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| Question Paper Code | 11937 |
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B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL/MAY 2023

Fifth Semester

Mechanical Engineering

20MEEL505 - ENVIRONMENTAL AND ENERGY MANAGEMENT

(Regulations 2020)

Duration: 3 Hours

Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

- | | <i>Marks,
K-Level, CO</i> |
|--|-------------------------------|
| 1. Name two different sources of renewable energy in the order of decreasing efficiency. (Most efficient first). | 2,K1,CO1 |
| 2. What is GHG? Give an example. | 2,K1,CO1 |
| 3. Does fossil fuel plant give higher thermal efficiency than renewable source of energy? Give reason. | 2,K2,CO2 |
| 4. Does geothermal energy give higher efficiency than fossil fuel power plants? Explain your answer. | 2,K2,CO2 |
| 5. How is noise pollution quantified? What is its limit in industries? | 2,K2,CO3 |
| 6. Is drinking water with p-H greater than 8.5 potable? Give reason for your answer. | 2,K2,CO3 |
| 7. What is CFC? How does it affect life on earth? | 2,K2,CO4 |
| 8. Name two worst nuclear accidents in the history of nuclear energy. | 2,K2,CO4 |
| 9. Name two mechanical instruments used in energy audit. | 2,K2,CO5 |
| 10. Name the first nuclear plant in India. | 2,K2,CO5 |

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11. a) Explain the following in short (In less than five sentences each). Make diagram wherever needed. 13,K2,CO1
1. Smog. 2. Ozone layer. 3. Acid rain. 4. Green House Effect. 5. Global warming. 6. Climate change.
- OR**
- b) List all energy sources/types starting from early history to the 21st century. Which is the best form of energy in your opinion and explain the reason for your answer. 13,K2,CO1
12. a) List various components of wind energy plant and their functions with the help of diagram. What are advantages and disadvantages of wind energy? 13,K2,CO2

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create

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OR

b) Explain the working of fuel cell mentioning its components with neat sketch. What are its advantages and disadvantages? *13,K2,CO2*

13. a) What is marine pollution? What are its causes? How it can be controlled / reduced? *13,K2,CO3*

OR

b) What is the role of individual in reducing pollution? Explain in detail. *13,K2,CO3*

14. a) What is water conservation? What is rain water harvesting? Explain with the help of diagram. *13,K2,CO4*

OR

b) What is resettlement and rehabilitation? Why it is needed? Discuss. *13,K2,CO4*

15. a) What is energy audit, its need and methodology? Discuss. *13,K2,CO5*

OR

b) Can nuclear energy be a solution to our energy problem? Answer in about 200 words. *13,K2,CO5*

PART - C (1 × 15 = 15 Marks)

16. a) Write an essay on “World without combusting vehicle” in about 200 words. *15,K2,CO5*

OR

b) E waste is the current threat to environment. How do you perceive it and what is your suggestion to overcome E waste problem? Write in about 200 words. *15,K2,CO5*