Total number of printed pages: **Programme(UG)/7th /UFET701**

2022

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)	What is PCR? What are the compounds require in PCR reaction? Explain the mechanism?	10
	b)	Write the codex general principles of food hygiene.	4
	c)	**)** What are the different factors affecting the growth of microbes? Explain	6
2.	a)	**1.** i)Define food hygiene? ii) Define Food Chain. iii) *Clostridium botulinum* grow below pH 4.5. **True/False** iv) Disinfection is done for (microorganisms/toxins/inanimate objects) v) Which of the following types of microbes is smaller in size than bacteria. **Yeasts,Viruses, Molds, Parasites**	1*5
	b)	Write the critical temperature required for the storage of the following foods i) Fresh meat ii) Poultry iii) Fish, shellfish iv) Small goods v) Dairy products	1*5
	c)	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?	2+4
	d)	Define personal hygiene and explain the role of personal hygiene in food processing site.	4
3.	a)	What are the two types of compound involved in biofilm formation? Write	2+6

		about the different mechanisms in biofilm formation**.**	
	b)	. What are factors affecting biofilm formation.	4
	c)	How sampling and detection of biofilm formation can be done in food processing sites. Explain any two methods.	8
4.	a)	Explain the working principle of autoclave with a schematic diagram. Mention its use.	10
	b)	) Explain the principle of sanitation required for plant design.	10
5.	a)	What is NPMA? What is the role of PMP and NPMA in Food processing sites?	6
	b)	Explain any two Pest Control Products used in food handling with its place of occurrence and control measurements.	8
	c)	Name three pest control products used in food processing plant and explain its mode of action in pests.	6
6.	a)	Explain the CIP system in brief. What are the advantages of CIP over COP	10
	b)	How hazard can be characterised? Mention the risk categories based on ranking by hazard characteristics.	6
	c)	Briefly explain how common physical hazard can be prevented	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