53 (FPT 701) FHPS

2018

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)* Define food hygiene in accordance with the current use. State the main objective for the concept of hygiene. 2+1=3

   (b) What are the various factors of food hygiene? Explain the role of personal hygiene in maintaining hygienic condition of a food plant. 2+5=7

(c) What are the different sections of design and facilities in food plant? Explain the role of location in food hygiene. 2+3=5

(d) Justify the title of the subject. 5

2. (a) State the codex general principles of food hygiene. 4

(b) What are the major components in a food plant affected by establishment of GHP? 6

(c) What are the regulations used in food hygiene? State its significance. 2+4=6

(d) Define intoxication and infection. State the role of beneficial micro organisms. What type of microbes are mostly found in mouth? 1+2+1=4

3. (a) (i) What is the optimal relative humidity required for bacterial growth?

(ii) What is minimum amout of A_w required for the growth of spoilage bacteria?

(iii) What is temperature zone?

(iv) What is the period of accelerated death phase?

(v) What is the range of pH, molds can tolerate? 1×5=5

(b) Explain the effects of intrinsic factors in microbial growth. 5

(c) What are the *two* types of compounds involved in biofilm formation? Write about the different mechanisms in biofilm formation. 2+4=6

(d) Write the storage temperature for the following foods —

(i) Fresh meat

(ii) Poultry

(iii) Dairy products

(iv) Vegetables. 4

4. (a) How hazard can be characterized? Mention the risk categories based on ranking by hazard characteristics. 4

(b) How sampling and biofilm detection can be done in food processing sites. 4

(c) What is Integrated Pests Management? Explain the role of IPM and PMP in pests management. 6

(d) Explain *two* insect traping techniques used in pests management. 6

5. (a) Explain the *ten* principles of sanitary designs. 10

(b) What is synthetic detergents? Explain its different types. 1+3=4

(c) Explain how food safety objectives can manage microbial risks. 3

(d) Mention the cleaning characteristics of the following alkaline compounds: 1·5×2=3

(i) Sodium hydroxide

(ii) Sodium bicarbonate

6. (a) Define —

(i) emulsification

(ii) surfactant 1×2=2

(b) List out the cause removal and prevention of the following soil types in food processing industries —

(i) protein

(ii) fat

(iii) milkstone

(iv) mineral salts. 2×4=8

(c) Mention and explain the factors determining the effectiveness of a CIP system. 4

(d) Explain the COP system in brief. 6

7. (a) (i) In CIP systems, what is the minimum concentration of iodine?

(ii) What is the temperature for use of Quaternary Ammonia solution?

(iii) What is scouring compounds?

(iv) Which among the sanitizer is affected to hard water? (Chlorine/ Iodine/Quaternary Ammonia)

(v) What is the exposure time for Acid-anionic cleaners? 1×5=5

(b) Explain the mechanisms of cleaning. Mention the factors affecting cleaning performance. 5+3=8

(c) Explain the operation of high pressure water pumps and portable high pressure low volume cleaning equipment. 3·5×2=7
