

Code No. : 30517 E Sub. Code : CAZO 11

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

First/Third Semester

Zoology — Allied

CELL BIOLOGY, GENETICS
AND BIOTECHNOLOGY

(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. The unit membrane concept was proposed by
 - (a) Watson
 - (b) Bateson
 - (c) Robertson
 - (d) Morgan

5. Name the secondary structure of tRNA.

- (a) Clover leaf
- (b) L Shaped
- (c) Duplex
- (d) Triple Helix

6. The initiation codon is

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|---------|---------|
| (a) AUG | (b) UGG |
| (c) UAG | (d) GUA |

7. An example of alleles is

- | | |
|---------------|---------------|
| (a) AB and Tt | (b) TT and Tt |
| (c) T and t | (d) X and Y |

8. Which of the following is the defect of hemophilia?

- (a) Bleeding
- (b) Death
- (c) Joint swelling
- (d) All of the above

2. The type of chromosomes found in the salivary gland cells of chironomid larva are
 - (a) Autosomes
 - (b) Allosomes
 - (c) Heterosomes
 - (d) Polytene chromosomes
3. In living cells, protein synthesis takes place in the
 - (a) Nucleus
 - (b) Nucleolus
 - (c) Cytoplasm
 - (d) Plasma membrane
4. Erythroblastosis foetalis is concerned with the inheritance of
 - (a) ABO blood group
 - (b) Rh blood group
 - (c) Mn blood group
 - (d) Ss blood group

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9. The name biotechnology was coined by

- (a) Earl Ereky
- (b) Robert Cook
- (c) Schwann
- (d) Einstein

10. pBR322 is a ——— plasmid.

- | | |
|------------------|------------------|
| (a) Natural | (b) Artificial |
| (c) Semi natural | (d) None of them |

PART B — (5 × 5 = 25 marks)

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

Each answer should not exceed 250 words.

11. (a) Describe briefly the structure of desmosomes.

Or

- (b) Narrate the structure of plasma membrane.

12. (a) Write short notes on DNA.

Or

- (b) Describe the diagnosis of cancer.

13. (a) With reference to blood groups in man explain multiple alleles.

Or

- (b) Explain Erythroblastosis foetalis.

14. (a) Explain Turner's Syndrome.

Or

- (b) What is Hypertrichosis?

15. (a) What is Lambda Phage?

Or

- (b) What is plasmid give an example?

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Explain the structure of Nucleus.

Or

- (b) Explain about Polytene Chromosomes.

17. (a) Explain the steps in protein synthesis.

Or

- (b) Discuss the role of ribosomes in protein synthesis.

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18. (a) Explain Rh factor in man.

Or

- (b) Explain about Multiple Gene Inheritance.

19. (a) Explain in detail about Alkaptonuria in man.

Or

- (b) Explain in detail about Colour Blindness in man.

20. (a) Narrate the significance of biotechnology.

Or

- (b) Explain about Transgenic animals.
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