



Marwadi University Syllabus for Diploma Engineering
Civil Engineering
Semester – II

Subject Name: Environment Conservation & Disaster

Management

Subject Code: 09AU0102

Diploma Branches in which this subject is offered: Computer, ICT,
Chemical and Electrical Engineering

Objective: Objectives of introducing this subject at 1st year level in the above branches are:

- To solve various engineering problems to produce eco-friendly products
- To familiarize the students with strategies for addressing various environmental issues
- To familiarize the students with various renewable energy sources and their applications
- Be better prepared to recover from natural and manmade disasters

Credits Earned: 0 Credits

Course Outcomes:

On the completion of the course student will be able to:

- Understand the ecosystem and its terminology and solve various engineering problems by applying ecosystem knowledge to produce eco-friendly products
- Understand the various types of pollutions and their remedial measures
- Understand different renewable energy resources and their applications
- Understand the role of an engineer concerning climate change and disaster management

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE	IA	CSE	Viva	Term work	
2	0	0	0	00	00	00	00	00	00



Contents:

Unit	Topics	Contact hours	Weightage (%)
1	Introduction of Environmental Science <ul style="list-style-type: none"> • Definition of environment, ecosystem, food chain, and food web • The necessity of environmental science • Importance of environment and scope 	4	15
2	Types of pollution with their causes, effects and remedial measures: <ul style="list-style-type: none"> • Air pollution, water pollution, noise pollution, and soil pollution • Global environment problems with their causes, effects & remedies: climate change 	8	25
3	Renewable Sources of Energy <ul style="list-style-type: none"> • Solar energy: basics of solar energy and its importance • Wind energy: need, limitations and future scope • Recent trends of renewable sources of energy 	6	20
4	Disaster Management <p>4.1 Introduction of disaster management</p> <ul style="list-style-type: none"> • Concepts and definition of disaster • Disaster management cycle • Role of an engineer in disaster management • Rescue techniques during a disaster <p>4.2 Natural Disasters & Manmade Disasters</p> <ul style="list-style-type: none"> • Natural disasters: earthquake, cyclone, flood, tsunami, drought, and landslides • Manmade disaster: fire, civil war, technological disasters 	10	40

Suggested Theory distribution:

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
30%	40%	30%	0%	0%	0%



Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the class-room.
- c. Department level examination will be conducted at the end of semester for evaluation of performance of students.
- d. Students will use supplementary resources such as online videos, videos, e- courses etc.

Reference Books:

1. Environment Engineering and Disaster Management Sharma, Sanjay K. Luxmi Publications, New Delhi
2. Rao, C. S., Environmental Pollution Control and Engineering, New Age International Publication, 2007, ISBN: 81-224-1835-X
3. Environmental Science, Singh, Y. K., New Age International (P) Ltd.
4. Environmental Sciences, Pawar, Kishor R. | Narkhede, Sachin B., Nirali Prakashan
5. Indian Geography and Disaster Management, Made Easy Publications
6. Renewable Energy Resources, Twidell, John | Weir, Tony, Taylor and Francis Group

Useful website links:

1. <https://www.eco-prayer.org/>
2. <https://www.teriin.org/>
3. <https://cpcb.nic.in/>
4. <http://www.indiaenvironmentportal.org.in/>
5. <https://sdgs.un.org/goals>
6. <https://ndma.gov.in/en/>
7. <http://www.emri.in/>
8. <https://www.isro.gov.in/>
9. https://bhuvan.nrsc.gov.in/bhuvan_links.php
10. [IMD | Home](#)
11. <http://goirectory.nic.in/index.php>