Total number of printed pages: 02 **Programme (D)/VI/DFET 601**

2024

FOOD ENGINEERING OPERATIONS-II

Full Marks: 100

Time: Three hours

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

*Answer **any five** questions.*

1.	a)	What fundamental principle underlies microwave cooking for food, and how does it distinguish itself from conventional cooking techniques?	10
	b)	What do you mean by evaporation? With neat labelled diagram discuss single effect evaporator.	10
2.	a)	Describe the process of food extrusion, including the principles of operation and the key components of an extrusion system. List out 10 products made from extrusion	10
	b)	With neat labeled diagram discuss Magnetron and its role in microwave cooking.	10
3.	a)	Define Humidification. Discuss the mechanism of humidification.	10
	b)	Describe typical humidification equipment with neat labelled diagram	10
4.	a)	Describe briefly the principle of drying. List out 10 dryers' name (only name) which generally used for food preservation.	10
	b)	Define moisture content. Discuss different determination methods of moisture content determination.	3+7=10
5.	Differentiate the following (any four)		05X04 = 20
		i) Single screw extrusion and Twin Screw Extrusion system	
		ii) Distillation and Crystallization	
		iii) Falling film evaporator and Rising film evaporator	

		iv)	Dry bulb temperature and Wet Bulb Temperature	
		v)	Drying and Dehydration	
		vi)	Roasting and Baking	
6.	Write short notes on (any four)			05X04 = 20
		i)	Frying	
		ii)	Blanching	
		iii)	Degree of saturation	
		iv)	Relative Humidity	
		v)	Drying Curve	
		vi)	Dew Point Temperature	
		vii)	Freeze Dryer	
7.	a)	With neat labelled diagram discuss cabinet dryer and its application in food industry.		10
	b)	With neat labelled diagram discuss spray dryer.		10