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

Code No. : 7100 **Sub. Code : KMBM 43**

M.Sc. (CBCS) DEGREE EXAMINATION,
APRIL 2018.

Fourth Semester

Microbiology

BIOTECHNOLOGY

(For those who joined in July 2016 and afterwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. The gene introduced by transfection is called

(a) Transgene (b) Transient

(c) Transcell (d) Host gene

2. The delivery of DNA in cell using liposome is called

(a) Lipofusion (b) Lippoeffect

(c) Lipofection (d) Transformation

3. Which one of the following is the most important discovery that leads to the development of rDNA technology?

(a) Discovery of double helix model by Watson and crick

(b) Discovery of DNA as genetic material

(c) Discovery of restriction enzymes

(d) All of these

4. Who discovered restriction enzymes?

(a) Watson and Crick

(b) Jacob and Monad

(c) Nathan, Arber and Smith

(d) Boyer and Cohen

5. A vector is used to

(a) Transfer a gene (b) Copy a gene

(c) Produce a gene (d) Remove a gene

6. Transformation method of plants and animals in which plants and animals are given shocks is known as

(a) Microinjection

(b) Genome breeding

(c) Electroporation

(d) Genome engineering

7. Technique of inserting Deoxyribonucleic Acid (DNA) into plants is known as

(a) Bio injection

(b) Bio-fission

(c) Bio genetic

(d) Bio diffusion

8. A plasmid can be considered as a suitable cloning vector if

(a) It can be readily isolated from the cells

(b) It possesses a single restriction site for one or more restriction enzymes

(c) Insertion of foreign DNA does not alter its replication properties

(d) All of the above

9. First genetically modified organism generated was

(a) Fish (b) Bacteria

(c) Mice (d) Virus

10. Enzyme which is used to remove or knockout genes is known as

(a) Nucleolus (b) Nuclease

(c) Nucleotide (d) Clones

PART B — (5 × 5 = 25 marks)

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

Each answer should not exceed 250 words.

11. (a) Discuss shortly about rDNA technology.

Or

(b) Explain about Cohesive end and blunt end cut.

12. (a) Write about Plasmid vectors with suitable diagram.

Or

(b) Justify as how phage vectors used in genetics.

13. (a) Describe about DNA-DNA hybridization in microbiology.

Or

(b) Short notes on cDNA library.

14. (a) How does the Ti plasmid make genetic engineering?

Or

(b) Write about biotechnological approach of creating viral resistance plant.

15. (a) Explain about Retro virus mediated gene transfer.

Or

(b) Write about Gene gun technique.

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Restriction enzyme Type I, II and III.

Or

(b) Explain in detail about RFLP.

17. (a) Explain briefly about phage vectors with example.

Or

(b) Write detailed notes on yeast cloning vectors.

18. (a) Write a detailed description on ELISA.

Or

(b) Explain in detail about Genomic DNA library.

19. (a) Ti-Plasmid mediated gene transfer into a plant.

Or

(b) Discuss about herbicide and insecticide resistant plant development.

20. (a) Transgenic Sheep and pigs and their uses.

Or

(b) Write about the following methods of gene transfer

(i) Microinjection

(ii) Biolistics.

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