

M.A / M. Sc. DEGREE EXAMINATION, APRIL 2023
SECOND SEMESTER

COURSE : ELECTIVE

PAPER : APPLICATIONS OF BIOTECHNOLOGY

TIME : 3 HOURS

MAX. MARKS: 100

SECTION – A

ANSWER ALL THE QUESTIONS

(10 x 2 = 20)

1. Bt toxins are produced by soil bacteria
 - a. *Bacillus thuringiensis*
 - b. *Bacillus terreus*
 - c. *Bacillus megaterium*
 - d. *Bacillus circulans*
2. Edible vaccines act by the process of
 - a. Function encapsulation
 - b. Class encapsulation
 - c. Bioencapsulation
 - d. Microencapsulation
3. What do you mean by “Trophophase”?
 - a. Production of waste materials
 - b. Production of topical products
 - c. Production of primary metabolites
 - d. Production of secondary metabolites
4. “Idiophase” is the
 - a. Production of waste materials
 - b. Production of topical products
 - c. Production of primary metabolites
 - d. Production of secondary metabolites
5. Fermentation of glycerol in wine results in
 - a. Pousse
 - b. Amertume
 - c. Mousy flavor
 - d. Tourne
6. The dough rises because of
 - a. Heat
 - b. Grinding
 - c. Growth of yeast cells
 - d. Kneading
7. Which of the following is an aerobic nitrogen-fixing bacterium?
 - a. *Azotobacter*
 - b. *Clostridium*
 - c. *Rhodospirillum*
 - d. *Rhodopseudomonas*
8. Which cancer treatment uses cytotoxic drugs?
 - a. Biological therapy
 - b. Chemotherapy
 - c. Radiotherapy
 - d. Total body irradiation
9. Vegetative mycelium of mushroom fungi is known as
 - a. Stipe
 - b. Spawn
 - c. Pileus
 - d. Annulus

10. Animals that have had their DNA manipulated to possess and express an extra (foreign) gene are known as _____
- | | |
|-----------------------|---------------|
| a) transgenic animals | b) animals |
| c) infected animals | d) Bt animals |

SECTION – B**ANSWER ALL THE QUESTIONS****(5 x 8 = 40)**

- 11 (a). List the applications of enzymes in baking industry.
(or)
(b). What are the upstream processing steps in fermentation?
- 12 (a). Enumerate the advantages and disadvantages of biofertilizers.
(or)
(b). Explain the process of vermicomposting.
- 13 (a). Explain the gene transfer mechanism using particle bombardment technique.
(or)
(b). Why are transgenic plants called as protein factories?
- 14 (a). Write a short note on cancer therapy.
(or)
(b). Elucidate the steps involved in DNA fingerprinting techniques.
- 15 (a). Elucidate the role of enzymes in biofuel production.
(or)
(b). Illustrate the infrastructure requirements for biogas production.

SECTION – C**ANSWER ANY TWO QUESTIONS IN ABOUT 1500 WORDS****(2 x 20 = 40)**

16. How transgenic animals proved to be beneficial in production of biological products?
17. Explain the physical and chemical methods of cell disruption in downstream processing.
18. Describe the cultivation technique of Oyster mushrooms.
19. Discuss the various requirements and process involved in ethanol production.
