Seventh Semester B.E. Degree Examination, Dec.2019/Jan.2020
Non Conventional Energy Sources

Time: 3 hrs.
Max. Marks:100

Note: *Answer any FIVE full questions, selecting at least TWO questions from each part.*

PART – A

1 a. With sketches, explain production of oil from oil shale and Tar sands. (10 Marks)
   b. What is the need for alternate energy sources? Explain by considering solar energy. (05 Marks)
   c. Discuss the limitations of non conventional energy sources. (05 Marks)

2 a. Write notes on Beam and Diffuse radiation. (05 Marks)
   b. Explain spectral distribution of Extra terrestrial radiation. (05 Marks)
   c. With a neat sketch, explain working of pyranometer. (10 Marks)

3 a. Describe the principle of working of a solar pond with a neat sketch. (10 Marks)
   b. Write short notes on : i) Solar air heater   ii) Concentrating collectors. (10 Marks)

4 a. With a neat sketch, explain the construction and working of liquid flat plat collector. (10 Marks)
   b. Explain briefly the parameters affecting the performance of a flat plat collector. (10 Marks)

PART – B

5 a. With a neat sketch, explain working of a photo voltaic cell. Draw I-V characteristics. (10 Marks)
   b. Explain with a neat sketch the working of vertical axis and horizontal axis wind mill. (10 Marks)

6 a. Sketch and explain single basin type tidal power plant. (06 Marks)
   b. Explain with a neat sketch, the working principle of closed cycle OTEC plant. (06 Marks)
   c. Explain with a diagram vapour dominated Geothermal power plant. (08 Marks)

7 a. Explain the construction detail and working of KVIC digester. (10 Marks)
   b. Explain the following : i) Photosynthesis   ii) Energy plantation. (10 Marks)

8 a. Explain the process of electrolytic production of Hydrogen with a neat sketch. (10 Marks)
   b. Explain briefly methods of hydrogen storage and transportation. (10 Marks)

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= 4 FEB 2020