



R18 Regulation

Subject code:208EA

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

B.Tech VIII Semester Supplementary Examinations, April 2023

ENERGY STORAGE SYSTEMS
(CSE)

Maximum Marks: 70

Date:08.05.2023 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 Define block out.
- 2 List out the limitations of power transmission by cables.
- 3 Write the limitations of fossil fuels
- 4 What is the role of smart grid in integrating renewable energy to grid.
- 5 Write the salient features of synthetic natural gas
- 6 Name different types electro chemical storage systems
- 7 What is latent heat storage
- 8 Write the advantages of electrical storage systems over mechanical storage systems
- 9 Write few points on smart house
- 10 Outline the importance of Energy storage systems in Electric vehicles

Part-B

Answer All the following questions.

(10MX 5=50Marks)

- 11 Explain in brief about the long distance between generation and consumption? [10]
OR
- 12 A. What is meant by Congestion phenomena in power grids? [5]
B. How the congestion is eliminated during the peak load periods? [5]
- 13 A. What is the need for Electrical Energy Storage systems, explain in brief with four points? [5]
B. What is the role of EES from the view point of utility? [5]
OR
- 14 A. What is the role of renewable energy systems in EES? [5]
B. How the load is distributed during the peak loads with the help of EES? [5]
- 15 Explain about the pumped hydro storage system with neat diagram? [10]
OR
- 16 A. What is the difference between primary and secondary batteries? [5]
B. What is the difference between diabatic and adiabatic process? [5]

- 17 A. Classify the EES according to the medium used to store the energy? [5]
B. Explain in brief about the thermal storage systems? [5]
- OR
- 18 Explain about the super conducting magnetic energy storage systems? [10]
- 19 A. How the renewable energy is connected to the EES for the storage and applications? [5]
B. Give the applications of EES in present day technology? [5]
- OR
- 20 A. Give the difference between aggregating EES and distributed systems. [5]
B. What are the new trends in application in EES systems. [5]