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.

P.T.O.

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
    c) Lyases   d) Ligases
  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
    c) Valine   d) Proline
  22) Which of the following is not true regarding HPLC ?
    a) Cheap   b) High pressure
    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