Roll No. ☐☐☐☐☐☐☐☐☐☐☐☐☐   Total No. of Pages : 02

Total No. of Questions : 09

B.Voc (Solar System Technology) (Sem.–3)
SOLAR ENERGY STORAGE AND MANAGEMENT
Subject Code : SST-304
M.Code : 93236
Date of Examination : 27-01-2023

Time : 3 Hrs.   Max. Marks : 30

INSTRUCTIONS TO CANDIDATES :
1. **SECTION-A is COMPULSORY consisting of TEN questions carrying ONE marks each.**
2. **SECTION-B contains FIVE questions carrying TWO AND A HALF marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying FIVE marks each and students have to attempt any TWO questions.**

SECTION-A

1. **Write briefly :**

   (a) What is the need of storage system?

   (b) Why solar power is sustainable?

   (c) What is grid/hybrid type solar energy storage system?

   (d) What is battery storage system?

   (e) What do you understand by battery capacity?

   (f) How do you calculate battery capacity in Ah?

   (g) How efficient is mechanical energy storage?

   (h) What do you understand by fly-wheel storage?

   (i) What do you understand by compressed air storage?

   (j) How do you store thermal heat?

SECTION-B

2. What are energy storage methods? Differentiate grid tied, and off grid type energy storage methods.

3. Discuss working of different types of batteries with the help of suitable diagrams.

4. What are selection criteria and specifications for the batteries?

5. What is mechanical storage system? Discuss any one type of mechanical storage system with the help of suitable diagram.

6. What do you understand by thermal energy storage system? Discuss direct thermal energy storage system with the help of suitable diagram.

SECTION-C

7. How pumped storage power plants work? Explain with the help of suitable diagrams.

8. Discuss 2-tank indirect thermal storage system with the help of suitable diagram. Enumerate its advantages over 2-tank direct system.

9. A certain battery has a 12 V emf and an internal resistance of 0.100. (a) Calculate its terminal voltage when connected to a 10.0 Ω load. (b) What is the terminal voltage when connected to a 0.500 Ω load dissipate? (d) if the internal resistance grows to 0.500 Ω, find the current, terminal voltage, and power dissipated by a 0.500 Ω load.

NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.