

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VIII(NEW) EXAMINATION – SUMMER 2019****Subject Code:2182504****Date:20/05/2019****Subject Name:Facilities Planning****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
<b>Q.1</b>	(a) Define following terms: 1. Facility 2. Wage 3. Unit load	<b>03</b>
	(b) How work in process can be reduced?	<b>04</b>
	(c) Discuss economic and technical reasoning of plant location for ship breaking industry around Bhavnagar. Explain how it affects long-term success of the organization.	<b>07</b>
<b>Q.2</b>	(a) State the symptoms of bad plant layout.	<b>03</b>
	(b) How a facility plan is selected, prepared, presented and evaluated?	<b>04</b>
	(c) Which are the different computerized layout planning packages? Assume a simple initial layout and a load-matrix for the flow and develop an improvement-type CRAFT layout for a simple automobile workshop.	<b>07</b>
	<b>OR</b>	
	(c) Write down the steps for layout design using ALDEP.	<b>07</b>
<b>Q.3</b>	(a) Distinguish between risk and uncertainty.	<b>03</b>
	(b) Which kind of layout is most suitable for ship breaking industry? Why?	<b>04</b>
	(c) Explain Just-in-time manufacturing in context of marine industry.	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) State direct and indirect costs of accident.	<b>03</b>
	(b) Write a short note on Indian Factory Act, 1948.	<b>04</b>
	(c) Compare Fixed Automation System with Flexible Automation System.	<b>07</b>
<b>Q.4</b>	(a) Write a short note on Industrial Dispute Act, 1947.	<b>03</b>
	(b) Define depreciation. Classify various methods of depreciation and explain any one.	<b>04</b>
	(c) A bank gives a loan to a company to purchase an equipment worth Rs. 10,00,000 at an interest rate of 18% compounded annually. This amount should be repaid in 15 yearly equal installments. Find the installment amount that the company has to pay to the bank. Also draw a cash flow diagram.	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) How a facility plan is implemented?	<b>03</b>
	(b) Define 'economic life' of equipment. Distinguish between breakdown maintenance and preventive maintenance.	<b>04</b>
	(c) A company wants to setup a reserve which will help the company to have an annual equivalent amount of Rs. 10,00,000 for the next 20 years towards its employees welfare measures. The reserve is assumed to grow at the rate of 15% annually. Find the single-payment that must be made now as the reserve amount. Also draw a cash flow diagram.	<b>07</b>

- Q.5** (a) What are the causes and sources of accidents? **03**  
(b) Define material handling. State the functions of material handling. **04**  
(c) Classify various material handling devices. Explain working principle of Hoists and industrial railways with neat sketch. **07**
- OR**
- Q.5** (a) Discuss reasons for replacement. **03**  
(b) What are conveyors? State their uses. **04**  
(c) Explain Material handling in process layout and product layout. **07**

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