

Total number of printed pages-4

53 (FPT 404) FMCB

2021

FOOD MICROBIOLOGY

Paper : FPT 404

Full Marks : 100

Time : Three hours

The figures in the margin indicate full marks for the questions.

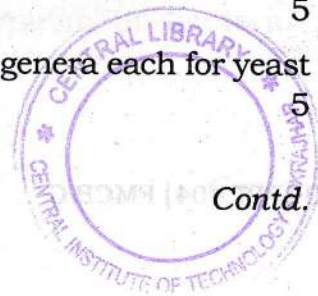
Answer any five questions.

1. (a) What is the importance of understanding the sources of micro-organism in food ? 4
- (b) What is starter cultures ? Explain the role of lactic acid bacteria in fermentation. 2+6=8
- (c) What is GM foods ? How is it's genetic modification possible ? 2+6=8
2. (a) Explain the importance of bacteriophages in food. 5

Contd.

- (b) What is microbial growth in food ? What are the important factors that affect the microbial growth ? 7
- (c) Describe briefly the contribution of the following scientists in the development of microbiology and food microbiology. $2 \times 4 = 8$
- (i) Christian Gram
 - (ii) Pasteur
 - (iii) C. J. Person
 - (iv) Koch
3. (a) List the genera currently used as starter cultures in food fermentation. 5
- (b) What are the possible risks and benefits of GM Food ? 6
- (c) Discuss the normal microbial quality of soft drinks, fruit and vegetable juices and bottled water. 9
4. (a) List the microorganism that are able to survive in properly processed canned foods and discuss there significance on the product of quality. 6

- (b) How are molds used in different ways in food ? 5
- (c) List the general differences in the morphology of yeast, molds and bacteria important in food. 9
5. (a) List *two* genera from each of the following groups : 5
- (i) Gram-negative endospore-forming rods.
- (ii) Gram-positive non-sporulating rods.
- (b) "Many vegetables are eaten raw". Discuss. What microbiological concerns the consumer should have for these vegetables ? 6
- (c) List *three* major sources of food borne pathogens in food and indicate the measures that should be implemented to reduce their incidence in foods. 9
6. (a) Explain the importance of knowing the normal microbiological quality of food. 5
- (b) List *three* important genera each for yeast and mold. 5



(c) Explain the following terms : $2 \times 5 = 10$

(i) Endospore

(ii) Thermophilic bacterium

(iii) Genera

(iv) Top yeast

(v) Mesophiles

7. Write short notes on : (**any four**) $4 \times 5 = 20$

(i) Milk microbiology

(ii) Pasteurization

(iii) Sterilization

(iv) F , Z and D values

(v) Classification of microorganism.

