Hall Ticket Number:

Code No. : 17543 S (B) N/O

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS), HYDERABAD
Accredited by NAAC with A+ + Grade
B.E. (Mech. Engg.) VII-Semester Supplementary Examinations, May/June-2023
Production and Operations Management (PE-III)

Time: 3 hours

Max. Marks: 60

Note: Answer all questions from Part-A and any FIVE from Part-B

Part-A (10 × 2 = 20 Marks)

Q. No.	Stem of the question	M	L	CO	PO
1.	What is job shop production? Give an example	2	2	1	1
2.	Define productivity and how it is measured?	2	1	1	1
3.	Identify the need for accuracy in the forecasting information?	2	3	2	2
4.	Define work study and mention its objectives	2	1	2	1
5.	How do you arrive at selling price of a product?	2	3	3	1
6.	List out various salient features of Master Production Scheduling	2	2	3	3
7.	Differentiate between deterministic and probabilistic inventory models	2	2	4	2
8.	Define the terms safety stock and reorder point	2	1	4	1
9.	How CPM differ from PERT? Mention relevant examples	2	1	5	4
10.	Describe briefly about Fulkerson's rule	2	2	5	1

Part-B (5 × 8 = 40 Marks)

Q. No.	Stem of the question	M	L	CO	PO
11. a)	"Organization structure is the core operating system for success of any organization" – Justify this statement in the context of effective functioning and success of an organization.	4	3	1	2
b)	Define plant layout and highlight features of various plant layouts with relevant applications	4	2	1	1
12. a)	List out various forecast errors and how do you minimize them?	3	2	2	2
b)	Calculate simple four years and weighted three years moving average (with weights of 0.3 for the most recent period, 0.2 for next most and 0.1 for the next most period) forecasts for the year 2023 for the following data	5	4	2	5

Year	2018	2019	2020	2021	2022
Sales Quantity	80	85	88	92	95

Q. No.	Stem of the question	M	L	CO	PO
13. a)	Define aggregate planning. Mention its inputs required and describe the need for balancing these inputs	4	2	3	2
b)	"Bill of Materials (BOM) play an important role in Materials Requirement planning (MRP) " - Explain with relevant content and proper justification	4	3	3	1

			M	L	CO	PO
14. a)	Describe the process of classifying inventory items as A, B and C categories and how it is beneficial to an organization in its inventory control process?		4	2	4	3
b)	An organization has a monthly demand of 2000 units with ordering cost Rs.200 per order. If the holding cost is Rs. 8 per unit per year and the unit cost is Rs. 40. Compute (a) EOQ (b) annual ordering cost (c) number of orders placed per year and (d) time between two orders.		4	4	4	4
15. a)	Define project and explain the procedure of project management		3	1	5	1
b)	Draw network diagram and find critical path and duration of the project for the following project data		5	4	5	2

Activity	A	B	C	D	E	F	G
Immediate predecessors	-	-	A	A	B,C	D,E	B,C
Duration (in days)	5	8	3	5	4	2	6

			M	L	CO	PO
16. a)	What is break event analysis? Explain with a simple sketch		4	1	1	2
b)	Differentiate between simple and multiple regression analysis		4	2	2	1
17.	Answer any *two* of the following:					
a)	Discuss any two strategies of Aggregate planning.		4	3	3	1
b)	How quantity discounts influence inventory control and its analysis?		4	3	4	2
c)	Mention different rules for drawing network diagram		4	1	5	1

M : Marks;   L: Bloom's Taxonomy Level;   CO; Course Outcome;   PO: Programme Outcome

i)	Blooms Taxonomy Level – 1	25%
ii)	Blooms Taxonomy Level – 2	32%
iii)	Blooms Taxonomy Level – 3 & 4	43%

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