

(6 pages)

Reg. No. : .....

**Code No. : 10703 E      Sub. Code : JMZO 52/  
SMZO 52**

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

Fifth Semester

Zoology – Main

**ANIMAL 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. Plasmids are present in

- |              |              |
|--------------|--------------|
| (a) Bacteria | (b) Fungi    |
| (c) Virus    | (d) Protozoa |

2. The plasmid that carries genes to plant cell is
- (a) F-Plasmid                      (b) Col-Plasmid
- (c) R-Plasmid                      (d) Ti-Plasmid
3. Klenow enzyme is used to synthesize
- (a) r – DNA                      (b) m – RNA
- (c) t – RNA                      (d) c – DNA
4. The explant tissues are stored at a temperature of
- (a) 2° C                      (b) 8° C
- (c) 4° C                      (d) 10° C
5. The salt used to adhere the rDNA into the surface of E.Coli cells is
- (a) KCl<sub>2</sub>                      (b) CaCl<sub>2</sub>
- (c) MgCl<sub>2</sub>                      (d) MgSO<sub>4</sub>
6. Monoclonal antibodies were first made by
- (a) Healy                      (b) Aluvine
- (c) Southern                      (d) Milstein

7. Northern blotting method was devised by  
(a) Jones (b) Alwine  
(c) Gallo (d) Stanley
8. The somatic cell fusion is induced by  
(a) AUG (b) PEG  
(c) PBR (d) PEP
9. The first sheep produced by cloning was named as  
(a) Dolly (b) Jimmy  
(c) Pony (d) Tomy
10. Biochip is a compute chip consisting of protein instead of  
(a) Silicon (b) Platinum  
(c) Silver (d) Copper

PART B — ( $5 \times 5 = 25$  marks)

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

Each answer should not exceed 250 words.

11. (a) Write note son Restriction enzymes.

Or

- (b) Explain the method of preparation of desired DNA from natural sources.

12. (a) Explain the microinjection method of rDNA introduction into host cells.

Or

- (b) Write about the selection of recombinants by insertional inactivation method.

13. (a) Explain the Lambda phage.

Or

- (b) Write notes on monolayer culture.

14. (a) Explain the advantages and application of Artificial skin.

Or

- (b) Define the production of B – galactosidase enzyme.

15. (a) Explain the primary treatment methods of sewage water.

Or

- (b) Write notes on biochips.

PART C — ( $5 \times 8 = 40$  marks)

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

Each answer should not exceed 600 words.

16. (a) List out the applications of genetic engineering.

Or

- (b) Give an account on the southern blotting technique.

17. (a) Explain in detail about the gene amplification through PCR.

Or

- (b) Write an essay on cell line.

18. (a) Explain in detail about the bioreactors.

Or

- (b) Explain methods of monoclonal antibody production in detail.

19. (a) Write an account on liver transplantation.

Or

- (b) Give a detailed account on intellectual property rights.

20. (a) What is superbug? Define the construction of the supberbug.

Or

- (b) Give an account on DNA finger printing techniques and its application in forensic medicine.
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