

(6 pages)

Reg. No. :

Code No. : 30381 E Sub. Code : CMZO 31

B.Sc. (CBCS) DEGREE EXAMINATION,
APRIL 2025.

Third Semester

Zoology — Core

CELL BIOLOGY AND BIOCHEMISTRY

(For those who joined in July 2021 – 2022 only)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Who has designed compound microscope?
(a) Lamarck
(b) Darwin
(c) Balbiani
(d) Robert Hooke

2. The process of coloring the cells
(a) Embedding (b) Sectioning
(c) Staining (d) Fixative
3. Which one of the following has no membrane?
(a) Vacuole
(b) Lysosome
(c) Nucleolus
(d) Endoplasmic reticulum
4. The power house of the cell is
(a) Golgi complex
(b) Ribosomes
(c) Mitochondria
(d) Centriole
5. Left hand helix is found in
(a) ADNA (b) BDNA
(c) HDNA (d) ZDNA
6. Cancer producing genes are known as
(a) Diploid cell (b) Haploid cell
(c) Somatic cell (d) Oncogene

7. Initiation codon is
(a) UAA (b) UGA
(c) AUG (d) UAG
8. Which of the following is not a post-translational modification?
(a) Lipidation
(b) Protein phosphorylation
(c) Proteolytic processing
(d) DNA methylation
9. Two amino acids linked together to form
(a) Dipeptides
(b) Tripeptides
(c) Peptones
(d) Polypeptides
10. The building blocks for various types of lipids are
(a) Fatty acid
(b) Amino acids
(c) Acetic acid
(d) Sterol

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Explain the phase contrast microscope.
Or
(b) Write a short note on fixation.
12. (a) Enumerate the functions of endoplasmic reticulum.
Or
(b) Describe the ultra-structure of lysosome.
13. (a) Write a short note on chromatin.
Or
(b) Write a brief account on structure of DNA.
14. (a) Explain the properties of genetic code.
Or
(b) Give a short note on role of RNA in transcription.

15. (a) Classify carbohydrates.

Or

(b) Explain enzyme inhibition.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Explain modern version of cell theory and their interpretations.

Or

(b) Give a detailed account on principle, resolving power and uses of compound microscope.

17. (a) Describe the structure and function of ribosomes.

Or

(b) Write about the Electron transport system and formation of ATP.

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18. (a) Write an essay on meiotic cell division and its regulation.

Or

(b) Give a detailed note on mutations in the genes that regulate cell cycle and cell division.

19. (a) Explain types of RNA.

Or

(b) Explain post translation modifications in protein synthesis.

20. (a) Elucidate and elaborate mechanism and factors influencing enzyme action.

Or

(b) Describe structure and functions of lipids.

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