

(6 pages)

Reg. No. :

Code No. : 10716 E

Sub. Code : JAZO 11/
SAZO 11

B.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2019.

First/Third Semester

Zoology – Allied

CELL BIOLOGY, GENETICS AND
BIOTECHNOLOGY

(For those who joined in July 2016 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Unit membrane concept was proposed by
- (a) James (b) William
- (c) Robertson (d) Johnson

2. Respiratory centre of the cell

- (a) Golgi complex (b) Ribosome
- (c) Mitochondria (d) Nucleus

3. The RNA performs the important functions in protein synthesis

- (a) mRNA (b) tRNA
- (c) rRNA (d) All of these

4. The phenomenon of invasion of cancer cells into the surrounding tissue is referred as

- (a) Metastasis (b) Metvarmis
- (c) Metosis (d) Apoptosis

5. Skin colour of man is an example for

- (a) Multiple allele
- (b) Multiple gene intendance
- (c) Sex influenced gene intendance
- (d) Sex limited gene intendance



6. The universal donor blood group is
 (a) A (b) B
 (c) AB (d) O
7. The absence of tyrosinase enzyme causes the disorder of
 (a) Albinism (b) Alkaptonuria
 (c) Phenyl ketonuria (d) None of these
8. $22\text{ AA} + \text{XO} = 45$ chromosomal make up denotes the syndrome
 (a) Down (b) Turner
 (c) Klinefelter (d) Patau
9. Techniques that forms the back bone of genetic engineering is
 (a) PCR Technique (b) rDNA Technique
 (c) Fusion Technique (d) All of these
10. Method adopted in the production of transgenic mice
 (a) Retroviral method
 (b) Microinjection
 (c) Embryonic stem cells method
 (d) All of these

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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) With diagram describe the ultra structure of Mitochondria.
 Or
 (b) Enlist and explain the functions of plasma membrane.
12. (a) Describe the properties of cancer cells.
 Or
 (b) Write short note on types of Cancers.
13. (a) Explain the conditions for occurrence of Erythroblastosis foetalis and comment on its impacts.
 Or
 (b) Explain how skin colour in human beings is inherited.
14. (a) Write short notes on Hypertrichosis.
 Or
 (b) Explain the chromosomal make up and characteristics of Turner's syndrome.

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[P.T.O.]



15. (a) Define the term Biotechnology and state the scope of Biotechnology.

Or

- (b) Plasmid is an ideal Vector – Justify.

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Explain the structure and function's Nucleus.

Or

- (b) With sketches explain the structure and types of Giant chromosomes.

17. (a) Highlight the salient features of Watson and Crick double helix structure of DNA.

Or

- (b) Describe the mechanism of protein synthesis.

18. (a) Write an essay on Simple Mendelian trials in man.

Or

- (b) With suitable example explain the features of Multiple alleles.

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19. (a) Explain sex linked inheritance in man with example.

Or

- (b) Critically analyse to Inborn errors of metabolism in man.

20. (a) Discuss the basic concepts of genetic engineering.

Or

- (b) Highlight the methods adopted for introduction of cloned genes into host cells.
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