

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI (NEW) - EXAMINATION – SUMMER 2018****Subject Code:2162509****Date:03/05/2018****Subject Name:Plant Maintenance and Safety Engg.****Time:10:30 AM to 01:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
Q.1	(a) Write a brief note on Principle of use of cubic space for material handling.	03
	(b) Taking an example of a super market, discuss importance of facility layout planning.	04
	(c) Discuss importance of locational factor in success of an industrial product. Discuss giving example of growth of ceramic industries near Morbi.	07
Q.2	(a) Briefly discuss objectives of layout planning.	03
	(b) Discuss product type layout with an industrial example.	04
	(c) Discuss reasoning of skilled labour availability for setting up a facility location. Take suitable example of an industrial sector wherein this reason is considered most important. Explain how it affects long-term success of the organization.	07
OR		
	(c) Classify layout types. Describe process type layout design, its characteristics and typical products produced/organizations that use process type layout.	07
Q.3	(a) Classify material handling systems with respect to the flow direction and type of product.	03
	(b) Discuss principle of gravity. Take an example of material handling for product handling wherein principle of use of gravity is used.	04
	(c) Consider yourself as a plant manager of a city mall, and analyze material handling problem as a whole for setting up a new material handling system.	07
OR		
Q.3	(a) Discuss flow pattern for an assembly line. Take an example of a paint shop.	03
	(b) List quantitative models for facility location. Discuss the steps for modeling a location decision for Single facility minimax location problem.	04
	(c) Discuss the need for computerization of layout planning. Discuss ALDEP, Take a suitable example and describe development of layout using ALDEP.	07
Q.4	(a) Write a brief note on optimum allocation of Material Handling equipment.	03
	(b) Discuss role of maintenance management as applied to foundry industries.	04

- (c) Discuss total productive maintenance as applied in a ship-breaking industry. **07**
- OR**
- Q.4** (a) Define an accident, and classify. Discuss accident causation. **03**
- (b) Discuss preventive maintenance and its role, as applied at a manufacturing shop. **04**
- (c) Discuss organization of maintenance function. Take an example of maintenance function carried out at investment casting industry. **07**
- Q.5** (a) How does factories' act look after welfare of workers and other employees of an industrial organization. Describe. **03**
- (b) Discuss predictive maintenance and measures to prevent an accident. Take an example of chemical industry. **04**
- (c) Discuss facility layout planning in light of optimum utilization of the plant facility. Take an example of a furniture show room and manufacturing facility. **07**
- OR**
- Q.5** (a) Discuss importance and necessity of labor regulations. **03**
- (b) Write a brief note on Collective bargaining **04**
- (c) What do you understand by closeness rankings, as applied to ALDEP? Discuss how the rankings are calculated. **07**
