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Reg. No. :

**Code No. : 10716 E Sub. Code : JAZO 11/
SAZO 11**

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

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. In a normal human being number of chromosomes is
(a) 23 (b) 46
(c) 53 (d) 26

2. The spherical structured organelle that contains the genetic material is _____
(a) Cell walls (b) Ribosomes
(c) Nucleus (d) Mitochondria

3. Name the secondary structure of tRNA.
- (a) Clover leaf (b) L Shaped
 - (c) Duplex (d) Triple Helix
4. Which of the following is not termed as hybridization?
- (a) DNA and cRNA
 - (b) DNA and mRNA
 - (c) DNA from different species
 - (d) DNA from male and female of same species
5. Which of the following factor is true of the Rh blood system?
- (a) It was the first blood type system to be discovered
 - (b) It is more complex genetically than the ABO system
 - (c) There are 45 Rh blood types
 - (d) (b) and (c)
6. Erythroblastosis foetalis, is caused by
- (a) Destruction of red blood cells
 - (b) Destruction of white blood cells
 - (c) Destruction of immunoglobulin
 - (d) None of the above

7. A colour blind mother and a normal father give birth to a Klinefelter child with normal vision. Where do you think the non-disjunction has taken place?
- (a) 1st meiotic division of mother
 - (b) 2nd meiotic division of father
 - (c) 2nd meiotic division of mother
 - (d) 1st meiotic division of father
8. What is the probability that the son of a color blind father would be colour blind?
- (a) 0
 - (b) $\frac{1}{4}$
 - (c) $\frac{1}{6}$
 - (d) 1
9. The name biotechnology 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 — ($5 \times 5 = 25$ marks)

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

Answer should not exceed 250 words each.

11. (a) Explain Fluid mosaic model of plasma membrane.

Or

- (b) Describe the structure of Mitochondria with diagram.

12. (a) Explain the Translation process in protein synthesis.

Or

- (b) Briefly explain about the mRNA.

13. (a) Explain the Blood transfusion process in man.

Or

- (b) Write a note on prevention and treatment of haemolytic disease.

14. (a) Explain the Non-disjunction concerned with Turner syndrome.

Or

- (b) Write note on genetic disease of Down's Syndrome.

19. (a) Write the detailed account on Haemophilia.
Or
(b) Describe sex linked inheritance of Colour blindness disease.
20. (a) Write a detailed account on scope and importance of Biotechnology.
Or
(b) Elaborate an account on transgenic of Goats.
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