

11 DEC.2025 TE ELECTRICAL (SEM-VI) C SCHEME ES QP CODE: 10096715

(3 Hours)

[Total Marks: 80]

- N.B. :**
- (1) Question No.1 is compulsory**
 - (2) Attempt any three from the remaining**
 - (3) Figures to the right indicate full marks**
 - (4) Assume suitable data if necessary**

1. (a) Write a short note on: Lead-acid battery. **05**
 - (b) Explain the necessity of energy storage in a conventional power system. **05**
 - (c) Describe the principle of operation of a fuel cell. **05**
 - (d) Write a short note on : Energy Storage in Pressurized Gas. **05**
 2. (a) What are solar ponds? Explain with a neat diagram how energy can be stored and utilised from a solar pond? **10**
 - (b) Explain in detail about sensible heat storage. **10**
 3. (a) Explain briefly about Compressed air energy storage (CAES). **10**
 - (b) Explain the configurations and applications of hybrid energy storage systems (HESS). **10**
 4. (a) Write a short note on Superconducting magnetic energy storage (SMES). **10**
 - (b) Illustrate environmental and sustainability issues in energy storage. **10**
 5. (a) Explain in detail about the Molten salt thermal energy storage. Give its applications. **10**
 - (b) Illustrate the working principle of Rechargeable battery. **10**
 6. (a) Write a short note on: Nickel-Metal hydride battery. **10**
 - (b) Discuss the operation of seasonal thermal energy storage. **10**
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