

02/05/2025 A/N

(7 pages)

Reg. No. :

Code No. : 5687

Sub. Code : WMBM 41

M.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2025.

Fourth Semester

Microbiology — Core

FOOD AND ENVIRONMENTAL MICROBIOLOGY

(For those who joined in July 2023 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (15 × 1 = 15 marks)

Answer ALL questions.

Choose the correct answer :

1. The temperatures used for canning foods ranges from _____.

- (a) 0-20°C
- (b) 20-60°C
- (c) 60-100°C
- (d) 100-121°C

2. Which of the following method is used for treatment of water used for the depuration of shellfish?

- (a) Chemicals
- (b) Radiation
- (c) Low temperature
- (d) Osmotic pressure

3. What factors contribute to the spoilage of vegetables?

- (a) Microbes
- (b) Enzymes
- (c) Air
- (d) Microbes, enzymes, air

4. Bacteria possess the property of _____ for communication.

- (a) Quorum Sensing
- (b) Contact Inhibition
- (c) Mobility
- (d) Apoptosis

5. What is the full form of HACCP?

- (a) Health Analysis and Critical Control Points
- (b) Health Analysis and Critical Criteria for Production
- (c) Hazard Analysis and Critical Control Points
- (d) Hazard Analysis and Critical Criteria for Production

6. A substance intentionally added that affects the nature and quality of food is called
- (a) Food poison
 - (b) Food adulterant
 - (c) Food contaminant
 - (d) Food material
7. In the carbon cycle, the human body returns carbon to the atmosphere through this way:
- (a) Formation of glucose
 - (b) Waste products
 - (c) Photosynthesis
 - (d) Cellular respiration
8. How many molecules of ATP are required to fix one molecule of nitrogen?
- (a) 12
 - (b) 20
 - (c) 6
 - (d) 16
9. Which of the following are the primary causes of water Pollution?
- (a) Plants
 - (b) Animals
 - (c) Human activities
 - (d) None of these

10. Which of the following wastes is called the Municipal Solid Waste (MSW)?
- (a) Food wastes
 - (b) Wood pieces
 - (c) Plastic cans
 - (d) All of the above
11. Which of the following is called as the waste water from different sources like bathrooms, kitchens, and washbasins?
- (a) Discharge
 - (b) Sullage
 - (c) Garbage
 - (d) Sewage
12. Which of the following is the most commonly used coagulant?
- (a) Ferric sulphate
 - (b) Coal
 - (c) Alum
 - (d) Limestone
13. The harmful toxic compound that is present in cosmetics is _____.
- (a) Aluminium
 - (b) Parabens
 - (c) Oxygen
 - (d) Nitrogen
14. Which the following doesn't come under the category of very easily degradable compounds?
- (a) Sugar
 - (b) Amino acids
 - (c) Organic acids
 - (d) PCB

15. Which are the organisms called those who are responsible for the break down complex organic matter into inorganic substances?

- (a) Decomposers (b) Producers
(c) Consumers (d) Herbivores

PART B — (5 × 4 = 20 marks)

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

Each answer should not exceed 250 words.

16. (a) Analyse the spoilage of fish.

Or

(b) Examine contamination of meat by microorganisms.

17. (a) What is HACCP? Mention its importance.

Or

(b) Determine common food additives.

18. (a) Identify the components of atmosphere.

Or

(b) Assess energy flow in an ecosystem.

19. (a) Explain the role of primary treatment of effluent.

Or

(b) Explain the process of e waste management.

20. (a) Criticize biodeterioration of textiles.

Or

(b) Evaluate the degradation process of lignin.

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

21. (a) Write an essay on contamination and spoilage of fruits.

Or

(b) Critically analyze contamination and spoilage of milk products.

22. (a) Write an essay on food hazards.

Or

(b) Determine the role of protozoans in food contamination.

23. (a) Assess the role of microorganisms in carbon cycle.

Or

(b) Assess quality of water sample using standard methods.

24. (a) Give a brief note on the Composting.

Or

(b) Write an essay on solid waste management.

25. (a) Give a short note on cellulose degradation.

Or

(b) Explain biodegradation of Xenobiotics.
