PVP 14

Code: ME6T6FE-H

III B.Tech-II Semester–Regular/Supplementary Examinations–March 2019

RENEWABLE ENERGY SOURCES
(MECHANICAL ENGINEERING)

Duration: 3 hours Max. Marks: 70

PART – A

Answer *all* the questions. All questions carry equal marks

11x 2 = 22 M

1.

a) What is renewable energy?
b) What are the different applications of solar PV system in rural area?
c) List out different methods of energy storage.
d) What is meant by Anaerobic digestion?
e) What are the advantages of fuel cells?
f) What are the basic types of instruments employed for solar radiation measurements?
g) How the energy produced from Bio mass?
h) What are the applications of solar energy?
i) What is the basic principle of ocean thermal energy conversion?
j) What type of turbine is best suited for mini hydel plant and describe it?
k) What are the advantages and limitations of wave energy?

PART – B

Answer any *THREE* questions. All questions carry equal marks.

3 x 16 = 48 M

2. a) What is the difference between Pyrheliometer and Pyranometer and discuss about the Working Principle of them. 8 M

b) Enumerate the different types of concentrating type of collectors. 8 M

3. a) Explain about the Solar Electric power generation. 8 M

b) Explain the working of Solar Pond with neat diagram. 8 M

4. a) Explain with a neat diagram the working of various types of wind mills. 8 M

b) Write about Combustion characteristics of bio-gas. 8 M

5. a) Explain with neat sketch, the methods of operation of tidal power generation. 8 M

b) What are the main types of OTEC power plants? Describe their working 8 M

6. a) Explain MHD Power generator with neat diagram. 8 M

b) What is a fuel cell? Describe the principle of working of a fuel cell with reference to $H_2 – O_2$ cell. 8 M