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Reg. No. : .....

Code No. : 30702 E Sub. Code : EMZO 31

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

Third Semester

Zoology

Main – 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. Choosing the correct answer.

1. The number of lenses in compound microscope is.
- (a) 2 (b) 3  
(c) 4 (d) 1

2. In electrophoresis, the buffer establishes contact between?
- (a) Two electrodes  
(b) The sample and electrodes  
(c) The sample and supporting medium  
(d) The supporting medium and electrode
3. Eukaryotic cells differ from prokaryotic cells in having.
- (a) Endoplasmic reticulum  
(b) Ribosomes  
(c) True nucleus  
(d) Cytoplasm
4. The power house of cell is.
- (a) Golgi complex (b) Histone  
(c) Chloroplast (d) Mitochondria
5. Prokaryotic ribosomes are.
- (a) 30S (b) 50S  
(c) 70S (d) 80S

6. Unit membrane of plasma membrane was proposed by.

- (a) Nicolson
- (b) Danielli and Davson
- (c) Robertson
- (d) Mitchel

7. Left hand helix is found in.

- (a) ADNA                      (b) BDNA
- (c) HDNA                      (d) ZDNA

8. In DNA \_\_\_\_\_ is absent.

- (a) Uracil                      (b) Thymine
- (c) Cytosine                      (d) Guanine

9. DNA- replication takes place during.

- (a) prophase                      (b) G<sub>1</sub> phase
- (c) S phase                      (d) G<sub>2</sub> phase

10. Crossing over occurs during.

- (a) Leptotene                      (b) Zygotene
- (c) Pachytene                      (d) diplotene

PART B — (5 × 5 = 25 marks)

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

Each answer should not exceed 250 words.

11. (a) Write a short note on TEM.

Or

(b) Write an account on nuclear stains.

12. (a) Write short note on Lytic cycle of a phage?

Or

(b) Differentiate between Animal cell and plant cell.

13. (a) Explain the structure and functions of lysosomes?

Or

(b) Describe the structure of ribosome?

14. (a) Explain the different types of Chromosomes?

Or

(b) Give an account on mRNA.

15. (a) Write an account of cellular changes due to ageing.

Or

- (b) Explain the mechanism of apoptosis.

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) What is centrifugation? Write down the different types of centrifuges?

Or

- (b) Describe the structure and working mechanism of a compound microscope?

17. (a) Describe the Structure of a T<sub>4</sub> bacteriophage?

Or

- (b) Give an account on Structure of E-coli?

18. (a) Describe the structure and functions of mitochondria?

Or

- (b) Write an essay about different models of plasma membrane.

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19. (a) Describe Watson-Crick model of DNA.

Or

- (b) Describe the ultra structure of Nucleus.

20. (a) Write an essay on mitosis.

Or

- (b) Describe the types and peculiar features of cancer cells.
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