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 bacterio-phages 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. 2×4=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 : 2×5=10

(i) Endospore

(ii) Thermoduric bacterium

(iii) Genera

(iv) Top yeast

(v) Mesophiles

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

(i) Milk microbiology

(ii) Pasteurization

(iii) Sterilization

(iv) *F*, *Z* and *D* values

(v) Classification of microorganism.