53 (FPT 404) FOMC

2014

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)* What is Probiotics ? Give the important characteristics of probiotics. 2+3

   (b) What is SCP ? Explain how beneficial micro-organisms are used in food ? 2+3

   (c) Bring out the general differences in the morphology of yeasts and molds important in food. 6

   (d) Why, in a mixed population of fermentation, the members should preferably be synergistic ? 4

2. *(a)* Define the following terms : 2×5

(i) Synbiotics

(ii) Proteolytic bacteria

(iii) TDT

(iv) Brewer's yeast

(v) CFU

(b) Explain the normal microbial quality of soft drinks and pasteurized milk. 5

(c) What is Mold Culture ? Explain how mold cultures is used in food fermentation ? 2+3

3. *(a)* What is Psychrophilic micro-organisms ? Explain the significance of facultative anaerobic micro-organisms in raw chilled meats. 4

(b) Explain the possible risks and benefits of GM food. 6

(c) Name *any three* food borne pathogens and indicate the measures that should be implemented to reduce their incidence in foods. 5

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

4. *(a)* What does GMO mean ? Explain giving reasons why are foods genetically modified. 2+3

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

(c) Discuss in brief the different ways of fermentation process of food. 5

(d) Write the function of yeast culture in fermentation. 4

5. *(a)* Give scientific reasons : 2×3

(i) Milk should be preserved at low temperature.

(ii) Fruits and vegetables should not get bruised.

(b) Explain in brief how genetic modification is possible. 6

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

(d) Explain the major roles of starter culture in fermentation of milk. 4

(e) Give *two* examples of potential probiotic cultures. 2

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6. *(a)* What is Mesophilic and Thermophilic starter culture ? Explain the glycolytic pathway of homo-fermentative lactic acid bacteria. 3+4

(b) Name *three* organisms associated with acidophilus milk. Explain in brief the microbiology of yoghurt fermentation. 3+6

(c) What are intrinsic factors that affect microbial growth ? 4

7. *(a)* Write short notes on : 4×4

(i) Microbiology of fermented meat product.

(ii) Prebiotics

(iii) Bacteriology of water

(iv) Sterilization.

(b) What is food borne diseases ? Give examples. 2

(c) What is hetero-fermenter ? Give example. 2
