53 (FPT 404) FOMC

2012 C
2013
(May)

FOOD MICROBIOLOGY

Paper : FPT 404

Full Marks : 100

Pass Marks : 30

Time : Three hours

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

Answer ***any five*** *questions from* ***seven.***

1. *(a)* Describe briefly the contributions of the following scientists in the development of microbiology and food microbiology.

   (i) Pasteur

   (ii) Koch

   (iii) Christian Gram

   (iv) C. J. Person. 2×4=8

(b) Explain the importance of bacteriophages in food. 5

(c) What is microbial growth in food ? What are the important factors that affect the microbial growth ? 7

2. (a) Explain the following terms : 2×5=10

(i) Genera

(ii) Mesophiles

(iii) Endospore

(iv) top yeast

(v) Thermoduric Bacteria.

(b) Explain the importance of knowing the normal microbiological quality of food. 5

(c) List *three* important genera *each* for yeast and mold. 5

3. (a) What is starter cultures ? Explain the role of Lactic acid bacteria in fermentation. 2+6=8

(b) What is GM Food ? How is genetic modification possible ? 2+6=8

(c) What is the importance of understanding the sources of micro-organism in food ? 4

4. (a) List the general differences in the morphology of yeasts, molds and bacteria important in food. 9

(b) List the micro-organisms that are able to survive in properly processed canned foods and discuss their significance on the product quality. 6

(c) How are mold used in different ways in food ? 5

5. (a) List *three* major sources of foodborne pathogens in food and indicate the measures that should be implemented to reduce their incidence in foods. 9

(b) "Many vegetables are eaten raw". Discuss what microbiological concerns the consumer should have for these vegetables. 6

(c) List *two* genera from *each* of the following groups : 5

(i) Gram-Positive non-sporulating rods.

(ii) Gram-negative endospore-forming rods.

6. *(a)* Discuss the normal microbial quality of soft drinks, fruit and vegetable juices and bottled water. 9

(b) What are the possible risks and benefits of GM Food ? 6

(c) List the genera currently used as starter cultures in food fermentation. 5

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

(a) F, Z and D values

(b) Classification of micro-organism

(c) Pasteurisation

(d) Milk microbiology

(e) Sterilization.
