Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 80496

B.E/B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2021.

Fourth Semester

Electrical and Electronics Engineering

EE 2252/EE 43/EE 1252/10133 EE 403/080280027 — POWER PLANT ENGINEERING

(Regulations 2008/2010)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is the function of deaerator in a thermal power plant?

2. Why thermal plants are not suitable for supplying fluctuating loads?

3. What is the function of draft tube?

4. List any four advantages of hydro-electric power plant.

5. What is the purpose of a moderator?

6. Define nuclear fission.

7. What are the methods by which thermal efficiency of a gas turbine power plant be improved?

8. What is the basic difference between a diesel engine and a steam turbine?

9. Define Law of conservation of Energy.

10. Write the use of thermionic converter.

PART B — (5 × 16 = 80 marks)

11. (a) Explain with a neat sketch the working of a thermal electric power plant station and discuss the function of major components in it. (16)

Or

(b) Write short notes on

(i) Coal handling plant. (8)

(ii) Ash handling system. (8)

12. (a) Compare the working of Francis turbine with Pelton wheel and explain the drawbacks of the Francis compared with Pelton. (16)

Or

(b) With neat schematic explain the following:

(i) Low head hydro plant (8)

(ii) Pumped storage power plant. (8)

13. (a) (i) Explain different types of nuclear reactions and initiation of nuclear reactions. (8)

(ii) Briefly explain the pressurized water reactor (PWR) with neat sketch. (8)

Or

(b) (i) Explain Boiling Water Reactor (BWR) with neat sketch. Give its advantage and disadvantage. (8)

(ii) Explain different methods for nuclear waste disposal with necessary sketch. (8)

14. (a) Draw a layout of diesel power plant. showing various systems and explain each system in detail. (16)

Or

(b) Draw diagrams and explain the difference between open cycle and closed cycle gas turbine plants. (16)

15. (a) Write short notes on

(i) Solar energy generation (8)

(ii) Thermionic power generation. (8)

Or

(b) Explain the following:

(i) Wind energy conversion (8)

(ii) Tidal power plant. (8)

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