Code: 15A02805

R15

B.Tech IV Year II Semester (R15) Advanced Supplementary Examinations July 2019

ENERGY RESOURCES & TECHNOLOGY

(Electrical and Electronics Engineering)

Time: 3 hours Max. Marks: 70

PART – A

(Compulsory Question)

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1 Answer the following: (10 X 02 = 20 Marks)

(a) What are the non conventional energy sources?
(b) Explain briefly about input-output analysis of energy sources.
(c) What are the main components of thermal power generation plant?
(d) Explain about Nuclear Fusion and Nuclear fission.
(e) What are the disadvantages of concentrating collectors over flat plate type collectors?
(f) Enumerate the different main applications of wind energy.
(g) What are the advantages of tidal power generation?
(h) Classify the nature of geothermal fields.
(i) What are the requirements for materials used in MHD generator?
(j) What are the various types of chemical energy storage systems?

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

2 Explain the complete analysis of natural gas.

OR

3 Explain in detail about the quality of energy.

UNIT – II

4 Explain about the hydroelectric power plant with a neat sketch.

OR

5 Explain about nuclear power generation with a neat sketch.

UNIT – III

6 What is the principle of solar photovoltaic power generation? What are the main elements of a PV system?

OR

7 Describe with a neat sketch the working of a wind energy system (WECS) with main components.

UNIT – IV

8 How are biogas plants classified? Explain them briefly.

OR

9 Describe the 'Open loop' OTEC power plant with a neat sketch.

UNIT – V

10 Describe any one of the MHD closed cycle system with a neat schematic diagram.

OR

11 Write short notes on:

(a) Energy storage.
(b) Energy in transportation.

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