

Total number of printed pages—4

53 (FPT 701) FHPS

2017

## 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.**

Answer **any five** questions.

1. (a) (i) Define food hygiene. 1
- (ii) What is the mode of reproduction in bacteria ? 1
- (iii) Performance objective is defined as \_\_\_\_\_. 1
- (iv) Clostridium botulinum grow below pH 4.5 (True/False). 1
- (v) Give an example for microbes causing foodborne intoxication. 1

Contd.

- (b) Define personal hygiene and explain the role of personal hygiene in food processing site. 6
- (c) What are the different hygiene practise ? 3
- (d) Name *three* food poisoning microorganism with their respective condition, sources and symptoms of causing. 6
2. (a) What are the *two* directives that both manufacturers and users of food processing equipment should be aware of ? 2
- (b) Explain the *ten* principles of sanitary design. 10
- (c) Explain the typical cycle for CIP system. 4
- (d) What are the factors affecting the cleaning performance ? 4
3. (a) What are the *two* types of compounds involved in biofilm formation ? Write about the *two* different mechanisms in biofilm formation. 2+6
- (b) What are the factors affecting biofilm formation ? 4

- (c) What are the different types of carrier for microbes ? 4
- (d) Classify different types of food borne illness. 4
4. (a) What is fumigation ? What are the different fumigants that are used in processing plant ? 6
- (b) Explain the working principle of PCR. 10
- (c) Explain the factors for the growth of microorganisms. 4
5. (a) Define sanitation. How sanitation is related with food hygiene ? 2
- (b) Discuss *any two* methods to determine microbial load in a specific food. 6
- (c) Write about the risk hazard characteristics. What are the risk categories based on the risk hazard characteristics ? 8
- (d) How common physical hazard can be prevented ? 4

6. (a) What is Integrated Pest Management ? Discuss the goals and merits of Integrated pest management. 6

(b) Explain the operation of high pressure, water pumps and portable high pressure, low volume cleaning equipment. 4+4

(c) What are light traps ? What are the different stages of light traps in a food processing plant should be installed ? 6

7. (a) What is NPMA ? What is the role of NPMA in food processing sites ? 4

(b) What do code of practise mean ? When was it approved ? What are the different parts of it ? 1+1+4

(c) What are "pheromone" ? How pheromone traps can be used in pest management ? Explain. 6

(d) Why is foam cleaning a proper and accepted methods of cleaning ? Explain. 4