

(6 pages)

Reg. No. : .....

Code No. : 10603 E      Sub. Code : CAZO 11

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

First/Third Semester

Zoology — Allied

CELL BIOLOGY, GENETICS AND BIOTECHNOLOGY

(For those who joined in July 2021-2022 only)

Time : Three hours      Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. The power house of the cell is  
(a) Nucleus                      (b) Lysosome  
(c) Chromosome                (d) Mitochondria
2. The unit membrane concept was proposed by  
(a) Danielli                      (b) Robertson  
(c) Darson                        (d) Wolper

3. The DNA contains  
(a) Pentose Sugar  
(b) Hexose Sugar  
(c) Ribose  
(d) Uracil
4. Oxidation takes place in  
(a) Ribosomes  
(b) Lysosome  
(c) Mitochondria  
(d) Golgi bodies
5. The A blood group contains \_\_\_\_\_ antigen(s)  
(a) A                                (b) B  
(c) AB                              (d) Nil
6. Rh-factor is responsible for \_\_\_\_\_.  
(a) Albinism  
(b) Erythroblastons foetalis  
(c) Sickle cell anaemia  
(d) Tumor syndrome

7. 44 autosomes and only one X chromosome is present in
- (a) Turner's syndrome
  - (b) Albinism
  - (c) Klinefelter's syndrome
  - (d) Herma phroditism
8. Determination of sex of child depends on \_\_\_\_\_
- (a) Nature of egg
  - (b) Age of mother
  - (c) Health of father
  - (d) Nature of sperm
9. The term biotechnology was coined by
- (a) Karl Ereky
  - (b) Steward
  - (c) Beijernich
  - (d) Winogradsky
10. What kind of vector is PBR 322?
- (a) Cloning
  - (b) Viral
  - (c) Plasmid
  - (d) Artificial chromosomes

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PART B — (5 × 5 = 25 marks)

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

Each answer should not exceed 250 words.

11. (a) Mention the functions of nuclear membrane.  
Or  
(b) Describe the structure of Mitochondria.
12. (a) Give an account of the types of RNA.  
Or  
(b) Explain the different types of Cancer.
13. (a) Describe multiple alleles in man.  
Or  
(b) Explain height in man with reference to multiple gene inheritance.
14. (a) Explain the inheritance of colour blindness in man.  
Or  
(b) Explain the Klinefelter's syndrome.
15. (a) What are applications of transgenic animals?  
Or  
(b) Write short notes on Lambda phage.

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PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Write an account on polytene chromosomes.

Or

(b) Describe the functions of mitochondria.

17. (a) Discuss the synthesis of protein.

Or

(b) Explain Watson and Crick model of DNA.

18. (a) Discuss the genetics of Rh blood group.

Or

(b) Explain the simple mendelian traits in man.

19. (a) How sex is determined in man? Explain.

Or

(b) Phenyl Ketonuria is a inborn error of metabolism – Explain.

20. (a) Explain the basic concept of genetic Engineering.

Or

(b) Write an essay on PBR 322.

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