8E1937

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B.Tech. VIII - Sem. (Main) Examination, April/May - 2024

Open Elective - II

8AG6-60.1 Energy Management

Time : 3 Hours Maximum Marks : 70

Instructions to Candidates:

*Attempt **all ten** questions from **Part A**, **five** questions out of **Seven** questions from **Part B** and **three** questions out of **Five** questions from **Part C**.*

Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.

Use of following supporting material is permitted during examination. (Mentioned in form No. 205).

PART - A

(Answer should be given up to 25 words only)

All questions are **compulsory** (10×2=20)

1. Define Energy Efficiency.
2. Define Energy Integration
3. What is Energy matrix
4. How sustainable development can be achieved in the energy industry?
5. What is the relationship between energy development and sustainability?
6. Define Energy management.
7. What is the objective of energy management?
8. What is renewable energy and list at least three renewable energy sources?
9. List the different phases involved in energy management planning.
10. Define payback period

PART - B

(Analytical/Problem solving questions)

Attempt any **Five** questions (5×4=20)

1. What is the difference between energy conservation and energy efficiency?
2. What are the steps involved in an energy management strategy?
3. What is the objective of sustainable energy management system?
4. Briefly discuss about the necessity of energy conservation.
5. Distinguish between 'preliminary energy audit' and 'detailed energy audit'?
6. What is the basis for aim of Energy Security for any country?
7. What are the cleaner production techniques?

PART - C

(Descriptive/Analytical/Problem Solving/Design questions)

Attempt any **Three** questions (3×10=30)

1. Discuss present energy scenario of our country.
2. Briefly explain different energy forecasting techniques.
3. Explain the principle of Energy management for Cleaner production and its assessment with neat sketch.
4. What is Energy Integration and explain its role in achieving decarbonization of the global economy.
5. How do an Industry, nation and globe would benefit from energy efficiency programs? Mention some of the long-term energy strategies available for the better energy secured nation?