

Code: ME8T1

**IV B.Tech - II Semester – Regular/Supplementary  
Examinations – July 2021**

**POWER PLANT ENGINEERING  
(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) List out any four grades of coal.
- b) Distinguish between the artificial draught and natural draught.
- c) Enumerate advantages of super charging.
- d) Distinguish between open cycle and closed cycle gas turbine plants.
- e) What is meant by unit hydrograph?
- f) List out the major sources for the radiation hazards in nuclear power plants.
- g) What is a run-of-river plant?
- h) Name the devices which are used to measurement of smoke and dust.
- i) Differentiate between demand and diversity factor.
- j) List out the effluents from power plants.
- k) Define radioactivity.

## PART – B

Answer any **THREE** questions. All questions carry equal marks. 3 x 16 = 48 M

2. a) Describe the inplant coal handling with a neat diagram. 8 M
- b) With a neat sketch explain the working of cyclone dust collector. 8 M
3. a) Explain with a neat diagram, working of CRDI system. 8 M
- b) List the advantages of combined cycle. 8 M
4. a) Draw and explain working of pumped storage power plant. 8 M
- b) Explain the principle of operation of boiling water reactor used for power generation along with a neat sketch. 8 M
5. Explain coordination of hydroelectric and gas turbine stations. 16 M
6. a) What is a load curve and its significance? 8 M
- b) Explain how the NO<sub>x</sub> emissions can be reduced in the flue gases. 8 M