

Roll No .....

## MECM-302(B)

M.E./M.Tech., III Semester Examination, June 2020

### Energy Management

Time : Three Hours

Maximum Marks : 70

- Note :** i) Attempt any five questions.  
ii) All questions carry equal marks.

1. a) Write short notes on geothermal energy. 4  
b) How the energy is produced from ocean, earth and air? 6  
c) Differentiate between solar and nuclear energy? 4
2. What are the techniques are available for solar energy storage in plants? 14
3. a) How the radiation is measured in solar plants? 3  
b) Explain briefly about solar energy collectors? 5  
c) What are factors are affecting the bio digestion for biomass? 6
4. a) Write in briefly about anaerobic digestion process. 4  
b) Write short notes on liquefaction and gasification. 8  
c) What is energy audit? 2
5. Explain in detail about different methods available for hydrogen energy production. 14
6. a) What is the working principle of fuel cell and its classification? 10  
b) How the conversion efficiency is improved in fuel cell and its advantages? 4
7. a) Write short notes on primary and secondary batteries with example? 8  
b) How energy is managed in chemical process plants? 4  
c) How cell temperatures affect the efficiency of battery? 2
8. Write a short note on following:
  - i) Lead acid battery 4
  - ii) Reversible and irreversible cells 5
  - iii) Silver oxide zinc system and nickel metal hydride 5

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