



Regulation R18

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A' Grade)

Subject code: 2P5BA

B. Tech V Semester Supplementary Examinations, January 2023

POWER SYSTEM-I

(EEE)

Maximum Marks: 70

06/01/2023

Duration: 3 hours

- Note:
1. This question paper contains two parts A and B.
 2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
 3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
 4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks

(10x2M=20 Marks)

- 1 List out various important parts of a gas turbine plant.
- 2 What are the different types of pulverized fuel burners?
- 3 List any four basic components of a wind mill.
- 4 Draw AC 3 phase 3 wire distribution system.
- 5 What are the requirements of a distribution system?
- 6 What is the importance of load power factors in a.c. distribution?
- 7 What are the advantages of Outdoor substation over indoor substation?
- 8 What are the advantages of gas insulated substations?
- 9 Define spinning reserve.
- 10 Differentiate between fixed and operating costs of power plants.

Part-B

Answer All the following questions.

(5X10M=50Marks)

- 11 a) What are the functions of economizer and superheater in a thermal power plant?
b) List out main parts of a reactor and briefly state their functions. [5+5]
- OR
- 12 a) What are the different types of steam turbines? Briefly discuss about their use and characteristics.
b) Explain about open cycle and closed cycle gas turbine plants. [5+5]
- 13 a) Explain the working of a wind power generation with schematic diagram.
b) Give the differences between conventional energy and non-conventional energy sources? [5+5]
- OR
- 14 a) Explain briefly about battery storage system.
b) Write the Short note on lead-acid battery and applications. [5+5]
- 15 a) Explain the design features of A.C distributed system.
b) Give the differences between under-ground system vs. overhead distribution system. [5+5]
- OR
- 16 a) Explain different types of DC distributors.
b) Explain the uniformly loaded distributors fed at one end. [5+5]

17 Draw the layout of a typical 11 KV / 400 V indoor substation and explain the equipment in detail. [10]

OR

18 What are the essential parts of electrical cable, explain types of cables? [5+5]

19 What type of tariff is employed for domestic consumers? Why this tariff is not employed for bulk consumers? [10]

OR

20 What is meant by tariff? Explain some commonly used tariffs. [10]