

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**MBA (PART TIME) SEMESTER III EXAMINATION – WINTER 2019**

**Subject Code: 4539902****Date: 27/12/2019****Subject Name: Production and Operations Management****Time: 10.30 AM TO 01.30 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>Question Text and Description</b>	<b>Marks</b>
<b>Q.1</b>	Answer the following questions.	<b>14</b>
	(a) Define , What is Capacity Planning in POM ?	
	(b) Define Just in Time with respect to inventory management	
	(c) Differentiate between PERT Vs. CPM	
	(d) What is Outsourcing? state 3 advantages of it.	
	(e) Define Concurrent Engineering	
	(f) State 7 Qc tools	
	(g) Define Aggregate Production Planning	
<b>Q.2</b>	(a) Write a tabular differentiation note on philosophy of Quality Gurus Deming's views and Crosby's views.	<b>07</b>
	(b) Write a note on primary and secondary factors affecting on decision of Plant and site location for a business to setup manufacturing plant.	<b>07</b>
<b>OR</b>		
	(b) How Gantt Chart can be useful in Project Management? Explain its need with diagram and suitable example.	<b>07</b>
<b>Q.3</b>	(a) Write a note on various process design with suitable examples and merits and demerits of each.	<b>07</b>
	(b) At a small branch of Dominoes Pizza, they have kept two counters one for cash deposit and token collection and other one for pizza delivery . They have been observing long queues in the evening hours at both the counters and create dissatisfied customers. They have appointed you as consultant, what all parameters you will record to help them in better customer services and which concepts you have learnt of operation research mathematics, will help you to find solution and improved customer relationship?	<b>07</b>
<b>OR</b>		
<b>Q.3</b>	(a) Write a note on various ISO Standards pertaining to quality, safety and environment.	<b>07</b>
	(b) M/s Bhavin Machine tools is a manufacture of Ball Bobbin Holder used in textile industry . They have consistent quality problems. Guide them How $\bar{X}$ bar (from R chart) and R control charts can help them in solving their problem of inconsistency in quality ?.	<b>07</b>

**Q.4**

**CASE STUDY:**

For a given Project data is as follows, Answer the questions given below using This data.

<b>Activity</b>	<b>Required Predecessor(s)</b>	<b>Activity Time (In Days)</b>		
<b>A</b>	<b>-</b>	<b>6</b>		
<b>B</b>	<b>-</b>	<b>10</b>		
<b>C</b>	<b>-</b>	<b>14</b>		
<b>D</b>	<b>C</b>	<b>6</b>		
<b>E</b>	<b>A,B</b>	<b>14</b>		
<b>F</b>	<b>E,D</b>	<b>6</b>		
<b>G</b>	<b>D</b>	<b>4</b>		
<b>H</b>	<b>F,G</b>	<b>4</b>		

(a) Draw a network diagram with the reference to above activities and identify critical path. **07**

(b) Calculate Early Start and Early Finish points for the above network. **07**

**OR**

**Q.4** (a) Calculate Late Start and Late Finish points for the above network in Q.4 and also calculate float on each activity. **07**

(b) How float / slack calculations help in project evaluation ? Also define ,optimistic time , pessimistic time , most likely time and expected time in project management. **07**

**CASE STUDY: M/s Alchemist Pvt. Ltd.**

Ms. Poonam Sharma is a bright individual who was being groomed for the Chief Engineer's position in a medium-sized manufacturing firm M/s Alchemist Pvt. Ltd. With their growth and expansion in business M/s Alchemist had appointed, consulting firm M/s F&S Pvt Ltd. as their Business Strategy and Financial and Developer consultant. After her first year as Executive Engineer, for Ms Poonam, the top management of company were starting to include her in major company functions. For instance, today she was attending the monthly financial statement summary given at a prestigious consulting firm M/s F&S Pvt Ltd. During the meeting, She was intrigued at how all the financial data she had been accumulating was transformed by the consultant into revealing charts and graphs.

Ms. Poonam was generally optimistic about the session and the company's future until the consultant started talking about the new manufacturing plant the company was adding to the current location and the costs per unit of the chemically plated products it produced. At that time, Mr. Rakesh Naik (the President) and Nitin (the chemical engineer) started talking about waste treatment and disposal problems. Mr. Nitin mentioned that the current waste facilities were not adequate to handle the waste products that would be created by the "ultramodern" new plant as the present plant is being also served the notice by various controlling body which monitor pollution controls. Mr. Rakesh mentioned that the company could not grab certain large orders as plant does not have any accreditation on environmental standards. Besides, He also mentioned that, quality of the product has been not up to the consistent standards. Ms Poonam's immediate superior and head of operations Mr. Taufiq, informed that, the need of an hour is for implementation of certain professional production and operations management concepts for the improvement of quality, productivity and to control the pollution generated by the organization. They also viewed that the estimated cost per unit would be increased if the waste treatment facilities were upgraded according to recently specified standards. Mr. Rajesh however mentioned that since their closest competitors and other industry players did not have the waste treatment facilities at all, which their plant has - already has at their firm, any more investments further in that directions will lead to increase in price and it is not favorable, therefore he was not in favor of any more expenditures in any of these areas like new production concepts implementation or any accreditation or certification or auditing cost in this area. Most managers at this meeting resoundingly agreed with, and business continued on to another topic.

It was an unpleasant support for Ms Poonam who was environment engineer and Management graduate too, and aggressively in favor of change and who wanted higher operational efficiency through professionalism and also wanted to be concerned for environment with proper accreditation and certification.

Ms Poonam, however was given a chance to work and prepare a suggestions & plan for betterment of the plant what she had in mind keeping cost in mind.

- (a) Help Ms. Poonam in drawing up the plan what concepts she will have to implement to improve the productivity and efficiency of the plant as well as suggest her the ways to improve quality. **07**
- (b) How company can earn better control on environmental standards and what type of auditing or accreditation company will have to go for the preliminary level as well as advance levels? **07**

**OR**

**OR**

- (a) Critically evaluate the views of Mr. Rajesh's who thinks of not to add any cost in upgrading environment standards as it may add to production cost and contradictory views of Ms Poonam. **07**
- (b) Help Ms Poonam in Preparing a "Mission" the organization which she thinks is the best approach to convey her views considering all stakeholders interest and keeping environmental concerns in mind. **07**

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