(6 pages)

Reg. No. : .....

Code No. : 30512 E **Sub. Code : CMZO 31**

B.Sc. (CBCS) DEGREE EXAMINATION, NOVEMBER 2022.

Third Semester

Zoology — Core

CELL BIOLOGY AND BIOCHEMISTRY

(For those who joined in July 2021 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Electron microscope uses ———— as source of illumination.
   (a) electron beam (b) fluorescent beam
   (c) optical beam (d) none of the above

2. Cytological technique used to make thin, transparent sections of tissue is ————
   (a) teasing (b) microtomy
   (c) fixation (d) embedding

3. Engulfing of solid particles through the plasma membrane is called as ————
   (a) pinocytosis (b) cell drinking
   (c) phagocytes (d) phagocytosis

4. ———— is the power house of the cells.
   (a) Ribosome (b) Lysosome
   (c) Mitochondria (d) Centrosome

5. Somatic chromosomes are otherwise known as
   (a) allosomes (b) autosomes
   (c) bar bodies (d) telomeres

6. Synaptonemal complex is ———— structure.
   (a) monoparticle (b) dipartite
   (c) tripartite (d) tetrapartite

7. A single aminoacid may be specified by many codon is known as ————
   (a) degeneracy (b) codon
   (c) anticodon (d) initiation codon

8. ———— are group of ribosomes bound to the mRNA.
   (a) Polysomes (b) Mesosomes
   (c) Chondrioids (d) Nucleoids

9. Protease digests ————
   (a) fat (b) carbohydrate
   (c) protein (d) minerals

10. Breakdown of glycogen is known as ————
    (a) glycogenolysis (b) glycolysis
    (c) glycogenesis (d) gluconeogenesis

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 structure of prokaryotic cell.

Or

(b) Write an account on compound microscope.

12. (a) Explain about the ultra structure of ribosome.

Or

(b) Write a short note on nucleus.

13. (a) Write a short note on structure of DNA.

Or

(b) Describe the types of cancer.

14. (a) Give a brief note on genetic code.

Or

(b) Write a short note on post translational modification.

15. (a) Classify the carbohydrates.

Or

(b) Define glucogenesis and explain the steps involved in glucogenesis.

PART C — (5 × 8 = 40 marks)

Answer ALL questions choosing either (a) or (b).
Each answer should not exceed 600 words.

16. (a) Explain the principle and structure of phase contrast microscope.

Or

(b) Describe the cytological techniques used for the preparation of microscopic slides.

17. (a) Explain the ultra structure and functions of lysosomes.

Or

(b) Explain the structure and functions of nucleolus.

18. (a) Describe the DNA replication and types of replication.

Or

(b) Describe in detail about programmed cell death.

19. (a) Explain in detail about the types of RNA.

Or

(b) Describe in detail about protein synthesis.

20. (a) Explain the factors influencing enzyme action.

Or

(b) Describe in detail about β – oxidation of fats.

———————