

CODE:196321  
NOVEMBER 2020

TIME: 3Hrs  
MAX. MARKS : 50  
(10 x 2=20)

**PART A**  
Answer any **TEN** questions

1. Write the applications of  $\text{Ca}^{2+}$  ion in biological system.
2. What are ionophores?
3. State the difference between Photosystem-I and II.
4. What is P700 and P680?
5. Why blood is red in colour?
6. What are the types of copper proteins?
7. Mention the difference between haemoglobin and hemerythrin.
8. Define Bohr Effect in electron transfer process.
9. Draw the structure of  $[\text{Fe}_4\text{S}_4]$  electron-transfer protein.
10. Write the equation for nitrogen fixation.
11. What are nitrogenase?
12. What is urease?

**PART B**  
Answer any **TWO** questions

(2 x 5=10)

13. Explain the mechanism of alkaline earth metal ions in membranes.
14. Explain the mechanism of transport of  $\text{Na}^+$  and  $\text{Ca}^{2+}$  ions through membranes.
15. Explain the relationship between photosystem I and II.
16. Explain Calvin cycle in biological system.
17. Explain the oxygenation mechanism in haemoglobin?
18. Describe about iron Sulphur proteins.
19. Explain about Nickel containing enzyme.
20. Discuss about the types of nitrogen fixing microorganisms.

**PART C**  
Answer any **THREE** questions

(2x10=20)

21. Explain the transport of metal complexes through ion channels.
22. Explain the mechanism involved in photosystem I and II.
23. Write short note on: Hemerythrin and Hemocyanin.
24. What is the role of cytochromes in cellular respiration?
25. Explain about copper containing proteins.