

Enrollment No.

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COURSE NAME (Branch)- M.TECH (EEM)

I YEAR/ I SEM. EXAMINATION

Subject Name: ENERGY & ENVIRONMENT

[Time: 3:00 Hours]

[Max Marks: 70]

NOTE:- ATTEMPT ALL THE QUESTIONS AS PER GIVEN INSTRUCTIONS.

QUESTION NO. 1: ATTEMPT ANY FOUR PARTS (4*3=12)

- Explain the laws of energy, specifically focusing on their applications in energy production and conservation
- What is meant by environment? Enumerate and discuss its various elements.
- Discuss the concept of energy sustainability and future energy options.
- Explain the stability of the atmosphere in details?
- Compare and contrast renewable and non-renewable energy sources.
- Describe energy conservation approaches.

QUESTION NO. 2: ATTEMPT ANY THREE PARTS. (3*4=12)

- What do you understand by energy conservation approaches / techniques?
- What are the segment of environment and explain the scope?
- Explain the formation of geothermal fields and the nature of geothermal energy.
- Describe the working principle of solar collectors and their application.

QUESTION NO. 3: ATTEMPT ANY THREE PARTS. (3*6=18)

- Short notes on A) Hydropower Energy B) Wind Energy
- Describe the energy auditing and economic assessment?
- Write an essay on growing energy needs in India.
- Describe the characteristics of solar radiation and explain the factors affecting solar energy availability

QUESTION NO. 4: ATTEMPT ANY TWO PARTS. (2*7=14)

- What are the advantages and disadvantages of floating drum plant used for biogas digesters?
- Describe the biomass potential in India and its applications and explain the process of biomass conversion and its environmental implications.
- How would you broadly divide the major layers or regions of the atmosphere? State their respective altitudes and temperature variation.

QUESTION NO. 5: ATTEMPT ANY TWO PARTS. (2*7=14)

- How is hydrogen used as a fuel? Discuss its production methods and storage challenges.
- Discuss the economic assessment of energy conservation projects and their long-term benefits.
- What do you understand by sustainable development? Trace the Emergence of global concern for sustainable development?

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M.TECH. (SE)
I YEAR, I SEMESTER EXAMINATION
DISASTER MANAGEMENT

Time : 03:00 Hours]

[Max. M

NOTE:- ATTEMPT ALL THE QUESTIONS AS PER GIVEN INSTRUCTIONS.

QUESTION NO.-1: ATTEMPT ANY TWO PARTS.

Explain the importance of disaster management? Differentiate between Hazard and I
What are the differences between Natural and Manmade Disasters? How do you def magnitude of natural and manmade disasters?
Explain the various hazards affecting the environment.

QUESTION NO.-2: ATTEMPT ANY TWO PARTS.

Explain the factors of soil erosion? Explain in brief about conservation measures of erosion.
Define the following terms: i. Economic Damage ii. Destruction Of Ecosystem iii. Tsunami
Explain about the concept of environmental stress and disaster.

QUESTION NO.-3: ATTEMPT ANY TWO PARTS.

Discuss in details about the major cyclones of India.
Describe about the disaster category list as categorized by the High-Power Co Disaster Management, 1999.
What are the environmental impacts of volcanic eruptions? Explain.

QUESTION NO.-4: ATTEMPT ANY TWO PARTS.

How the mechanism for preparing the databases for the different kind of disasters w Enlist the three main sources at global level?
Describe the ten deadliest disasters of India in the last century.
Describe about the vulnerability profile of India in details.

QUESTION NO.-5: ATTEMPT ANY TWO PARTS.

Give account of Industrial Disasters, their types and preventive measures.
Define the following terms: i. Planetary hazards

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M.TECH. (SE)
I YEAR, I SEMESTER EXAMINATION
RESEARCH METHODOLOGY AND IPR

Time : 03:00 Hours]

[Max. M

NOTE:- ATTEMPT ALL THE QUESTIONS AS PER GIVEN INSTRUCTIONS.

QUESTION NO.-1: ATTEMPT ANY TWO PARTS.

Define the following terms in research design:
i. Exploratory Study
ii. Formal study
What are the methods of data collection? Explain in details.
What is research? Explain objectives in research.

QUESTION NO.-2: ATTEMPT ANY TWO PARTS.

What is engineering research? What are objectives of engineering research, explain in
What are the conditions for obtaining the Patent? Describe.
Define the following:
i. Intellectual property
ii. Purpose of IPR

QUESTION NO.-3: ATTEMPT ANY TWO PARTS.

Define the observation studies? What are methods used for observation studies?
Define the following:
i. Review Process
ii. Steps for Literature Survey
What is the research design? What are the essentials for research design?

QUESTION NO.-4: ATTEMPT ANY TWO PARTS.

What are the common types of plagiarism and how it can be avoided, explain in detail
Define the following terms in context of research:
i. Fabrication,
ii. Falsification
What are the various penalties in case of plagiarism in submission of Thesis and Dissertation as per UGC, 2018 guidelines?

QUESTION NO.-5: ATTEMPT ANY TWO PARTS.

Differentiate between quantitative Vs qualitative research.
Describe about the research integrity? What are the different values underlying in integrity?
What is the Plagiarism? What are the different levels of plagiarism?

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Paper Code :MEEM-102

(B) SVSU 2024-2

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COURSE NAME (Branch)- M.TECH (EEM)

I YEAR/ I SEM. EXAMINATION

Subject Name: WATER SUPPLY SYSTEMS

Hours]

[Max Marks

TEMPT ALL THE QUESTIONS AS PER GIVEN INSTRUCTIONS.

N NO. 1: ATTEMPT ANY FOUR PARTS

(4*3=12)

the principle of sedimentation in water purification.
the methods of water softening? Explain any two.
the main objectives behind the treatment of water?
how water demand varies throughout the year and the factors affecting it.
the implications of overestimating or underestimating water demand.
s urbanization impact the hydrological cycle and water availability?

N NO. 2: ATTEMPT ANY THREE PARTS.

(3*4=12)

the consequences of inadequate water intake?
different types of water intakes and their applications.
the purpose and construction of infiltration galleries.
iate between infiltration wells and galleries?

N NO. 3: ATTEMPT ANY THREE PARTS.

(3*6=18)

the methods used for transporting water from the source to the distribution system?
the different factors on which the dimensions of infiltration well depends?
the different causes due to which rainy season is disturbed in India?
main objectives behind water conservation?

N NO. 4: ATTEMPT ANY TWO PARTS.

(2*7=14)

the rainwater harvesting? Also write the current status of this technique
?
physicochemical analysis of water and its significance in determining water quality.
the design and purpose of earth embankments in water storage.

N NO. 5: ATTEMPT ANY TWO PARTS.

(2*7=14)

the descriptive of note on the water availability in India?
detailed description of water sampling techniques for physical, chemical, and microbiologi
?
etailed note on precautionary measures used during water treatment process?
