[Total No. of Questions - 9] [Total No. of Printed Pages - 2]
(2123)

1404

B. Tech 5th Semester Examination

Non Conventional Energy Resources (O.S.)

EEE-5001

Time : 3 Hours **Max. Marks : 100**

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Attempt five question in all, selecting one from each section A, B, C and D. Section E is Compulsory.

SECTION - A

1. What do you mean by renewable energy sources? Why they are important for survival of human race? Explain the application of solar energy in detail. **(20)**

2. How solar energy can be converted into electrical and heat energy? Discuss with the help of neat sketches. **(20)**

SECTION - B

3. Discuss the energy scenario in India with suitable examples and statistics. **(20)**

4. What is the present annual primary energy consumption of the world? At what rate it is growing? **(20)**

SECTION - C

5. What do you mean by collector? Explain the different type of collector for solar thermal application? **(20)**

6. What are the factors, which affect the size of biogas plants? Explain the techniques suggested for maintaining Biogas production? **(20)**

SECTION - D

7. Define and classify geothermal sources. What are the applications of geothermal energy? Discuss the geothermal potential in India? **(20)**

8. What is the basic principle of wind energy conversion? Describe the main component of most commonly used type of wind mill? **(20)**

SECTION - E

9. (a) What do you mean by solar thermal storage?

   (b) What are limitations of fossil fuel?

   (c) What are the prospects of tidal energy in India?

   (d) Discuss the advantages and disadvantages of ocean thermal energy?

   (e) Discuss the application of concentrating type collector?

   (f) Discuss the principle of solar photovoltaic energy conversion?

   (g) What do you mean by solar passive heating system?

   (h) What features of solar energy make it attractive for using irrigation water pump?

   (i) What do you understand by biogas?

   (j) Why there is need to develop new energy sources? **(2x10=20)**