



R20 Regulation

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY  
(Autonomous, Accredited by NAAC with 'A' Grade)  
B.Tech IV Semester Regular Examinations, July 2022

Subject code: 3P4BE

POWER SYSTEM - I

(EEE)

Maximum Marks: 70

Date: 30.07.2022 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 the various types of fuel cells used for generation of power.
- 2 What are the main components used to generate power using wind?
- 3 Write short notes on demand factor.
- 4 Define diversity factor.
- 5 Difference between overhead lines and underground cables.
- 6 Write short notes on how to perform the insulator testing.
- 7 What is meant by disruptive critical voltage?
- 8 How to reduce interference between power and communication lines
- 9 What are the steps are used to select the site for substation?
- 10 List out the classification of distributed system.

Part-B

Answer All the following questions.

(10MX 5=50Marks)

- 11 Explain the construction and working of steam power plant in detail with a neat diagram. [10]  
OR
- 12 Explain the construction and working of nuclear power plant in detail with a neat diagram. [10]
- 13 With neat diagram explain the load duration curve and load curve in detail. [10]  
OR
- 14 Explain the various types of tariffs available for domestic and commercial customer. [10]
- 15 Discuss the various types of insulators in detail with a neat diagram. [10]  
OR
- 16 Describe the various types of cables in detail with a neat diagram. [10]
- 17 Explain the factors affecting corona loss and the methods to reduce corona loss in detail. [10]  
OR
- 18 Derive the inductance and capacitance expression for 3 phase lines using symmetrical spacing. [10]
- 19 Explain the various types of AC Distribution bus arrangement in detail with neat diagram. [10]  
OR
- 20 Describe the requirements and design features of distribution systems in detail with neat diagram. [10]