

Exam. Code: 0943
Sub. Code: 6745

2063
B.E. (Mechanical Engineering)
Seventh Semester
Elective - I
MEC-705 : Renewable Energy Sources

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Section.

x-x-x

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| 1 | (a) What are primary energy sources? (b) Classify the methods of solar energy storage. (c) Give a list of the materials used for biogas generation. (d) What is meant by anaerobic digestion? (e) Write any two applications of wind energy. | 10 |
| Section A | | |
| 2 | (a) Explain eppley type pyrheliometer. (b) What is the principle for collection of solar energy used in a non convective solar pond? | (5) (5) |
| 3 | Describe a solar heating system using water heating solar collectors. What are the advantages and disadvantages of this method? | (10) |
| 4 | (a) What are the main problems in straw fermentation? How they are minimized? (b) Explain different types of bioreactors. | (5) (5) |
| Section B | | |
| 5 | (a) Explain the factors, which affect the size of the biogas plants? (b) Describe with a neat sketch the working of a wind energy system with main components. | (5) (5) |
| 6. | Explain with sketches the various methods of tidal power generation. What are the limitations of each method? | (10) |
| 7 | (a) Describe a binary cycle system for liquid dominated system. (b) What are the main applications of geothermal energy? | (5) (5) |

x-x-x

