

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**MBA – SEMESTER 3 – EXAMINATION – SUMMER 2019**

**Subject Code: 3539292**

**Date: 06/05/2019**

**Subject Name: Designing Operations System (DOS)**

**Time: 2:30 PM to 5:30 PM**

**Total Marks: 70**

**Instructions:**

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

<b>Q. No.</b>		<b>Marks</b>
<b>Q.1</b>	Explain following terms. (a) Time study (b) Work sampling (c) Cellular layout (d) Batch processing (e) Service blueprint (f) Ergonomics (g) Jobbing	<b>14</b>
<b>Q.2</b>	(a) Explain types of manufacturing Process. Also state How does intermittent manufacturing differ from continuous manufacturing? (b) Explain various behavioral considerations to be taken care while designing the Job.	<b>07</b> <b>07</b>
<b>OR</b>		
	(b) “Operations system is a transformation process”. Comment on this.	<b>07</b>
<b>Q.3</b>	(a) Explain factors involved in designing the product. (b) State the characteristics of service operations and also Explain factors involved in delivering the services.	<b>07</b> <b>07</b>
<b>OR</b>		
<b>Q.3</b>	(a) What is service delivery system? Explain phases of service delivery system. (b) Explain various types of project layout used in manufacturing plant.	<b>07</b> <b>07</b>
<b>Q.4</b>	(a) Write a note on production line approach of service design process. (b) What is work sampling? How does it work ?	<b>07</b> <b>07</b>
<b>OR</b>		
<b>Q.4</b>	(a) Write a note on self service approach of service design process. (b) What is work measurement? Explain systems of work measurement.	<b>07</b> <b>07</b>

- Q.5** History records that the electronic pocket calculator had a product ancestor known as the mechanical desk calculator, first hand powered and later electronically powered. It was a mechanical marvel, prized by those whose jobs required accurate computations and by organizations that needed both accuracy and relatively high productivity in computations not justified for programming on computers.

Calculatron, Inc was a major manufacturer of desk calculators and had enjoyed long term profitability. It had a loyal work force of some semiskilled and some highly skilled employees. Although product improvements had continued over the years, the basic design of Calculatron's product line had been stable for 15 years, and product design changes were carefully implemented to take account of the existing production lines. The market for desk calculators had been an expanding one, and with the advantage of a relatively stable product design, Calculatron had been able to specialize production methods, making continuous improvements in productivity through investments in labor saving equipment. The productivity increases had helped secure the firm's market position through competitive pricing and had produced profitability and security for both the enterprise and its employees. Employees enjoyed high wages and salaries and excellent pension and other benefits.

Enter electronic minicircuitry, with microcircuitry and "chip" on the horizon. The first electronic desk calculator had just been announced by a competitor. Calculatron was not far behind. It had employed staff of electronic engineers two years ago and had assigned task of producing a revolutionary redesign of product line. The prototype had already been tested, developing preliminary designs of the productive system required to produce the new electronic product line.

The production engineers are ready to develop final designs of the productive system for the new electronic calculator line. A meeting of the executive committee has been called to examine preliminary plans for production in relation to short and longer term market forecasts and predictions.

- (a) What kinds of guidelines for the productive system design should the executive committee establish for the production engineers? **07**
- (b) What plans should Calculatron make for the introduction of the new product line? **07**

**OR**

- Q.5**
- (a) What Challenges would be faced by Calculatron in designing the new product line? **07**
  - (b) What kind of longer term plans should Calculatron make for future product and process innovation in the calculator field? **07**

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