GURU NANAK INSTITUTE OF TECHNOLOGY
An Autonomous Institute under MAKAUT
2022
PROJECT ENGINEERING & PLANT LAYOUT
FT801B

TIME ALLOTTED: 3 HOURS **FULL MARKS: 70**

The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable

GROUP – A
(Multiple Choice Type Questions)

Answer any ***ten*** from the following, choosing the correct alternative of each question: **10×1=10**

			Marks	CO No
1.	(i)	Which of the following application is a belt conveyor used for? a) Material transportation over long distances b) Material transportation within premises c) Material transportation for processing d) All of the mentioned	1	CO1
	(ii)	Slat belts are made up of_____ a) Wood b) Plastic c) Metal d) Any of the mentioned	1	CO2
	(iii)	Which of the following does NOT include the application of material handling and transportation in food processing? a) Fruits and vegetables processing b) Cereals and pulses processing c) Spices and condiments processing d) All of the mentioned	1	CO2
	(iv)	The advantage of locating a plant in urban (city) side is _____ a) Availability of land. b) Disposal of waste is easy. c) Cost of operation is low. d) Large markets for finished products	1	CO1
	(v)	A stuffing box is used for a) Absorbing the contraction/expansion of pipeline due to temperature changes. b) Prevention of fluid leakage around moving parts. c) Facilitating smooth opening and closing of a valve. d) Reducing the resistance of fluid flow	1	CO2
	(vi)	What is the main purpose of hazard identification? a) To minimise the effect of a consequence b) b) For better risk management c) To characterize adverse effect of toxins d) To reduce probability of occurrence	1	CO3

(vii)	Why does site history have to be considered for hazard identification? a) To estimate the risk b) To calculate carcinogenic exposure c) To know the probable source and causes of contamination on site d) For determination of remedial actions	1	CO3
(viii)	What is the main objective of risk assessment? a) To evaluate hazard and minimize the risks b) Remediation of contaminated sites c) Hazard management d) To know source of pollutants	1	CO3
(ix)	Which of the following data is not required for hazard identification? a) Land use b) Contaminant levels c) Affected population d) Estimation of risk	1	CO4
(x)	What does HACCP stand for? a) High Altitude Computer Control Protocol b) High Aptitude Critical Consideration and Punctuality c) Help Animals in Confined Conditions and Preserves d) Hazard Analysis and Critical Control Points	1	CO4
(xi)	According to HACCP, what is a receiving station? a) Where supplies are received b) Where trucks receive milk c) Anywhere raw milk is received, handled, stored, etc d) Where cows enter to be milked	1	CO4
(xii)	Why does site history have to be considered for hazard identification? a) To estimate the risk b) To calculate carcinogenic exposure c) To know the probable source and causes of contamination on site d) For determination of remedial actions	1	CO3

GROUP – B
(Short Answer Type Questions)

Answer any ***three*** from the following: **3×5=15**

		Marks	CO No
2.	What are the Primary objectives of a facility layout?	5	CO1
3.	What are the functions of FASSAI in a bakery industry?	5	CO2
4.	Point out Key Differences Between PERT and CPM	5	CO3
5.	What are the scale-up challenges for food industries?	5	CO4
6.	How would you develop a HACCP plan?	5	CO4

GROUP – C
(Long Answer Type Questions)

Answer any ***three*** from the following: **3×15=45**

			Marks	CO No
7.	(a)	Draw a layout with reference to cheese processing plant and indicate all the key areas of consideration for the layout	10	CO2
	(b)	What are the factors involved in the plant location decision making?	5	CO1

8.	(a)	What are the principles for HACCP? Briefly Discuss each principles	10	CO4
	(b)	What are the objectives of material handling?	5	CO2
9.	(a)	Discuss the objective of material handling planning	5	CO1
	(b)	What are limitations of automated material handling system?	5	CO2
	(c)	What are the safety considerations during equipment layout	5	CO1
10.	(a)	Briefly discuss Optimum economic design with appropriate diagram	10	CO4
	(b)	What are the objectives and design parameters of ventilation in the food plant design?	5	CO1
11.		Write short notes on any three of the followings:	3x5=15	
	(a)	Feasibility Survey	5	CO4
	(b)	ISO 9001 & ISO 22000	5	CO3
	(c)	Critical Path Method (CPM) and its application	5	CO2
	(d)	Design consideration for location of food plants	5	CO1