



R18 Regulation

Subject code: 208EA

**TKR COLLEGE OF ENGINEERING AND TECHNOLOGY**

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

**B.Tech VIII Semester Regular Examinations, June 2022**

**ENERGY STORAGE SYSTEM**

(Computer Science and Engineering)

**Maximum Marks: 70**

Date:20.06.2022 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 What is Electrical Energy Storage system?
- 2 Show how EES assists users when a power network failure occurs.
- 3 List out two emerging market needs for Electrical Energy Storage system.
- 4 What role does EES play in off grid and on grid areas?
- 5 How do you categorize electrical energy storage devices based on their energy form?
- 6 What is Synthetic Natural Gas? List the benefits of SNG.
- 7 Make a list of important factors to consider when developing the EES system.
- 8 List out any two benefits of Superconducting magnetic energy storage system.
- 9 What is Smart Micro Grid?
- 10 Give the usage of Virtual power plant.

**Part-B**

Answer All the following questions.

(5X10M=50Marks)

- 11 Examine the functions of electrical energy storage systems in the utilization of electricity. (10)  
OR
- 12 Describe how EES technologies assist consumers in scenarios such as Need for continuous and flexible supply, long distance between generation and consumption, Congestion in power grids and cable transmission. (10)
- 13 Elaborate the roles of electrical energy storage technologies. (10)  
OR
- 14 Identify difficulties with renewable energy installations and explain how EES might help. (10)
- 15 Discuss about electro chemical energy storage systems. (10)  
OR
- 16 Discuss pros and cons of various mechanical storage systems. (10)
- 17 Give a brief summary of the electrical and thermal storage systems. (10)  
OR
- 18 Describe the technical comparison of EES technologies. (10)
- 19 Describe how EES is used in traditional electric utilities and by consumers. (10)  
OR
- 20 Briefly explain the any two new trends in EES applications. (10)