

Total number of printed pages—4

53 (FPT 701) FHPS

2019

**FOOD HYGIENE AND
PLANT SANITATION**

Paper : FPT 701

Full Marks : 100

Time : Three hours

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

1. (a) Justify the title of the subject. Explain how quality of food is related with hygiene. 3+2=5
- (b) 1×10=10
 - (i) What were the main objectives of “Natural Hygiene Movement” ?
 - (ii) What are the directives for manufacturers and users of food processing equipment related to hygiene ?

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(iii) What are the factors on which the length of stationary phase depends?

(iv) What is the length of logarithmic growth phase?

(v) What is the optimal relative humidity required for the growth of bacteria?

(vi) Biofilm can occur above 50°C at an optimum rate. (True/False)

(vii) Define 2-value.

(viii) What is the reaction temperature and time for annealing step in PCR?

(ix) What is NPMA? When Pest Management Standards for Food Plants was released?

(x) What is Temperature Danger Zone?

(c) How can personal contamination affect the hygiene condition of food products? 5

2. (a) Explain the food safety objectives to manage microbial risks in food plant. 6

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(b) State the Codex General Principles of food hygiene. 4

(c) What is food poisoning? Explain the types of food poisoning along with the food poisoning chain. 4

(d) Name three food poisoning microorganisms with their respective conditions, sources and symptoms of causing. 6

3. (a) Define biofilm. Explain the formation of biofilm. What are the factors that affect the formation of biofilm? 1+7+2=10

(b) What are the objectives of designs and facilities in maintaining the hygienic condition in a food plant? Explain the role of location, equipment and facilities in food plant. 2+5=7

(c) Classify the hazards with their respective categories. 3

4. (a) What is Integrated Pest Management? Explain the role, objectives and merits of integrated Pest Management. 3+3=6

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Contd.

- (b) How many types of Pest Management Standards are used in food industry? Explain *any two* pest control products. 2+6=8
- (c) What are the factors that affect microbial growth? Explain. 6
5. (a) Explain the working principle and uses of autoclave. 8
- (b) Explain the typical CIP cycle. How is CIP process different from COP process? 4+4=8
- (c) Define the term Sanitation. How can sanitation of a food plant be done? 1+3=4
6. (a) Explain the principles of sanitary design. 10
- (b) What is PCR? Write the steps involved in each cycle and explain. 1+9=10
7. (a) Explain *any two* cleaning methods applied in food plant. 5×2=10
- (b) Explain *any three* chemical sanitizers with their mode of reactions used in food plant.

