(6 pages) **Reg. No. :** .....

Code No. : 7189 **Sub. Code : PZOM 32**

M.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2019.

Third Semester

Zoology – Core

BIOTECHNOLOGY

(For those who joined in July 2017 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer.

1. Western blotting is devised by

(a) Southern (b) Towbin

(c) Alwine (d) Alec Jeffrey

2. The enzyme used to join the nucleotides is

(a) Endonucleases (b) Exonucleases

(c) DNA ligases (d) DNA gyrase

3. The cloning vectors developed from virus are

(a) SV 40

(b) Ca MV virus

(c) BPV vector

(d) All the above

4. Introduction of rDNA into cells by electric treatment is

(a) Liposome fusion

(b) Microinjection

(c) Electroporation

(d) Transformation

5. Antibiotics are

(a) Primary metabolites

(b) Secondary metabolites

(c) Tertiary metabolites

(d) RELP

6. Dolly is a first cloned

(a) Mule (b) Sheep

(c) Cat (d) Dog

7. An apparatus in which a biological process is carried out is

(a) fermenter (b) bioreactor

(c) turbidostat (d) chemostat

8. Which microorganisms are utilized as biofertilizers

(a) Rhizobium

(b) Azospirillium

(c) Azotobacter

(d) All the above

9. Nanoparticles use din drug delivery are

(a) Nanodots

(b) Nanotubes

(c) Nanodusts

(d) Both (a) and (b)

10. Which is the antiviral protein?

(a) Interleukin

(b) Interferon

(c) Virulin

(d) Linker

PART B — (5 × 5 = 25 marks)

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

Each answer should not exceed 250 words.

11. (a) What is cDNA Bank. How it is constructed?

Or

(b) What are the different types of restriction enzymes?

12. (a) Write briefly on cloning vector for Agrobacterium tumifaciens.

Or

(b) Write short notes on simian virus 40.

13. (a) What are the requirements for animal cell and tissue culture?

Or

(b) Write briefly on whole embryo culture.

14. (a) Mention the useful and undesirable feature of biofuels.

Or

(b) Briefly explain the various steps involved in down stream processing.

15. (a) Brief on diagnostic kit development for microbial analysis.

Or

(b) Write short note on genetically Engineered microorganisms.

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Give an illustrated account on gene cloning.

Or

(b) Write an account on Maxam Gilbert method of gene sequencing.

17. (a) Write in detail on methods of gene transfer in cloning.

Or

(b) Discuss in detail about the cloning vectors.

18. (a) Write in detail about invitro fertilization and embryo transfer in human.

Or

(b) Describe the methods of organ culture.

19. (a) What is bioremediation? Explain the bioremediation of industrial waste.

Or

(b) What is fermentor. Explain the production of a secondary metabolite with example.

20. (a) Describe drug design, delivery and targetting.

Or

(b) Write in detail the applications of Nanobiotechnology.

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