

Reg. No. : .....

Name : .....

**V Semester B.Sc. Degree (CBCSS – OBE – Regular/Supplementary/  
Improvement) Examination, November 2024  
(2019 to 2022 Admissions)  
CORE COURSE IN ZOOLOGY  
5 B07 ZLG : Biochemistry and Biophysics**

Time : 3 Hours

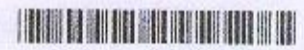
Max. Marks : 40

**Instruction : Give illustrations and figures wherever necessary.**

- I. Essay questions (**Each** question carries **8** marks). Answer **any two**. (2×8=16)
- 1) Explain the principle and applications of UV-visible spectroscopy.
  - 2) Give an account of the various factors influencing the velocity of enzyme action.
  - 3) Explain the structural levels of proteins.
  - 4) Briefly explain the principle, working and applications of phase contrast microscope.
- II. Short essay questions (**Each** question carries **4** marks). Answer **any two**. (2×4=8)
- 5) Briefly explain the electron transport system and oxidative phosphorylation.
  - 6) Describe differential and density gradient centrifugation.
  - 7) Elaborate on the biological importance of lipids.
- III. Short answer questions (**Each** question carries **2** marks). Answer **any six**. (6×2=12)
- 8) Write short note on HPLC.
  - 9) Explain autoradiography.
  - 10) Elaborate on phospholipids.
  - 11) Explain the transamination reaction.
  - 12) Comment on the structure of ATP.

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- 13) What are isozymes ? Give an example.
  - 14) What are ketogenic amino acids ?
  - 15) Explain the induced fit hypothesis.
- IV. Multiple choice questions (**Each** question carries **0.5** marks). Answer **all**. (8×0.5=4)
- 16) Vitamin B12 deficiency causes
 

a) Night blindness	b) Pernicious anaemia
c) Scurvy	d) Rickets
  - 17) The amino acid precursor for the synthesis of thyroxine is
 

a) Tyrosine	b) Phenylalanine
c) Glycine	d) Proline
  - 18) Bragg's law is applicable to
 

a) X-ray crystallography	b) Chromatography
c) Autoradiography	d) pH meter
  - 19) Lecithin is a
 

a) Glycolipid	b) Phospholipid
c) Steroid	d) Polysaccharide
  - 20) The technique used to study the molecular structure of compounds at the atomic level is
 

a) NMR spectroscopy	b) Visible spectroscopy
c) Camera lucida	d) Colorimeter
  - 21) Which of the following is not a steroid hormone ?
 

a) Epinephrine	b) Progesterone
c) Testosterone	d) Cortisol
  - 22) Hsp70 is a
 

a) Protein	b) Phospholipid
c) Steroid	d) Polysaccharide
  - 23) Which one of the following is a disaccharide molecule ?
 

a) Starch	b) Cellulose
c) Galactose	d) Lactose