



R20 Regulation

Subject code:305BA

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech V Semester Supplementary Examinations, May 2025

SMART GRID TECHNOLOGIES

(EEE)

Maximum Marks: 70

Date: 27.06.2025

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)		Marks	CO	BTL
1	Define Smart Grid.	2M	1	L1
2	Give four examples of smart appliances.	2M	1	L1
3	Define Geographic Information Systems(GIS).	2M	2	L1
4	What is phase Measurement Unit(PMU)?	2M	2	L1
5	Define Captive power plants.	2M	3	L1
6	Define Power Quality Audit.	2M	3	L1
7	List out the Power Quality Conditioners.	2M	4	L1
8	Define EMC in Smart Grid.	2M	4	L1
9	Expand HAN and NAN.	2M	5	L1
10	What are the Basics of CLOUD Computing?	2M	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	BTL
11	What is the Need of Smart Grid in present generation?	10M	1	L2
	OR			
12	Explain about the Plug in Hybrid Electric Vehicles(PHEV).	10M	1	L2
13	Explain the concept of Intelligent Electronic Devices (IED) & their application for monitoring& protection.	10M	2	L2
	OR			
14	Explain about Wide Area Measurement System(WAMS).	10M	2	L2
15	Explain about Integration of renewable energy sources.	10M	3	L2
	OR			
16	Explain about Variable speed wind generators.	10M	3	L2
17	Explain in detail about Web based Power Quality monitoring.	10M	4	L2
	OR			
18	Explain about the Power Quality issues of Grid connected Renewable Energy Sources.	10M	4	L2
19	Explain about Wireless Mesh Network.	10M	5	L2
	OR			
20	Explain Basics of CLOUD Computing & Cyber Security for Smart Grid.	10M	5	L2