

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(ME) (2012 Onwards E-II) (Sem.-7)

POWER PLANT ENGINEERING

Subject Code : DE/ME-1.8

M.Code : 72004

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Answer briefly :

- a) On what factors does the unit size of a power plant depends?
- b) Explain the hydrological cycle.
- c) What do you understand by flow duration curve?
- d) What is meant by rainfall run off?
- e) Discuss the application of diesel electric power plants.
- f) What is a supercritical steam cycle?
- g) Define the life cycle of neutrons. What is four factor formula?
- h) What is effect of load curves on power plant design?
- i) What is purpose of peak load plant?
- j) Differentiate between the direct and indirect methods of solar energy utilization.

SECTION-B

2. Draw a neat diagram of Storage type hydroelectric power plant and describe the function of each components used in plants.
3. Name and explain the various sources of Energy. Compare the various sources of Energy.
4. Why is the thermal efficiency of a condensing steam power plant less in a warm region than in a cold region?
5. Why is power generation by gas turbines attractive these days? Explain the effect of regeneration in a gas turbine plant.
6. What measure required during disposal of nuclear waste? List the advantages and limitation of Nuclear power plant.

SECTION-C

7. State the function of dam. How are dams classified? Briefly describe a few important types of dam. How would you select the site and the type of the dam?
8.
 - a) Explain how tidal energy is converted to electrical energy. What do you mean by schedule and range of a tidal wave?
 - b) Explain different types of geothermal sources, viz, Hydrothermal, geo-pressurized and petro-thermal.
9. Write a short note on :
 - a) Subcritical and super critical chain reactions
 - b) Magneto-Hydrodynamic System
 - c) Photo voltaic power system.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.