

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2024
(First Semester)

Branch - FOOD TECHNOLOGY MANAGEMENT

FOOD ENGINEERING

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 × 1 = 10)

Question No.	Question	K Level	CO
1	Which of the following represents newton's equation for viscosity? a) $\tau = \mu(dv/dt)$ b) $\mu = \tau(dv/dt)$ c) $\tau = dv/dt$ d) $\tau = \mu^2(dv/dt)$	K1	CO1
2	Which of the following represents Newtonian fluids? a) Lubricating oils b) Honey c) Rubber suspension d) Synthetic oils	K2	CO1
3	Which of the following is a thermodynamics law? a) Zeroth law of thermodynamics b) Faraday's Law of thermodynamics c) Ideal Gas Law of thermodynamics d) Boyle's Law of thermodynamics	K1	CO2
4	Which of the following is an application of thermodynamics? a) Refrigerators b) Gas compressors c) Power plants d) All of the mentioned	K2	CO2
5	Which of the following is not a classification based on Construction of the heat Exchanger? a) Tubular b) Plate Type c) Multipass d) Regenerative	K1	CO3
6	Which of the following is not an Indirect Contact type heat exchanger? a) Shell and Tube b) Feedwater Heater c) Spray and Tray type d) Plate Type	K2	CO3
7	Which of the following is an advantage of size reduction? a) Enhanced heat/mass transfer b) Intimate contact with certain food items c) Enhanced heat/mass transfer & intimate contact with certain food items d) None of the mentioned	K1	CO4
8	Which of the following is NOT a method used for size reduction? a) Cutting b) Impact c) Burning d) Shear	K2	CO4
9	What are the size reduction laws? a) Rittinger's Law b) Kick's Law c) Bond's Law d) Bond's Law, Rittinger's Law, and Kick's Law	K1	CO5
10	What is the mechanism of nut cracker? a) Impact b) Compression c) Shear d) Tear	K2	CO5

Cont...

SECTION - B (35 Marks)Answer **ALL** questions**ALL** questions carry **EQUAL** Marks

(5 × 7 = 35)

Question No.	Question	K Level	CO
11.a.	Illustrate the applications of Dielectric properties.	K2	CO1
(OR)			
11.b.	Infer the applications of Rheological properties.		
12.a.	Identify the role of Psychrometric properties in drying process.	K3	CO2
(OR)			
12.b.	Identify the uses of steam tables and Mollier diagram.		
13.a.	Apply the role of Heisler charts in food applications.	K3	CO3
(OR)			
13.b.	Identify the role of Molecular diffusion in biological solutions.		
14.a.	Inspect the different stages of crystallization process.	K4	CO4
(OR)			
14.b.	Function of different types of agitators and its usage in food industry.		
15.a.	Examine the role of Pulsed electric field (PEF) in food applications.	K4	CO5
(OR)			
15.b.	Examine the role of microwave applications in foods.		

SECTION - C (30 Marks)Answer **ANY THREE** questions**ALL** questions carry **EQUAL** Marks

(3 × 10 = 30)

Question No.	Question	K Level	CO
16	Bring out the Application of engineering properties in food industry.	K4	CO1
17	Describe briefly about the Different types of steam boilers.	K4	CO2
18	Explain the importance of Mass and energy balances in food industry.	K5	CO3
19	Assess the role of Mixing and its types.	K5	CO4
20	Elaborate briefly about the Super critical fluid extraction.	K6	CO5

Z-Z-Z END