

B.E. Electrical (Electronics & Power) Engineering (Model Curriculum) Sem-V  
**TE102A / OEC-EE01 : Power Plant Engineering**

P. Pages : 2

Time : Three Hours



**GUG/W/22/13863**

Max. Marks : 80

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- Notes :
1. Read the question paper carefully (Branch Semester, Scheme) before attempting the questions.
  2. Every question has equal weightage.
  3. Use of programmable calculator is prohibited.
  4. Assume suitable data wherever necessary.
  5. Draw neat and proper diagram sketches.
  6. Don't use red pen for writing the answers.
  7. Don't write any other comments except answers of questions.

1. a) State and Explain terms- **8**  
i) Diversity Factor,  
ii) Group Diversity Factor,  
iii) Peak Diversity Factor.

- b) Explain the term depreciation and method to obtain depreciation charges. **8**

**OR**

2. a) A plant whose installed capacity is 125 MW and its load on a typical day is as under **8**

Time :	12-5 am	5-9 am	9am-6pm	6-10pm	10pm-12am
Load :	20MW	40MW	80MW	100WM	20MW

Find energy supplied in 24 hours, load factor, capacity factor and utilization factor.

- b) Explain different types of loads with neat sketch. **8**

3. Explain the water-steam flow system of thermal power plant. **16**

**OR**

4. Explain the different types of cooling tower and ponds used for cooling steam in thermal power plant. **16**

5. a) State and explain different equipment's fuel system in a diesel engine cooling system. **8**

- b) Draw and explain the operation of an closed cycle gas turbine plant. **8**

**OR**

6. a) Draw and explain the different equipment's of a closed circuit of a diesel engine cooling system. **8**

- b) Draw and explain the operation of an open cycle gas turbine plant. **8**

7. a) State and Explain terms: 8  
i) Nuclear Energy,  
ii) Radioactivity,  
iii) Nuclear Chain Reaction,  
iv) Multiplication Factor
- b) Explain the generalized nuclear power plant with its main parts. 8

**OR**

8. a) Explain the governing and speed regulation of pelton turbine. 8  
b) Give the generalized description with neat sketch of pump storage hydro plant. 8
9. a) Explain energy with suitable diagram. 8  
b) Mention and explain different types of instruments used in power plants. 8

**OR**

10. a) Explain closed circuit air cooling of turbo alternator. 8  
b) Classify the different cooling system of power transformer. 8

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