

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
MBA – SEMESTER – II - EXAMINATION – SUMMER 2022

Subject Code: 1529605

Date: 02/08/2022

Subject Name: Production & 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.**

Q. No.	Question Text and Description	Marks
Q.1	Definitions / terms / explanations / short questions based on concepts of theory/practical (a) Line balancing (b) Critical Path Method (c) Total Quality Management (d) ISO 9000 (e) Material Requirement Planning (f) Master Production Schedule (g) Rough-cut capacity planning	14
Q.2	(a) Explain in brief different types of processes	07
	(b) “Production Management simply refers to conversion of inputs into outputs. In light of this statement, Explain scope of production and operations management	07
OR		
	(b) As a project manager of a large petro-chemicals refinery, how will you select the appropriate location of the plant? Discuss the various factors affecting your decision.	07
Q.3	(a) What are the purposes of doing aggregate planning?	07
	(b) “Plant layout is the overall arrangement of the production process, store-room, stock-room, tool-room, material handling equipment, aisles, racks and sub-stores, employee services and all other accessories required for facilitation of the production in the factory”. In the light of this statement, Explain different types of layout	07

OR

- Q.3** (a) Explain the objectives of scheduling **07**
 (b) An auto industry purchases spark plugs at the rate of Rs. 35 per piece. The annual consumption of spark plug units is 20,000 nos. The ordering cost is Rs. 350 per order and the carrying cost is 30%. Bank rate of interest is 5% and obsolescence cost is Rs. 35000. Find: **07**

1. EOQ and time between orders assuming 360 working days in a year.
2. If supplier offers a discount of 5% for the order quantity of 2,000 nos. per order, should the discount offers be accepted?

- Q.4** (a) Bring out the difference between PERT and CPM **07**
 (b) “Just-in-time is an approach that seeks to eliminate all sources of waste in production activities by providing the right part at the right place at the right time”. In light of this statement, Explain 7 wastes in production that should be eliminated? **07**

OR

- Q.4** (a) What is Six – Sigma? Write steps for implementing six – sigma **07**
 (b) Draw a network diagram for the activities given below, determine the critical path and calculate the project duration time **07**

Activity	Duration (months)	Immediate predecessor activity
A	12	-
B	8	A
C	4	A
D	3	A
E	12	B
F	18	C
G	5	C
H	4	E, F
I	9	D, G
J	6	H, I

Q.5

A leading car manufacturing company decided to have their new manufacturing plant at West Bengal state of India with an intention of manufacturing the lowest cost car, making it affordable for everyone. Project execution team of the company started setting up manufacturing facilities on war footing basis and almost after 50% work was done and 60% time was consumed, due to the political and legal environment of the business, Car company had to stop the execution of the project.

After loosing few more weeks as a part of conflict resolution mechanism, both the government officials and company authorities came to the conclusion that project will not be able to take shape at this state and will not get executed further on that land.

After loosing sizable time and resources, company decided to shift the manufacturing facility to another state (Gujarat). After doing so, the major challenge company's board of director were facing that of, having production started on planned date as it was earlier and to do so, how to expedite project of setting up manufacturing process.

The other major challenge was, as sizable resources (capital mainly) were lost in the process, Producing the car at the lowest cost was another major challenge they were facing. Third and important challenge for the company officials was to maintain the consistency in quality – in spite of expediting manufacturing plant execution process and dropping the cost at every stage.

Keeping the three challenges in the mind answer the following questions.

- (a) How project management concept will help in addressing the problem of execution of the plant in a very short span of time? **07**
- (b) How inventory management tools will help in dropping the cost? **07**

OR

- Q.5**
- (a) Which quality tools the company will have to employ to have required quality product at lower cost? **07**
 - (b) As a manager, what suggestions will you give to company to overcome challenges it is facing? **07**
