

**Gandhi Institute of Engineering and Technology University, Odisha, Gunupur
(GIET University)**



B.B.A. (Fourth Semester – Regular/Supplementary) Examinations, April – 2026
23BBAPC24005 – Production and Operation Management

Time: 2 hrs

Maximum: 60 Marks

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

PART – A**(2 x 10 = 20 Marks)**Q.1. Answer **ALL** questions

- Define Production with an example
- Write the difference between facility location and facility layout.
- Explain routing in PPC.
- State the steps of Project Life Cycle.
- Explain float or slack time.
- Mention any importance of facility location.
- Define labour productivity.
- Explain Job Enrichment in operation management with a suitable example.
- Discuss process flow chart.
- Write a short notes on ABC analysis.

CO # Blooms
 Level

CO1	K2
CO1	K1
CO2	K2
CO2	K1
CO3	K1
CO4	K2
CO5	K3
CO6	K2
CO3	K1
CO5	K1

PART – B**(8 x 5 = 40 Marks)**Answer all the questionsMarks CO # Blooms
 Level

2. a. A growing company, Tata Motors, is expanding its production capacity due to rising demand for its vehicles. The company needs to manage several activities such as procurement of raw materials, planning of production schedules, maintaining quality standards, managing workforce and ensuring timely delivery to customers. But, the company is facing issues like delays in production, inefficient use of resources and occasional quality problems. Analyse the above situation and discuss the production and operations functions in managing these activities effectively.

8 CO1 K2

(OR)

- Explain the goals of production and operation management.
- Differentiate between manufacturing and service operation.

4 CO1 K1

4 CO1 K1

3.a.	Activity	1-2	1-6	2-3	2-4	3-5	4-5	6-7	5-8	7-8
	Most optimistic time	3	2	6	4	8	3	3	2	8
	Most likely Time	6	5	12	5	11	7	9	4	16
	Most pessimistic time	9	8	18	6	14	11	15	6	18

8 CO2 K4

You are required to

- i. Draw the project network.
- ii. Find the expected duration of each activity.
- iii. Calculate expected project length.
- iv. Calculate the variance and standard deviation of project length.

(OR)

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|------|---|---|-----|----|
| b. | Explain Gantt Chart in details also explain advantages and dis-advantages of Gantt chart. | 8 | CO2 | K3 |
| 4.a. | Discuss all the factors affecting facility location. | 8 | CO3 | K2 |
| (OR) | | | | |
| b. | Define Aggregate planning also describes strategies used in aggregate planning. | 8 | CO4 | K1 |
| 5.a. | Explain various factors affecting productivity in details. | 8 | CO5 | K2 |
| (OR) | | | | |
| b. | If 180 pieces are produced at a standard price of Rs. 5000 each, with a labour cost of Rs. 40,000, Material cost of Rs. 2,00,000 and overhead of Rs. 1,20,000.
Calculate the partial productivities and multi factor productivity. | 4 | CO6 | K4 |
| c. | Explain method study and describe its role in improving efficiency in operations. | 4 | CO5 | K1 |
| 6.a. | A retail firm in Gunupur, Odisha, is facing frequent challenges in managing its stock levels. At times, the warehouse remains overfilled, leading to increased expenses related to storage and maintenance. In other situations, the firm places orders very frequently in small quantities, which increases administrative effort and transportation expenses. Sometime, the firm also runs out of stock, resulting in lost sales and customer dissatisfaction.
Examine the above situation and identify the different types of costs involved in inventory management. Analyse how these costs affect the firm's inventory decisions and recommend an appropriate strategy for efficient inventory management. | 8 | CO6 | K2 |
| (OR) | | | | |
| b. | Calculate the economic order quantity for material M. The following details are furnished: <ul style="list-style-type: none"> • Annual usage = 90,000 units • Buying cost per order = Rs 10 • Cost of carrying inventory = 10% of cost • Cost per unit = Rs 50 | 4 | CO5 | K4 |
| c. | Explain the concept of acceptance sampling and its importance in quality control. | 4 | CO3 | K2 |

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