

Roll No.....

Total No. of Printed Pages: [01]

Total No. of Questions: [09]

B. Tech. (EE) (Semester – 5th)
POWER PLANT ENGINEERING
Subject Code: BMECO1001
Paper ID: [18OE111501]

Time: 03 Hours

Maximum Marks: 60

Instruction for candidates:

1. Section A is compulsory. It consists of 10 parts of two marks each.
2. Section B consist of 5 questions of 5 marks each. The student has to attempt any 4 questions out of it.
3. Section C consist of 3 questions of 10 marks each. The student has to attempt any 2 questions.

Section – A

(2 marks each)

- Q1. Attempt the following:
- a) Classify the steam generators.
 - b) What are the various types of steam turbines?
 - c) Write any two factors for selection of site of a thermal power plant.
 - d) What is the function of a nozzle in steam turbines?
 - e) Define hydrology.
 - f) Give any two advantages of hydro power plants.
 - g) Name the various fuels used in gas turbines.
 - h) List out the components of diesel power plants.
 - i) Give any two applications of gas turbine power plants.
 - j) What do you mean by ash handling?

Section – B

(5 marks each)

- Q2. Explain Dalton's law of partial pressure.
- Q3. Explain the construction and working of an electrostatic precipitator.
- Q4. A hydro-electric plant has a catchment area of 50 square miles and the run-off is 70%. The average rain-fall is 60 inches and the head of 400 meters. Find the power available if the overall efficiency of the plant is 80%.
- Q5. What are the advantages and disadvantages of nuclear power plants?
- Q6. Discuss the fundamental concept of gas turbine control and monitoring system.

Section – C

(10 marks each)

- Q7. With the aid of neat diagram(s), explain the construction and working of Babcock and Wilcox boiler.
- Q8. Compare Pressurized Water Reactor (PWR) and Boiling Water Reactor (BWR).
- Q9. Write short note on:
- (a) Combined operation of Hydro and Thermal Power Plants.
 - (b) Rankin cycle.