

(8 pages)

Reg. No. :

Code No. : 5831

Sub. Code : WBOSE 21

M.Sc. (CBCS) DEGREE EXAMINATION,
APRIL 2024.

Second Semester

Botany

Skill Enhancement Course — AGRICULTURE AND
FOOD MICROBIOLOGY

(For those who joined in July 2024 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (15 × 1 = 15 marks)

Answer ALL questions.

Choose the correct answer :

1. What is the function of Phosphate Solubilizing Microorganisms (PSM) in agriculture?
 - (a) Symbiotic and free-living bacteria
 - (b) Mycorrhiza
 - (c) Plant Growth Promoting Microorganism (PGPM)
 - (d) Cyanobacteria

2. Which microorganism is known for its role in nitrogen fixation in agriculture?
 - (a) Symbiotic and free-living bacteria
 - (b) Mycorrhiza
 - (c) Plant Growth Promoting Microorganism (PGPM)
 - (d) Cyanobacteria
3. How do cyanobacteria contribute to sustainable agriculture practices?
 - (a) Symbiotic and free-living bacteria
 - (b) Mycorrhiza
 - (c) Plant Growth Promoting Microorganism (PGPM)
 - (d) Phosphate Solubilizing Microorganism (PSM)
4. How are biofertilizers produced?
 - (a) Plant pathogens
 - (b) Pests and weeds
 - (c) Restoration of waste lands
 - (d) Vermicompost technology

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5. The role of vermicompost in biofertilization?
- (a) Biocontrol of plant pathogens
 - (b) Restoration of waste lands
 - (c) Types of biofertilizers
 - (d) Production technology
6. How does biocontrol contribute to the restoration of degraded lands?
- (a) Plant pathogens
 - (b) Pests and weeds
 - (c) Biofertilizers
 - (d) Vermicompost application
7. What is the significance of extrinsic factors in food microbiology?
- (a) Microbial metabolism
 - (b) Food preservation
 - (c) Microbial diversity
 - (d) Food borne illnesses
8. Which food source is associated with single cell protein?
- (a) Mushrooms
 - (b) Microbial cultures
 - (c) Fermented foods
 - (d) Algae

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9. How do microbes contribute to the production of mushrooms?
- (a) Nutrient recycling
 - (b) Food preservation
 - (c) Food borne pathogens
 - (d) Single cell protein production
10. Which food product is prone to microbial spoilage among vegetables?
- (a) Cereals
 - (b) Pickles
 - (c) Fish
 - (d) Dairy products
11. How are microbes involved in the fermentation of butter?
- (a) Cheese
 - (b) Bakery products
 - (c) Cereals
 - (d) Vegetable
12. What preservation processes are commonly used for fish products?
- (a) Cereals
 - (b) Vegetables
 - (c) Pickles
 - (d) Fish

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[P.T.O.]



13. What is the primary focus of Secondary Structure and Folding in predictive methods?

- (a) Protein identity
- (b) Composition
- (c) Sequence motifs and patterns
- (d) Tertiary structure

14. Which predictive method emphasizes specialized structures or features in protein analysis?

- (a) Protein identity based on composition
- (b) Physical properties based on sequence
- (c) Secondary structure and folding classes
- (d) Tertiary structure

15. How does Tertiary Structure play a role in predictive methods for protein analysis?

- (a) Protein identity based on composition
- (b) Physical properties based on sequence
- (c) Secondary structure and folding classes
- (d) Specialized structures or features

PART B — (5 × 4 = 20 marks)

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

Each answer should not exceed 250 words.

16. (a) Comment on role of cyanobacteria.

Or

(b) Explain role of microbes in agriculture.

17. (a) Write notes on vermicompost and its importance.

Or

(b) List out the applications of Biofertilizers.

18. (a) Write notes on intrinsic factor deficiency.

Or

(b) What causes lack of intrinsic factor?

19. (a) Describe the fermented food product butter.

Or

(b) Comment on food intoxication.

20. (a) List out the features of protein.

Or

(b) Write notes on folding classes of protein.



PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

21. (a) Give an account on Cyanobacteria in agriculture.

Or

- (b) Discuss on role of mycorrhiza.

22. (a) Enumerate biocontrol of plant pathogens.

Or

- (b) Explain production of biofertilizers.

23. (a) Describe about single cell protein and its significance.

Or

- (b) Give an account on growth of microbes in food.

24. (a) Discuss on preservation of food.

Or

- (b) Write an essay on dairy products.

25. (a) Describe identity based composition of protein.

Or

- (b) State the secondary structure of protein.

