Total number of printed pages:02

Programme(UG)/7th /UFET701

2023

FOOD HYGIENE AND PLANT SANITATION

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 Chain. ii. What is the mode of reproduction in bacteria? iii. Define FSO. iv. Performance objective is defined as ..... v. What is temperature danger zone? vi. *Clostridium botulinum* grows below pH 4.5. **True/False** vii. What is the optimum temperature for biofilm formation? viii. What is the temperature required for heat treatment in pest control? ix. Give an example for microbes causing foodborne intoxication x. Define food poisoning.	10
	b)	Define ALOP, performance objectives, performance criteria. How FSO can improvise food hygiene.	6
	c)	Write the codex general principles of food hygiene.	4
2.	a)	What are the two directives that both manufacturers and users of food processing equipment should be aware of? What are the different hygiene control measures in food processing?	5
	b)	Define food sanitation, sterilant, disinfectant, sanitiser, biocide	1*5
	c)	What are the two types of compound involved in biofilm formation? Write about the different mechanisms in biofilm formation. What are factors affecting biofilm formation.	10
3.	a)	Define personal hygiene and explain the sanitizing methods used in food plant	2+8
	b)	Explain the principle of sanitary design for equipment required in food plant.	10

4.	a)	State the definitions of food hygiene in current use. Explain the working principle and use of autoclave with a neat diagram. Mention its uses.	2+8
	b)	Mention any three alkaline cleaners with its composition.	4
	c)	Write short notes on any two cleaning Auxiliaries	6
5.	a)	What is NPMA? What is the role of PMP and NPMA in Food processing sites?	5
		Explain the different types of CIP system in brief. What are the advantages of CIP over COP.	10
	c)	Name three pest control products used in food processing plant and explain its mode of action in pests.	5
6.	a)	What is PCR? What are the compounds require in PCR reaction? Explain the mechanism?	10
	b)	How hazard can be characterised? Mention the risk categories based on ranking by hazard characteristics.	6
	c)	State the roles of sanitary design according to CFR.	4
7.	a)	In how many types cleaning compound can be classified? Name them and explain any two.	2+6
	b)	Explain the CIP theory.	4
	c)	Explain the operation of high-pressure water pumps and portable high pressure, low volume cleaning equipment.	8