



R18 Regulation

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY
(Autonomous, Accredited by NAAC with 'A' Grade)

Subject code:2P5BA

B.Tech V Semester Regular/Supplementary Examinations, December 2021
POWER SYSTEMS-I
(Electrical and Electronics Engineering)

Maximum Marks: 70

Date:30.12.2021 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.
 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 What Is The Thermal Efficiency Of Steam Power Plant?
- 2 What are the most contentious issues surrounding nuclear energy?
- 3 Point out the importance of solar energy in the present day energy crisis?
- 4 Express the Equation for the Maximum output power (P_m) of wind turbine
- 5 Compare AC System with DC
- 6 What is meant by Ring main distribution system?
- 7 What is meant by touch potential?
- 8 What are the different grades of Cables?
- 9 What is plant utilization factor?
- 10 What is fixed, semifixed and running cost?

Part-B

Answer All the following questions. (5X10M=50Marks)

- 11 Explain in details about the Fossil fuel usage and its crisis in the World. (10M)
OR
- 12 Explain the construction and working of Nuclear power plant with a layout. (10M)
- 13 Explain wind power generation from various types in detail. (10M)
OR
- 14 Discuss different solar photovoltaic technologies in detail. (10M)
- 15 Compare overhead and underground Distribution systems in detail. (10M)
OR
- 16 What are the power quality issues in AC Distribution system and how to overcome it. (10M)
- 17 Compare and contrast AIR insulated substation and Gas Insulated substation. (10M)
OR
- 18 Explain substation grounding in detail. (10M)
- 19 Discuss about economic aspects of Energy in terms of: i) Load factor ii) demand factor iii) maximum demand iv) load duration curve and v) diversity factor. (10M)
OR
- 20 Explain various tariff methods and its characteristics. (10M)