



**HCL-003-001525**

Seat No. \_\_\_\_\_

**B. Sc. (Microbiology) (Sem. V) (CBCS) Examination**

**October - 2017**

**MB - 501 : Applied Microbiology**

**Faculty Code : 003**

**Subject Code : 001525**

Time :  $2\frac{1}{2}$  Hours]

[Total Marks : 70

**Instructions :**

- (1) All questions are compulsory.
- (2) Figures on the right indicate total marks of the question.
- (3) Draw neat diagrams wherever necessary.

**1 Answer specifically :**

**1×20=20**

- (1) Define Rhizosphere.
- (2) What are *nif* genes ?
- (3) What is Humus ?
- (4) Define Mutualism.
- (5) What do you mean by 'Food Poisoning' ?
- (6) What is AGmark ?
- (7) Define Single Cell Protein.
- (8) Enlist any four (4) methods of food preservation.
- (9) Define Milk.
- (10) What is MBRT ?
- (11) Why milk is considered as ALMOST a complete medium ?
- (12) Define Starter Culture.

- (13) Enlist different types of water.
- (14) Enlist any four conditions that affect the microbial population in a water body.
- (15) What do you mean by Sanitary Survey ?
- (16) Define sludge.
- (17) What is meant by Environmental pollution ?
- (18) Define Biomagnification.
- (19) What is Biodeterioration ?
- (20) Define Bioleaching.

**2** (a) Answer specifically : (any three) **2×3=6**

- (1) Briefly explain the process of soil formation.
- (2) Discuss in brief the edible mushrooms.
- (3) Explain MBRT in brief.
- (4) Why *E.coli* is considered as an index organisms in detection of drinking water quality ?
- (5) What are the ecological impacts of oil spills ?
- (6) Briefly discuss the chemical characteristics of soil.

(b) Answer specifically : (any three) **3×3=9**

- (1) Discuss physical properties of soil.
- (2) Explain Salmonellosis.
- (3) Write in brief about the types of microorganisms found in milk.
- (4) Write a brief note on Solid Waste Processing.
- (5) What do you understand by Biomagnification of pesticide pollution ?
- (6) Write in brief about the manufacturing process of Yogurt.

(c) Write short notes : (any two) **5×2=10**

- (1) Nitrogen cycle
- (2) Food preservation methods
- (3) Starter Culture
- (4) Waste Water treatment
- (5) Bioleaching

**3** (a) Answer specifically : (any three) **2×3=6**

- (1) Briefly explain various profiles of soil.
- (2) What is food intoxication ? Give example.
- (3) What is Kefir ?
- (4) Define BOD and COD stating their importance in waste water treatment.
- (5) Define the term – Xenobiotics and state its role in soil pollution.
- (6) What are fermented foods ? Discuss any one in brief.

(b) Answer specifically : (any three) **3×3=9**

- (1) Briefly explain Winogradsky's column with suitable diagram.
- (2) Explain the role of *Cl. botulinum* in food poisoning.
- (3) Discuss in brief various methods of milk and milk product preservation.
- (4) Describe sand filters in brief.
- (5) Discuss the role of detergents as pollutants.
- (6) Write a brief note on various sources of microorganisms in milk.

(c) Write short notes : (any two)

**5×2=10**

- (1) Sulphur cycle
  - (2) Microorganisms as food
  - (3) Process of Cheese manufacturing
  - (4) Drinking water purification
  - (5) Air pollution.
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