53 (FPT 404) FOMC

2014

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 from* ***seven.***

1. *(a)* Define starter culture. Explain the role of yeast culture in fermentation ? 5

(b) List *two* species each of mold and yeast strains most important in food. 4

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

(d) What is Thermophilic micro-organism ? Name *any three* food borne pathogens and indicate the measures that should be implemented to reduce their incidence in foods. 2+4

2. *(a)* Explain the role of lactic acid bacteria in fermentation. 5

(b) What is Mesophilic Starter culture ? Name *any three* organisms associated with acidophilus milk ? 3

(c) Explain proteolytic bacteria and CFU. 4

(d) What is microbial growth in food ? What are the important factors that affect the microbial growth ? 2+4

(e) What is Brewer's yeast ? 2

3. *(a)* Write short notes on : 2×5

(i) TDT

(ii) Pasteur

(iii) Coliform

(iv) Pathogens

(v) Prebiotics

(b) Write the different ways of fermentation process of food. 4

(c) What is probiotics ? Give *two* examples of probiotic cultures. 4

(d) Define psychrophilic micro-organisms with examples. 2

4. (a) Differentiate between : 3×3

(i) Top yeast and Bottom yeast

(ii) Homofermentative and heterofermentative

(iii) Endospores and spores

(b) Explain the role of acetic acid bacteria in fermentation. 5

(c) What is GM Food ? How is genetic modification possible ? 2+4

5. (a) What is Mold Culture ? How are mold used in different ways in food ? 1+4

(b) Explain bacteriology of water giving suitable examples. 3

(c) Explain the glycolytic pathway of homofermentative lactic acid bacteria. 4

(d) What is mixed population in fermentation ? 3

(e) Explain the normal microbial quality of soft drink and bottled water. 5

6. (a) Explain in brief the microbiology of yoghurt fermentation. 5

(b) Write the possible risk of GM Food. 3

(c) Explain *F*, *Z* and *D* values. 2+2+2

(d) Explain how beneficial micro-organisms are used in food ? 4

(e) Write *two* important characteristics of probiotics. 2

7. (a) Write short notes on : 4×4

(i) Pasteurization

(ii) Food borne diseases

(iii) Morphology of yeast

(iv) Microbiology of fermented meat products.

(b) What precautions are needed while using a mold strain in food fermentation ? 2

(c) Explain the contribution made by Robert Koch in the field of food microbiology. 2