

18P114

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Name:

Reg. No.....

FIRST SEMESTER M.Sc. DEGREE EXAMINATION, NOVEMBER 2018

(Regular/Supplementary/Improvement)

(CUCSS-PG)

CC17P ZO1 C01 – BIO CHEMISTRY AND BIOPHYSICS

(Zoology)

(2017 Admission onwards)

Time: Three Hours

Maximum: 36 Weightage

I. Answer **all** the following questions. Each question carries 1 weightage.

1. Give a short account of the characteristic feature of B-DNA.
2. Write a brief note on micro-RNA.
3. What are glycosaminoglycans. Give an example.
4. Define amphoteric properties of amino acids.
5. What is acid number? Give its significance.
6. Distinguish isozymes and rybozymes.
7. What is chemiosmotic hypothesis?
8. Why is maltose reducing sugar, but not sucrose?
9. Differentiate protein domain and motif.
10. Mention the coenzyme role of NADH.
11. Draw the structure of cholesterol.
12. Give a brief account of radioactive half-life.
13. Discuss the biological importance of colloids.
14. Explain Fick's law and diffusion coefficient.

(14 × 1 = 14 Weightage)

II. Answer any **seven** questions. Each question carries 2 weightage.

15. Give an account of mode of action of amylase on homopolysaccharides.
16. What are prostaglandins? Mention their functions.
17. Distinguish kinetically the competitive and non-competitive inhibition.
18. What is HMP pathway? What is its significance?
19. Briefly explain Ramachandran plot.
20. Explain biosynthesis of fatty acids.
21. Describe the degradative pathway for phenyl alanine.
22. Discuss the role of ATP as a free energy carrier.
23. What is echolocation? Enumerate its applications.
24. Describe the patch clamp technique. Mention its applications.

(7 × 2 = 14 Weightage)

III. Answer any *two* questions. Each question carries 4 weightage.

25. Explain the de novo biosynthesis of purine nucleotides.
26. Explain the reactions of glycolysis. Add a note on its regulation.
27. Give a detailed account of factors influencing enzyme action.
28. Describe the physical organization of ear and comment on the physical aspects of sound transmission in the ear.

(2 × 4 = 8 Weightage)
