

(6 pages) Reg. No. :

Code No. : 10872 E Sub. Code : EMZO 31

B.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2024.

Third Semester

Zoology – Core

CELL BIOLOGY

(For those who joined in July 2023 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. These stains are used for seeing live micro organisms
(a) Acid stains (b) Basic stains
(c) Vital stains (d) None of these
2. The oil immersion microscope increases the
(a) Resolving power (b) Refractive power
(c) Diffraction power (d) None of these
3. The animal cell is devoid of this organelle
(a) Mitochondria (b) Lysosomes
(c) Chloroplasts (d) None of these
4. The Prokaryotes are lacking
(a) Cell wall
(b) Cell Membrane
(c) Ribosomes
(d) Nucleus
5. This is called as suicide bags of cells
(a) Mitochondria (b) Ribosomes
(c) Lysosomes (d) Nucleus
6. This is called as power house of cells
(a) Plasmid (b) Mitochondria
(c) Lysosomes (d) Golgibodies
7. Synthesis of ribosomes in prokaryotes occurs in
(a) Nucleus (b) Nucleolus
(c) Cytosol (d) Nucleoplasam

8. The main function of Nucleolus is _____.
- (a) Protein synthesis
 - (b) ATP production
 - (c) DNA synthesis
 - (d) rRNA synthesis
9. The spindle apparatus is formed during the _____ phase of mitosis.
- (a) Telophase
 - (b) Metaphase
 - (c) Prophase
 - (d) Anaphase
10. Synapsis is defined as the pairing of _____.
- (a) Acentric chromosomes
 - (b) Non-homologous chromosomes
 - (c) Any chromosomes
 - (d) Homologous chromosomes

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PART B — (5 × 5 = 25 marks)

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

Each answer should not exceed 250 words.

11. (a) Write short note on the cell fractionation and separation.
- Or
- (b) Explain briefly about the different types of stains used for staining.
12. (a) Draw the ultra structure of Bacteria phage.
- Or
- (b) Briefly discuss about the structure of cell membrane.
13. (a) Write short note on the functions of Plasma Membrane.
- Or
- (b) Briefly discuss about the functions of Endoplasmic.
14. (a) Draw the Ultra-structure of Nucleus.
- Or
- (b) Briefly discuss about Euchromatin and Heterochromatin.

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[P.T.O.]

15. (a) Give a short account on Interphase of cell division.

Or

- (b) Discuss about the stage of Mitosis.

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Draw the structure of compound microscope and explain the mechanism of magnification.

Or

- (b) Discuss about the functional mechanism of SEM and TEM.

17. (a) Draw and illustrate the ultra-structure of animal cells.

Or

- (b) Draw the structure of bacterial cells and brief its classification.

18. (a) Explain about the fluid mosaic model of plasma membrane.

Or

- (b) Discuss about the ultra-structure and functions of Mitochondria.

19. (a) Discuss about the DNA replication and types of replications.

Or

- (b) Explain about the protein synthesis from them RNA.

20. (a) Write a detail account on meiotic cell division.

Or

- (b) Discuss about the characteristics of cancer cells and their types.