

14144390 - 392

to 115

03

24479

**B.Tech. 7th Semester (ME)
Examination, December-2015**

POWER PLANT ENGINEERING

Paper-ME-407-F

Time allowed : 3 hours]

[Maximum marks : 100

Note : Attempt any **five** questions. **Question No. 1 is compulsory.** Select at least **one** question from each section.

1. (a) What is the waste of nuclear plants ?
- (b) Name various hydro plants presently working in north India.
- (c) What is geothermal energy ?
- (d) What is Economizer ? How much boiler efficiency improves by economizer ?
- (e) Where conveyers are used in thermal power plant?
- (f) What do you mean by hydrology ?
- (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 and various method of calculation ?
- (j) What is the function of Photovoltaic cell ?

24479-P-3-Q-9(15)

[P.T.O.]

Section-A

2. Discuss the various types of power plants which can be installed in India and explain the various factors which govern the selection of plants. 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
4. Give the layout of modern stream power plant. Discuss its salient features. 20
5. How the exhaust gases from gas turbine of gas turbine power plant can be used in a steam power plant ? Show by line diagram at least two such arrangements. Also discuss advantages of these Arrangements. 20

Section-B

- (a) Solar energy
- (b) Magneto hydrodynamics (M.H.D.)
- (c) Fuel cells. 20

Section-C

6. Discuss the various method of finding the cost of electrical energy and various tariffs methods used by state govt. for electrical energy. 20
7. Explain the construction and working of BWR. Compare the working of PWR with the BWR. 20

Section-D

8. Discuss the various methods of solar radiation estimation. Also explain the various types of solar energy collectors. 20
9. Describe in brief the following method of energy generation :
 - (a) Solar energy
 - (b) Magneto hydrodynamics (M.H.D.)
 - (c) Fuel cells. 20