22100405

QP CODE: 22100405

Reg No : .....

Name : .....

B.VOC DEGREE EXAMINATIONS, JANUARY 2022

Fifth Semester

B.Voc Renewable Energy Technology and Management

RETTG502 - MATERIAL SCIENCE FOR ENERGY APPLICATIONS

2019 Admission Onwards

0540FCF6

Time: 3 Hours Max. Marks : 80

Part A

*Answer any **ten** questions.*

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

1. Define Atomic Number.
2. Define unit cell.
3. What is extrinsic semiconductor?
4. What is polymer?
5. What are the physical properties of metal?
6. List out the properties of alloy.
7. What properties of semiconductors make them useful?
8. Define Upper Yield Point.
9. What is thermal stress?
10. What is strain hardening?
11. What is an oxidation reaction?
12. What is a ductile fracture?

(10×2=20)

Part B

*Answer any **six** questions.*

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

13. Briefly explain secondary bonding.

14. Compare Microstructure and Crystal structure.

15. Write a note on non ferrous alloy.

16. List out the classification of ceramics. Explain any two.

17. Compare the properties of semiconductors and polymers.

18. What are the components and properties of glass?

19. What is factor of safety? Explain.

20. Explain shear stress.

21. Briefly explain the materials for solar cell?

(6×5=30)

Part C

*Answer any **two** questions.*

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

22. Explain
    (i) Equilibrium solidification (ii) Non Equilibrium Solidification

23. What is the classification of magnetic material? Explain.

24. Briefly describe plastic deformation.

25. Write anode on failure analysis of solar material.

(2×15=30)