



R20 Regulation
TKR COLLEGE OF ENGINEERING AND TECHNOLOGY
(Autonomous, Accredited by NAAC with 'A' Grade)

Subject code: 305BA

B.Tech V Semester Supplementary Examinations, June/July 2023

SMART GRID TECHNOLOGIES
(Electrical and Electronics Engineering)

Maximum Marks: 70

Date:06.07.2023 Duration: 3 hours

Part-A

All the following questions carry equal marks

(10x2M=20 Marks)

- 1 Evaluate the necessity of Smart Grid system.
- 2 What is meant by outage management?
- 3 What does Geographic Information Systems do?
- 4 How does pumped hydro store energy?
- 5 Compare the Micro grid with conventional utility grid.
- 6 Write short note on organic solar cells?
- 7 What are power quality issues?
- 8 What is power quality audit.
- 9 Give the various challenges to HAN.
- 10 How does cloud computing help smart grid?

Part-B

Answer All the following questions.

(5X10M=50Marks)

- 11 Explain the concept of robust and self-healing grid. [10]
OR
- 12 List the smart appliances and describe an integration of smart appliances in to grid for home and building automation. [10]
- 13 Explain how the reliability of smart grid can be enhanced by integrating intelligent electronic devices (IED) into it. [10]
OR
- 14 Generalize the Phasor Measurement Unit application for monitoring and explain the protection. [10]
- 15 State and explain the issues of interconnecting the micro grid. [10]
OR
- 16 Explain the capacitive power plants briefly. [10]
- 17 Explain the role of EMC in smart grid. [10]
OR
- 18 How the power quality can be improved in smart grid? Explain briefly. [10]
- 19 Write short notes on [5+5]
(I) Bluetooth
(II) ZigBee
OR
- 20 Describe the CLOUD Computing to make Smart Grids smarter. [10]