BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)

CLASS: B.Tech **SEMESTER : VII**
BRANCH: MECH/PROD **SESSION : MO/2023**

SUBJECT: MT118 OPERATIONS MANAGEMENT

TIME: 3 Hours **FULL MARKS: 50**

INSTRUCTIONS:
1. The question paper contains 5 questions each of 10 marks and total 50 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
***4*. Before attempting the question paper, be sure that you have got the correct question paper.**
5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

			CO	BL
Q.1(a)	Why is forecasting important in Operations Management? What are the different methods applied in demand forecasting?	[5]	2	3
Q.1(b)	Develop a Time series model for the following dataset and forecast the value for the next period. Explain the reason for selecting the model,	[5]	4	4

T1	T2	T3	T4	T5	T6	T7
25	32	24	28	26	27	?

Q.2(a)	Explain your understanding on (i) ABC analysis and (ii) VED analysis	[5]	1	3
Q.2(b)	What is a Production system? Which type of production system is recommended if the organization delas with large volume? Explain why?	[5]	2	3
Q.3(a)	Explain your understanding about (i) Capacity Planning and (ii)Aggregate Planning	[5]	3	3
Q.3(b)	Explain the factors influencing Product design with suitable examples.	[5]	3	3
Q.4(a)	How Operations Management and Production Management are related to each other. Elaborate with suitable examples.	[5]	2	2
Q.4(b)	What does TIMWOODS stands for in the context of Lean manufacturing and waste management.	[5]	5	3
Q.5(a)	Apply Jhonson's algorithm to find out the optimum sequence of loading the jobs so that the total elapsed time for completing the jobs is minimum. Also, find out the machine idle times.	[5]	4	4

Jobs	1	2	3	4	5	6
Machine A	6	8	9	3	5	4
Machine B	3	5	2	7	4	6

Q.5(b)	A textile firm decides to follow the EOQ model for its inventory management. Its Inventory carrying cost is \$0.75/yard, ordering cost is \$150/order and the annual demand is 10000 yards. What will be the optimum ordering quantity.	[5]	3	2

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