D 1593 **(Pages 2)** **Name.....**

Reg. No.....

FIRST SEMESTER M.Sc. DEGREE EXAMINATION, NOVEMBER 2004

Microbiology

Paper II—MICROBIAL BIOCHEMISTRY

Time : Three Hours **Maximum : 80 Marks**

Part A

Answer any **fifteen** *questions.*
Each question carries **2** *marks.*

1. **Define isoelectric pH. What is its significance in protein purification ?**
2. **Distinguish between Brownian movement and Faraday's Tyndall effect.**
3. **Write the reaction catalysed by hyaluronidase. Mention its significance.**
4. **Write the relation between absorbance, transmittance and concentration of a solution.**
5. **Distinguish between osmosis and diffusion.**
6. **How micelles are formed ?**
7. **Write the principle of molecular exclusion chromatography.**
8. **Write the structure of chitin. Where it is present ?**
9. **Write any *one* method for the determination of N-terminal amino acid of a protein.**
10. **What are zymogens ? How they are activated ? Mention their significance in peptide analysis.**
11. **Distinguish the action of amylase and cellulose.**
12. **Write the reaction catalysed by two metallo enzymes.**
13. **Write the structure of antisterility vitamin. Mention its important sources.**
14. **Write any *two* metabolic reactions. Where NAD act as coenzyme.**
15. **Write the chemical nature of pectin. Mention the industrial importance of pectinase.**
16. **Distinguish between substrate level phosphorylation and oxidative phosphorylation.**
17. **What is meant by hydrazinolysis ? Mention its significance.**
18. **How varying pH affects the velocity of an enzyme catalysed reaction ?**
19. **Write the important physiological functions of vitamin D.**
20. **Distinguish between constitutive and inducible enzymes.**

(15 x 2 = 30 marks)

Turn over

Part B

Answer any **four** *questions.*
Each question carries **5** *marks.*

21. Peptidoglycans.
22. **Chemical carcinogens.**
23. Michaelis-Menten **equation.**
24. **PAGE.**
25. **Structure and physiological function of vitamin A.**
26. **Covalent regulation of enzymes.**

(4 x 5 = 20 marks)

Part C

Answer any **three** *questions.*
Each question carries **10** *marks.*

27. **Secondary and tertiary structure of proteins.**
28. **Coenzymes.**
29. **Verification of** Beer-Lambert's **law.**
30. **Criteria of purity of enzymes.**
31. Spectrophotometry.

(3 x 10 = 30 marks)