

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)

- 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.
