

Seat No.: _____

En no. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
MBA – SEMESTER 2 – EXAMINATION – WINTER 2018

Subject code: 2820006

Date:01/01/2019

Subject Name: PRODUCTION AND OPERATION MANAGEMENT (POM)

Time: 02:30 pm to 05:30 pm

Total Marks: 70

Instructions:

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

Q.1 {a} Objective Questions. (All questions carry 1 mark each)

06

- 1 Productivity is increasing, but both output and input decrease with input decreasing at a faster rate
 - A} Kaizen
 - B} Competitiveness
 - C} Just in Time
 - D} Retrenching
- 2 Translates corporate strategy into measurable objectives
 - A} Hoshins
 - B} Retrenching
 - C} Policy deployment
 - D} Balanced scorecard
- 3 Constant amount ordered when inventory declined to predetermined level
 - A} Continuous system
 - B} Independent demand
 - C} Dependent demand
 - D} Periodic system
- 4 Order placed for variable amount after fix passage of time
 - A} Continuous system
 - B} Independent demand
 - C} Dependent demand
 - D} Periodic system
- 5 Production Planning includes
 - A} Dispatching
 - B} Inspection
 - C} Routing
 - D} Follow up
- 6 Production Control includes
 - A} Loading
 - B} Dispatching
 - C} Routing
 - D} Scheduling

Q.1 {b} Explain the following terms.

04

- 1 Bullwhip effect
- 2 Push system & Pull system
- 3 Dependent & independent Demand
- 4 chase plan & level output plan

Q. 1 {c} List down dimensions for Quality of Services & manufactured products.

04

Q.2 **{a}** Differentiate between Order qualifier & Order winner. And briefly explain on what basis firm can position itself in the market?

07

Q.2 {b} Define aggregate production planning. Discuss various strategies of aggregate production planning.

07

OR

- List out 14 principles of Deming and Deming Wheel in Detail.
- Q.2** {b} 07
- Q.3** {a} 07 What is transformation process? Give detail explanation of transformation process with example.
- Q.3** {b} 07 What do you mean by job sequencing? explain any 5 methods of job sequencing with example.

OR

- Q.3** {a} 07 Identify and explain various cost associated with inventory management.
- Q.3** {b} 07 Briefly explain the seven elements to achieve waste elimination in JIT
- Q.4** {a} 07 Explain Theory of constraints (Drum-Buffer-Rope) with an example.
- Q.4** {b} 07 What are the ISO 9000 & 14000 Principles?

OR

- Q.4** {a} 07 Explain concept of six-sigma. Describe the steps of six sigma breakthrough strategy for quality improvement.
- Q.4** {b} 07 Identify the best location from the following information. Find out the Coordinate of new warehouse.

Plant	P	Q	R	S	T
coordinate (x,y)	(20,10)	(10,5)	(15,10)	(15,20)	(5,20)
No. Per Trip	50	150	100	300	200

- Q.5** 14 A project contains the following major activities, along with their time estimates for completion:

Activity	Precedence	Time Estimates (Months)		
		a	m	b
A	-	1	4	7
B	A	2	6	7
C	A,D	3	4	6
D	A	6	12	14
E	D	3	6	12
F	B,C	6	8	16
G	E,F	1	5	6

- Calculate the expected time and variance for each activity
- Draw the network diagram
- Calculate the early start, early finish times and late start, late finish times
- Show the critical path
- What is the probability that the project can start running in 34 weeks?

OR

- Q.5** {a} 07 List out safety measures to be ensured as per the law of industrial safety
- {b} 07 A Company package chips in bags. The net weight of the chips in each bag is designed to be 200 grams, with tolerance of ± 3 . The packaging process results in bags with an average net weight of 201 grams and standard deviation of 0.9 grams. Find out the process capability ratio and process capability index.