

B.Tech. 7th Semester (F) Scheme (ME) Examination,

December-2018

POWER PLANT ENGINEERING

Paper-ME-407-F

Time allowed : 3 hours]

[Maximum marks : 100

Note : Attempt five questions in all. Question No. 1 is compulsory and select at least one question from each section.

1. (a) Name the various types of power plant.
- (b) Name various hydro plants presently working in north India.
- (c) What is fuel cell ? How the electrical energy is created in fuel cell ?
- (d) What is Economizer ? How much boiler efficiency improves by economizer ?
- (e) Where screw conveyer is used in thermal power plant ?
- (f) What is the water hammer and cavitation in hydropower plant ?
- (g) What is the function of speed governor in hydroelectric station ?
- (h) What do you mean by Utilization factor, Diversity factor and Demand factor ?

- (i) What do you mean by Depreciation and write the name various method of calculation ?
- (j) What is the function of Photovoltaic cell ?

10×2

Section-A

2. Discuss about the site selection of hydropower plant and compare this with other types of power plants such as thermal. 20
3. Explain the construction and operation of different components of hydro-electric power plants. Discuss the various factors which govern the site selection of hydro plant. 20

Section-B

4. Give the layout of modern stream power plant. Discuss its salient features. 20
5. Explain with the help of neat sketch the arrangements or combined plants. Also discuss the repowering systems with gas production from coal. 20

Section-C

6. Explain the construction and working of CANDU with neat sketch with its various advantages and disadvantages. 20

7. Explain the construction and working of BWR. Compare the working of PWR with the BWR. 20

Section-D

8. With neat sketch, explain the working of OTEC, wind power plants, tidal power plants. 20
9. Describe in brief the following method of energy generation : 20
- (a) Thermionic power generation.
- (b) Magneto hydro dynamics (M.H.D.)
- (c) Fuel cells