



R18 Regulation

Subject code:206BA

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VI Semester Supplementary Examinations, July 2024

ENERGY STORAGE SYSTEMS

(EEE)

Maximum Marks: 70

Date:01.08.2024 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)	CO	Bloom Tx
1	What are the characteristics of electricity?		1	L1
2	What are the roles of EES?		1	L1
3	What is meant my smart grid?		2	L1
4	What is the role of EES from the view point of consumers?		2	L1
5	What is meant by secondary batteries?		3	L1
6	Classify the Energy Storage Systems?		3	L1
7	What is meant by double layer Capacitors?		4	L1
8	What are the standards for EES?		4	L1
9	Give four advantages of EES.		5	L1
10	Mention the applications of EES in UPS for large consumers?		5	L1

Part-B

Answer All the following questions.		(5X10M=50Marks)		
11	a. What is the need for continuous and flexible supply? [5M] b. Explain in brief about the long distance between generation and consumption? [5M]		1	L2
OR				
12	a. What is meant by Congetion phenomena in power grids? [5M] b. How the congetion is eliminated during the peak load periods? [5M]		1	L2
13	a. What is the need for Electrical Energy Storage systems ,explain in brief with four points? [5M] b. What is the role of EES from the view point of utility? [5M]		2	L2
OR				
14	a. What is the role of renewable energy systems in EES? [5M] b. How the load is distributed during the peak loads with the help of EES? [5M]		2	L2
15	a. Explain about the pumped hydro storage system with neat diagram? [5M] b. Derive the equation of the efficiency of pumped hydro storage system?		3	L2

		[5M]	
	OR		
16	a. What is the difference between primary and secondary batteries? [5M] b. What is the difference between diabatic and adiabatic process? [5M]	3	L2
17	a. Classify the EES according to the medium used to store the energy. [5M] b. Explain in brief about the thermal storage systems. [5M]	4	L2
	OR		
18	a. Compare the EES in terms of technical elements. [5M] b. Explain about the super conducting magnetic energy storage systems. [5M]	4	L2
19	How the renewable energy is connected to the EES for the storage and applications? [10M]	5	L2
	OR		
20	a. Give the difference between aggregating EES and distributed systems? [5M] b. What are the new trends in application in EES systems? [5M]	5	L2