

This question paper contains 3 printed pages]

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S. No. of Question Paper : 5710

Unique Paper Code : 2202033501

Name of the Paper : Food Microbiology

Name of the Course : B.Sc. (H) Food Technology (NEP-UGCF)

Semester : V

Duration : 3 Hours

Maximum Marks : 90

(Write your Roll No. on the top immediately on receipt of this question paper.)

Attempt five questions in all.

All questions carry equal marks.

1. (a) Classify bacteria on the basis of their growth temperature giving examples. 8
- (b) Explain the various techniques used to cultivate the microorganisms under laboratory conditions. 10
2. Draw well labelled diagrams (any 3) : 3×6
 - (i) Structure of Prokaryotic cell
 - (ii) Cell wall of Gram positive vs Gram negative bacteria
 - (iii) Lysogenic cycle of a bacteriophage
 - (iv) Sporulation cycle.

P.T.O.

3. Justify the following statements (any 3) : 3×6
- (i) Food microbiology has a wide scope in current times.
 - (ii) Water activity is an important tool to preserve foods.
 - (iii) Rapid detection methods of microorganisms are the need of today.
 - (iv) Majority of preservation methods are targeted at the lag phase of bacterial curve
 - (v) Molds can be classified based on the morphology of their fruiting bodies.
4. (a) What are the various stages of bacterial growth ? Explain using a schematic diagram. 10
- (b) What is Hurdle technology ? Explain its application in food preservation. 8
5. Differentiate between (any 3) : 3×6
- (i) SPC *vs* DEFT
 - (ii) Electron microscopy *vs* Bright field microscopy
 - (iii) Bacteria *vs* Yeast
 - (iv) Gram positive cell wall *vs*. Gram negative cell wall.

(3)

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6. Explain the type of spoilage in the following (any *two*) :

2×9

- (i) Milk
- (ii) Meat
- (iii) Fruit and vegetables
- (iv) Canned foods.

7. Write short notes on (any **3**) :

3×6

- (i) Food irradiation
- (ii) O/R potential
- (iii) Pulse Electric Field Method of Preservation
- (iv) Lactic Acid Bacteria
- (v) Food borne Viruses.