QP CODE: 22103859

22103859

Reg No : ....

Name : ....

B.VOC DEGREE REGULAR / IMPROVEMENT / REAPPEARANCE EXAMINATIONS, NOVEMBER 2022

Fourth Semester

B.Voc Renewable Energy Technology and Management

RETTS404 - ENERGY STORAGE SYSTEMS

2018 Admission Onwards

A9042E1C

Time: 3 Hours Max. Marks : 80

Part A

*Answer any **ten** questions.*

*Each question carries **2** marks.*

1. Define chemical energy storage and list the types.
2. Point out any 2 issues aassociated with SMES systems.
3. Define thermal energy storage.
4. Explain primary batteries.
5. List the secondary batteries.
6. What is super capacitors?
7. What are stratified thermal energy tanks?
8. Which are the methods of thermal energy storage?
9. What is unconfined aquifers?
10. What is nucleation?
11. Define a passive solar heating system.
12. How are PCM's utilised for transportation?

(10×2=20)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. Write short notes on [a]Ni-Cd batteries [b] Nickel-Metal hydride batteries.

14. What are the advantages of reversible chemical reaction storage?

15. What are the main advantages and disadvantages of sensible heat storage with water as media? Compare it with solid media storage.

16. With the help of neat diagram compare solid state batteries with lithium ion batteries.

17. Write short note on the components of SMES.

18. Write short note on Lead acid battery.

19. In energy storage systems rocks plays an important role explain.

20. Explain with a neat schematic representation of water rock beds.

21. Explain the phase transitions that occur while charging and discharging a PCM based energy stotage.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **15** marks.*

22. Explain in detail on energy storage systems and its necessity in the present scenario.

23. Explain the working principle of SMES along with energy storage equation.

24. Explain Sensible Heat Storage with examples.

25. Detail on energy storage in building using PCM.

(2×15=30)