(6 pages)

Reg. No. : .....

Code No. : 10924 E **Sub. Code : AAZO 11**

B.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2020.

First Semester

Zoology — Allied

CELL BIOLOGY, GENETICS AND BIOTECHNOLOGY

(For those who joined in July 2020 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Cell discovered by

(a) Schwann (b) Robert Hook

(c) de Barry (d) Tatum

2. Name the outer most boundary of cell?

(a) Plasma membrane (b) Cytoplasm

(c) Nuclear membrane (d) None of the above

3. Molecules which play the key role in the transfer of genetic information during protein synthesis are ————————

(a) DNA (b) RNA

(c) Nucleic acids (d) Lipids

4. Which form or structure has been adopted by RNA?

(a) A-form (b) B-form

(c) Z-form (d) D-form

5. An example of alleles is

(a) AB and Tt (b) TT and Tt

(c) T and t (d) X and Y

6. A person who inherits the A and the O blood type alleles will possess which blood type?

(a) A (b) AB

(c) B (d) O

7. Which of the following are complications of hemophilia?

(a) Bleeding in the head

(b) Death

(c) Joint swelling

(d) All of the above

8. Genes which are present in the homologous region of X and Y chromosomes are called ————————

(a) Autosomal (b) Sex linked

(c) Partially sex linked (d) Unlinked

9. The initiation codon is

(a) AUG (b) UGG

(c) UAG (d) GUA

10. The transgenic mice used as human disease model for

(a) Coronary artery disease

(b) AIDS

(c) Heamophilia

(d) Bronchus

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 Polytene chromosome with diagram.

Or

(b) Briefly explain about the structure of plasma membrane.

12. (a) Write a note on DNA replication.

Or

(b) Write structure and function of tRNA with diagram.

13. (a) Discuss the Simple Mendelian traits in man.

Or

(b) Explain the inheritance of skin colour in man.

14. (a) Discuss the sex linked inheritance of Colour blindness in man.

Or

(b) Write an account on Turner syndrome of human being.

15. (a) Describe the Scope of biotechnology.

Or

(b) Discuss the lambda phage as a Vector.

PART C — (5 × 8 = 40 marks)

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

16. (a) Elucidate the Mitochondria structure and function with diagram.

Or

(b) Explain the ultrastructure and function of Nucleus with diagram.

17. (a) Write the detailed account on Transcription.

Or

(b) Explain the DNA Watson and Crick Model structure.

18. (a) Write an account on Rh blood groups in man.

Or

(b) Write the account on Erythroblastosis foetalis disease.

19. (a) Explain – Phenylketonuria, albinism hereditary disease.

Or

(b) Describe the Haemophilia disease.

20. (a) Explain the plasmid pBR322.

Or

(b) Write the basic concepts of genetic engineering.

———————