GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–VI (NEW) - EXAMINATION – SUMMER 2018

Subject Code:2161907   **Date:05/05/2018**

Subject Name: Industrial Engineering

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)**	State the objectives of a good plant layout.	**03**
	(b)	State the objectives of PPC.	**04**
	(c)	State the types of plant layouts. Explain two types of plant layouts with their advantages and limitations.	**07**
Q.2	**(a)**	State the steps of PPC.	**03**
	(b)	Compare the production systems based on their characteristics.	**04**
	(c)	Name two measures for the goodness of a line balancing solution. You are given a line balancing problem with the following data (A, -, 6), (B, A, 3), (C, A, 4), (D, B and C, 8), (E, D, 10), (F, D, 4), (G, E and F, 8), Find a solution with minimum number of work stations for T ≤ 12. Find the line efficiency and smoothness index.	**07**

OR

	(c)	Explain the terms Loading, scheduling, dispatching, and expediting.	**07**
Q.3	**(a)**	Define productivity. State the tools for improving productivity.	**03**
	(b)	Define method study. Explain the steps in method study.	**04**
	(c)	State the difference between a chart and a diagram? Explain the various process chart symbols used in making an FPC. Explain the use of combined activities symbol.	**07**

OR

Q.3	**(a)**	Define work study. State the areas of application of work study in an industry.	**03**
	(b)	Explain the factors tending to reduce productivity.	**04**
	(c)	Prepare an OPC for the component shown in Fig. 1.	**07**
Q.4	**(a)**	Explain TQM.	**03**
	(b)	Define defect and defective. Explain assignable and chance causes of product variability.	**04**
	(c)	Explain ideal OC curve. Why does it defer from the actual OC curve? Explain 'consumer's risk' and 'producer's risk'.	**07**

OR

Q.4	**(a)**	Explain the purpose of a Quality Circle.	**03**
	(b)	Explain the requirements of ISO 9000 certification.	**04**
	(c)	Define acceptance sampling. Explain double sampling plan. When do you apply double sampling in place of single sampling?	**07**
Q.5	**(a)**	Explain the importance and necessity of labour laws.	**03**
	(b)	Define merit rating and state its objectives.	**04**
	(c)	Explain the sources of industrial finance.	**07**

OR

Q.5 **(a)** Explain the workmen's compensation Act 1923 (with latest amendments) **03**

(b) Define job evaluation and state its objectives. **04**

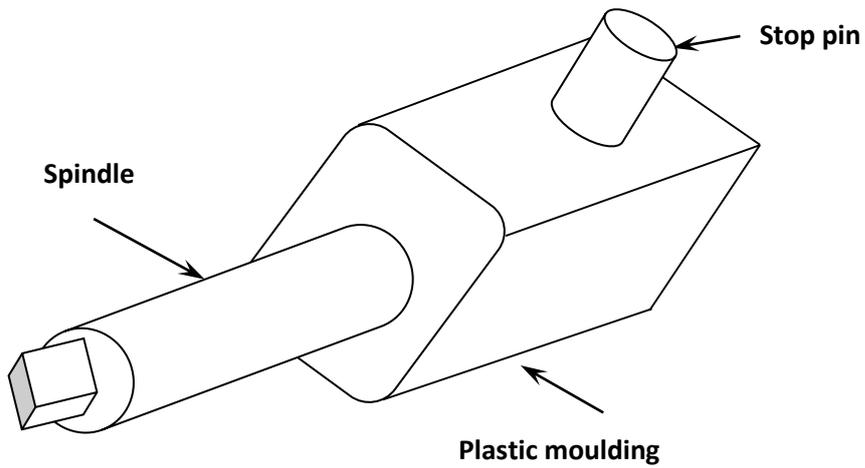**(c)** Explain "process capability". Explain the characteristics of a normal distribution curve. **07**

Fig.1

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