

Reg. No

Name

19P2047

MSc DEGREE END SEMESTER EXAMINATION - MARCH/APRIL 2019

SEMESTER 2 : ZOOLOGY

COURSE : 16P2ZOOT08 : BIOCHEMISTRY

(For Regular – 2018 Admission and Supplementary – 2017/2016 Admissions)

Time : Three Hours

Max. Marks: 75

Section A

Answer any 8 (2 marks each)

1. Name the mucopolysaccharides present in the synovial fluid. Comment on any two of them.
2. Name the sulphur containing amino acids. How do they influence the secondary structure of proteins?
3. How are bile acids formed in the body?
4. Mention the role of Vitamin D in human body.
5. What type of DNA is present in eukaryotic cells? Mention its features.
6. What is the significance of 'Zinc Finger'?
7. What are isozymes? List the distinctive features.
8. Illustrate the mode of action of glycogen phosphorylase.
9. Comment on the role of pyruvate in the metabolism of 3 carbon amino acids.
10. Degradation of amino acids convert carbon skeleton to glucose precursors. Name them.
11. List the various methods to lower serum cholesterol.
12. Write a note on Lesch-Nyhan Syndrome.

(2 x 8 = 16)

Section B

Answer any 7 (5 marks each)

13. Write short notes on the natural source of Sucrose, Lactose, Maltose, Isomaltose and Cellobiose. Add a note on its monomers.
14. Explain the Quaternary structure of Haemoglobin.
15. Write a note on biologically important steroids.
16. Briefly explain the different DNA regulatory proteins.
17. Make an illustration of the replication fork in prokaryotes depicting its general features.
18. Comment on allosteric regulation of enzyme activity.
19. Comment on the nature and functions of phosphorylase kinase.
20. Glycine is critical in the synthesis of haem and creatine. Substantiate.

21. Highlight the role of HMGCoA reductase in cholesterol synthesis.
22. How are free radicals generated within cells? Add a note on lipid peroxidation.

(5 x 7 = 35)

Section C

Answer any 2 (12 marks each)

23. Discuss the role of secondary and tertiary structure in determining the properties and functions of proteins.
24. Discuss the role of lipids in energy storage and structural integrity of cells.
25. Write an explanatory note on Glycogen storage diseases.
26. Describe the nucleotide degradation pathways in cells. Comment on the fate of uric acid in different animal groups.

(12 x 2 = 24)