

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE
Regular & Supplementary Summer 2024

Course: B. Tech.

Semester: VI

Branch: Electrical Engineering / Electrical Engineering (Electronics and Power) / Electrical & Electronics Engg. / Electrical & Power Engineering

Subject Name and Code : BTEEOE605B Power Plant Engineering

Max Marks: 60

Date: 25/06/2024

Duration: 3 Hr.

Instructions to the Students:

1. All the questions are compulsory.
2. The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in () in front of the question.
3. Use of non-programmable scientific calculators is allowed.
4. Assume suitable data wherever necessary and mention it clearly.

(Level/CO) Marks

Q.1 Solve Any Two of the following.

- A) Define renewable and non - renewable energy sources. Enlist the Sources of Energy and Classify the different types of power plants Remember 6
- B) Define the Following Terms Understand 6
(a) Load Factor (b) Diversity Factor (c) plant use Factor (d) Load Curve
- C) State and explain what are the considerations are made while calculating the cost of Electrical Energy Understand 6

Q.2 Solve Any Two of the following.

- A) Draw Layout and Enlist the factors are to be considered for the selection of site for Thermal Power Plant. Remember 6
- B) Explain the general layout of ash handling and dust collection systems Analyze 6
- C) Classify the different types of Hydropower plant. Explain Pumped Storage Plant with its layout Remember 6

Q.3 Solve Any Two of the following.

- A) Explain the types and working of Gas Turbine Power Plants with Diagram Understand 6
- B) Describe the various methods used for starting diesel engine. Describe the correct sequence of steps for starting and stopping procedure. Analyze 6
- C) Enlist the types of reactors in nuclear power plant and explain Boiling water reactor with its layout. Understand 6

Q.4 Solve Any Two of the following.

- A) What is a solar power plant and explain different types of solar power plants? Remember 6

- B) What is environmental impact of a combined cycle plants? Understand 6
- C) Write the importance of Wind Energy and which Factors Affecting the Distribution of Wind Energy Remember 6

Q.5 Solve Any Two of the following.

- A) Discuss the Concept of parallel operation of various generating sources and load sharing, Understand 6
- B) The peak load on a power plant is 60 MW. The loads having maximum demand of 30 MW, 20 MW, 10 MW and 14 MW are connected to the power plant. The capacity of the power plant is 80 MW and the annual load factor is 0.50.
Analyze 6
- Estimate
- a) The average load on the power plant
 - b) The energy supplied per year
 - c) The demand factor
 - d) The diversity factor
- C) Define the Terms station control, switch yard and control room in power plants Remember 6

*****All The Best*****