23104490

QP CODE: 23104490

Reg No : .....

Name : .....

B.VOC DEGREE REGULAR EXAMINATIONS, JANUARY 2023

Fifth Semester

B.Voc Renewable Energy Technology and Management

RETTG502 - MATERIAL SCIENCE FOR ENERGY APPLICATIONS

2020 Admission Only

9907B792

Time: 3 Hours Max. Marks : 80

Part A

*Answer any **ten** questions.*

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

1. What is lattice?
2. What is solidification?
3. What is intrinsic semiconductor?
4. List out the application of ceramics.
5. What is superconductivity?
6. List any four properties of metals.
7. What are the properties of glass?
8. Write down the equation for linear strain.
9. Define shear stress.
10. List out the mechanism for strengthening in metals.
11. What is weathering?
12. What are the effects of temperature on metals?

(10×2=20)

Part B

*Answer any **six** questions.*

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

13. Briefly explain Ionic Bonding.

14. How Microstructures are formed?

15. Write a note on Ferrous alloy.

16. Explain the classification of polymers.

17. Compare the properties of polymers and metals.

18. Compare Ferromagnetism and paramagnetism.

19. Briefly explain about thermal stress.

20. Briefly explain tensile properties.

21. Write a note on failure analysis of solar material.

(6×5=30)

Part C

*Answer any **two** questions.*

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

22. Briefly explain Quantum Mechanical model.

23. Briefly describe the properties of alloy?

24. Explain stress strain relationship with the help of a neat diagram.

25. Briefly explain the fracture behavior of various materials.

(2×15=30)