QP Code: R252D007 | Reg. No | | | | | | | | | | | AR23/24

GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY UNIVERSITY, ODISHA, GUNUPUR

(GIET UNIVERSITY)

M.B.A. (Second Semester) Regular/Supplementary Examinations, May – 2025

23MBAPC12007 – Operation Management

Time: 3 hrs | Maximum: 60 Marks

(The figures in the right hand margin indicate marks.)

PART – A **(2 x 5 = 10 Marks)**

Q.1. Answer ***ALL*** questions

		CO #	Blooms Level
a.	Explain Project Management.	CO1	K1
b.	Illustrate the term Just in Time.	CO2	K2
c.	With suitable example define the term Quality.	CO2	K2
d.	Describe Weighted Factor Rating Method.	CO3	K2
e.	Describe Factors Affecting Plant Location.	CO4	K2

PART – B **(10 x 5 = 50 Marks)**

Answer ***all the*** questions

		Marks	CO #	Blooms Level
2. a.	A company generates an output valued at ₹500,000 through the use of various resources. The input costs include ₹100,000 for labour, ₹150,000 for materials, ₹200,000 for capital, and ₹50,000 for energy. The production process utilizes 500 labour hours and results in 2,000 finished units. Using this data, compute the Total Productivity of the company and determine the Labour Productivity measured as units produced per labour hour.	10	CO1	K2
	OR			
b.	Compare and contrast the Factor Rating Method, Cost-Volume Method, and Centre of Gravity Method. Provide appropriate examples to illustrate their application in decision-making.	10	CO2	K2
3. a.	Choosing the Right Production System TechNova Electronics, a startup in smart home devices, plans to launch three products: 1. Smart Home Assistants – High demand, requires cost-efficient, large-scale production. 2. Customizable Smart Lighting – Moderate demand, requires customization options. 3. High-End Security Systems – Low volume, fully customized for each client. Questions for Discussion: 1. Which Production System (Job, Batch, Mass, or Continuous) would you recommend for each product? Justify your choices. 2. What are the key challenges in shifting from Batch Production to Mass Production? 3. How does demand forecasting influence the selection of a production system? 4. If TechNova wants to expand globally, which production system should they focus on and why?	10	CO3	K3
	OR			
b.	Discuss the principles of Material Handling. Explain MRP-I and MRP-II and how they help in production planning.	10	CO2	K2

4. a.	XYZ Ltd. wants to perform ABC Analysis on its 10 inventory items. The details are as follows:			10	CO3	K3

Item Code	Unit Price (₹)	Annual Usage (Units)
A1	50	1000
A2	20	2000
A3	100	500
A4	10	3000
A5	200	200
A6	5	5000
A7	150	300
A8	250	100
A9	15	1000
A10	80	400

OR

b.	Define Production Planning and Control (PPC). Discuss its objectives, importance, and the steps involved in the PPC process.	10	CO3	K3
5. a.	Explain Phases of Project Management to create a Network Diagram.	10	CO2	K2

OR

b.	Discuss the strategic significance of facility location. Highlight the key factors that influence plant location decisions.	10	CO4	K3
6. a.	A manufacturing company, XYZ Ltd., has been operating efficiently with a solid procurement strategy for its raw materials. The company consumes materials worth ₹4,50,000 annually. The current cost structure includes an administration cost of ₹200 per order and a carrying cost of 25% of the average inventory value. The company follows the Economic Order Quantity (EOQ) model to determine its optimal purchasing policy. **Recent Offer:** XYZ Ltd. has been offered a 0.50% discount on the material cost by its supplier. However, the supplier requires the company to change its order frequency to six orders per year, as opposed to the current order frequency under the EOQ model. The management team at XYZ Ltd. needs to evaluate whether accepting the supplier's offer is beneficial in terms of cost savings. Specifically, they need to determine if the new order frequency with the offered discount will reduce the overall procurement costs, or if it will be more cost-effective to continue with the current purchasing strategy. Key Questions: Should XYZ Ltd. accept the supplier's quantity discount offer and place six orders per year? If the offer is not acceptable, what would be an optimal counter-proposal regarding the order frequency that would still result in cost savings?	10	CO2	K1

OR

b.	Explain demand forecasting. Discuss qualitative and quantitative forecasting methods with their advantages and limitations.	10	CO4	K2

End of Paper