order in Demonstration. <input type="checkbox"/> Low Attainment of Objectives. <input type="checkbox"/> Report is somewhat imprecise, incomplete & inconclusive.	<input type="checkbox"/> Acceptable order in Demonstration. <input type="checkbox"/> Adequate Attainment of Objectives. <input type="checkbox"/> Report is precise, complete & conclusive.	<input type="checkbox"/> Very Clear order in Demonstration. <input type="checkbox"/> Full attainment of Objectives. <input type="checkbox"/> Report is very precise, complete & conclusive.

Student Self Assessment RUBRIC for Term-Work Assessment

CRITERIA	UNACCEPTABLE	DEVELOPING	GOOD	EXCELLENT
Lecture Attendance & Involvement.	<input type="checkbox"/> My Attendance is Very Low. <input type="checkbox"/> I am Inattentive in class <input type="checkbox"/> I Never involve in the Q/A during Lecture	<input type="checkbox"/> My Attendance is Low <input type="checkbox"/> I am Sometimes Attentive in class <input type="checkbox"/> I Sometimes involve in Q/A during Lecture	<input type="checkbox"/> My Attendance is Acceptable. <input type="checkbox"/> I am Mostly Attentive in class <input type="checkbox"/> I Generally involve in Q/A during the Lecture	<input type="checkbox"/> I have full Attendance <input type="checkbox"/> I am Always Attentive in class <input type="checkbox"/> I Eagerly involve in Q/A during the Lecture
Lab work Attendance & Involvement.	<input type="checkbox"/> My Attendance is Very Low <input type="checkbox"/> I don't Come prepared. <input type="checkbox"/> I Avoid involvement in Lab work.	<input type="checkbox"/> My Attendance is Low <input type="checkbox"/> Sometimes I come prepared. <input type="checkbox"/> I am Sometimes involved in Lab work.	<input type="checkbox"/> My Attendance is Acceptable. <input type="checkbox"/> Mostly I am prepared. <input type="checkbox"/> I am Generally involved in Lab work.	<input type="checkbox"/> I have Full Attendance. <input type="checkbox"/> I come Always prepared. <input type="checkbox"/> I Eagerly involve in all Lab work.
Lab work report writing , Assignments & Submissions	<input type="checkbox"/> None of my submissions are on Time. <input type="checkbox"/> My Submission lack readability & clarity.	<input type="checkbox"/> Few of my submissions are on time <input type="checkbox"/> Some of my submissions are readable & clear.	<input type="checkbox"/> Most of my submissions are on time. <input type="checkbox"/> Most of my submissions are readable & clear.	<input type="checkbox"/> All of my submissions are on time. <input type="checkbox"/> All of my submissions are readable & clear.
Efforts made in Class Tests.	<input type="checkbox"/> I Appear Unprepared. <input type="checkbox"/> My Average Score is Very Low	<input type="checkbox"/> My Preparation & presentation is not sufficient. <input type="checkbox"/> My Average Score is Low	<input type="checkbox"/> My preparation & presentation is Adequate <input type="checkbox"/> My Average Score is Acceptable	<input type="checkbox"/> My preparation & presentation is excellent <input type="checkbox"/> My Average Score is High
Oral Communication to Questions on Subject/ course contents.	<input type="checkbox"/> I become Anxious & Uncomfortable. <input type="checkbox"/> I Make No effort to understand the Questions <input type="checkbox"/> My Communication in not clear.	<input type="checkbox"/> Sometimes I am Relaxed & Comfortable. <input type="checkbox"/> I Make Some effort to understand the Questions. <input type="checkbox"/> My Communication is barely clear.	<input type="checkbox"/> Mostly I am Relaxed & Comfortable. <input type="checkbox"/> I Make effort to understand the Questions. <input type="checkbox"/> My Communication is mostly clear	<input type="checkbox"/> I am Always Relaxed & Comfortable. <input type="checkbox"/> I Understand the Questions Effortlessly. <input type="checkbox"/> My Communication is always very clear.



Dr. J.J. Magdum College of Engineering, Jaysingpur.
Department of Civil Engineering
Department Staff

Academic Year – 2022-23

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Dr. J.J. Magdum College of Engineering, Jaysingpur.
Department of Civil Engineering
Department Staff

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01	Mr. Patil A.V.	Sr. Tech.Asst.	8390243660
02	Mr. Kolap G.G.	Tech.Asst.	9890624396
03			
04			
05			
06			

**ACTIVITY RECORD
(COUNSELING, CO/EXTRA CURRICULAR, LEAVE)**

Counseling Staff Name:

Date	Topic	Suggestion

Co/Extra Curricular Activities:

Date	Activity Name	Participation level	Outcome

Leave Record:

Sr. No.	From	To	Reason	Permitting Staff	Remark

Notes: