

K23U 2388

Reg. No. :

Name :

V Semester B.Sc. Degree (CBCSS – O.B.E. – Regular/Supplementary/ Improvement) Examination, November 2023 (2019 – 2021 Admissions) CORE COURSE IN ZOOLOGY 5B07 ZLG : Biochemistry and Biophysics

Time : 3 Hours

Max. Marks: 40

Instruction : Give illustrations and figures wherever necessary.

- I. Essay questions (Each question carries 8 marks). Answer any two. (2×8=16)
 - 1) With the help of suitable examples, explain enzyme inhibition.
 - 2) Describe the procedure and applications of Column chromatography.
 - 3) Describe various methods for the measurement of radio activity. Comment on the applications of radio isotopes.
 - 4) With a schematic diagram, describe glycolysis.
- II. Short essay questions (Each question carries 4 marks). Answer any two. (2×4=8)
 - 5) Discuss chemiosmotic hypothesis.
 - 6) Mention the underlying principle of NMR spectroscopy.
 - 7) Discuss glycogenolysis.

III. Short answer questions (Each question carries 2 marks). Answer any six. (6×2=12)

- 8) Write a brief note on molecular chaperones.
- 9) State and explain Henderson Hesselbach equation.
- 10) What are isozymes ? Provide one example.
- 11) Discuss cell fractionation.
- 12) Discuss the oxidation of glycerol.
- 13) What are cerebrosides ? State one function.
- 14) Mention the unique aspects of a phase contrast microscope.
- 15) List some applications of Thin Layer Chromatography.

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IV. Multiple choice questions (Each question carries 0.5 mark). Answer all. (8×0.5=4) 16) Out of the following, is not preferred for filling the column in chromatography. a) Silica b) Alumina c) Kieselguhr d) Starch 17) A fat soluble vitamin a) Vitamin B2 b) Folic acid c) Vitamin A d) Cyanocobalamin 18) Class of enzymes involved in simple molecular reorganization of the substrate a) Transferases b) Isomerases d) Ligases c) Lyases 19) 'Induced fit' hypothesis was proposed by a) Koshland b) Franz Knoop c) Emil Fischer d) Peter Mitchell 20) Example for keto hexose a) Glucose b) Mannose c) Fructose d) Galactose 21) A ketogenic amino acid a) Arginine b) Leucine d) Proline c) Valine 22) Which of the following is not true regarding HPLC? b) High pressure a) Cheap c) High performance d) High purity 23) The ability of a microscope to form separate images of two closely kept objects a) Numerical aperture b) Resolving power c) Circular dichroism d) Chromatic aberration