GURU NANAK INSTITUTE OF TECHNOLOGY
An Autonomous Institute under MAKAUT
2021
PROJECT ENGINEERING & FOOD PLANT LAYOUT
FT801

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)	What is the main purpose of hazard identification? a) To minimise the effect of a consequence b) For better risk management c) To characterize adverse effect of toxins d) To reduce probability of occurrence	1	CO1
	ii)	Which of the below process determines whether exposure to a chemical can increase the incidence of adverse health effect. a. Hazard identification b. Exposure assessment c. Toxicity assessment d. Risk characterization	1	CO2
	iii)	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	CO4
	iv)	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	CO2
	v)	What is the first stage of risk assessment? a. Exposure assessment b. Hazard identification c. Toxicity study d. Risk characterization	1	CO1

vi)	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
vii)	An incident can be called hazardous only when? a. Stressor has the potential to cause harm to humans and ecological systems b. Poses threat to surrounding c. Monitoring is failed d. Outburst of chemicals	1	CO4
viii)	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	CO5
ix)	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
x)	How often will HACCP inspect each Dairy Farm? a. A minimum of every 6 months b. A minimum of once each year c. A minimum of once each month d. A minimum of every 2 years	1	CO3
xi)	In what year Federal milk-marketing orders reformed. a. 1995 b. 2000 c. 2002 d. 2004	1	CO2
xii)	Alisha noticed that fruits after ripening lived shorter than fresh vegetables. Which of the sentences pertaining to the above observation are correct? a. Her observation was wrong b. Fruits have old cells as they were not meant to be survived by nature c. They can heal wounds d. They can live longer	1	CO4

GROUP – B
(Short Answer Type Questions)

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

		Marks	CO No
2.	How the concept of project engineering is evolved	5	CO3

		from the basics of design engineering and cost engineering?		
3.		With a neat diagram, show that in a process of flowing fluid through a cylindrical pipe, one particular pipe diameter gives the least total cost.	5	CO4
4.		What is the concept to establish the bases for design?	5	CO2
5.	a)	What do you mean by equipment layout design?	2	CO1
	b)	Why it is important in project planning and development?	3	CO3
6.	a)	Briefly discuss the principles of HACCP.	5	CO3

GROUP – C
(Long Answer Type Questions)
Answer any ***three*** from the following: **3×15=45**

			Marks	**CO No**
7.		With reference to a food industry, discuss the series of steps involved for completion of plant design of a project.	15	CO4
8.		With increasing energy costs in industrial food processes it is essential to identify inefficiencies and minimize it . The overall objective is to reduce energy consumption without compromising production rate and quality. In this context, suggest your scientific proposition based on the technical and economical factors to be considered for a proposed project.	15	CO5
9.	a)	What is the importance of the material and energy balances for determining the specifications of equipment?	10	CO4
	b)	What are the parameters to be considered for finding the optimum design values of equipment?	5	CO3
10.	a)	Discuss the various types of layout with their central aims and objectives.	10	CO2
	b)	What are the types of ventilation system in the food industry?	5	CO3
11.	a)	Draw a schematic lay out plan of a fish processing plant.	10	CO5
	b)	Mention the food safety guidelines for setting up this type of fish processing unit.	5	CO3