R11

Code: 1G581

IV B.Tech. II Semester Supplementary Examinations Nov/Dec 2019

Production & Operations Management
(Mechanical Engineering)

Max. Marks: 70   Time: 3 Hours

Answer any five questions
All Questions carry equal marks (14 Marks each)
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1.	a)	What do you mean by hierarchical production planning? Are there any benefits in this exercise?	7M
	b)	Use an example to demonstrate hierarchical production planning?	7M
2.	a)	Describe briefly about forecasting variables?	2M
	b)	Using exponential smoothing techniques, compute the forecast from the following data (time series) under the situation when ($\alpha=0.3$) compute the forecast for the 11th period	

Month	1	2	3	4	5	6	7	8	9	10
Demand	10	12	8	11	9	10	15	14	16	15

12M

3.	a)	What are the different types of layouts? How should an organization decide on which layout to choose?	7M
	b)	Describe computerized layout ALDEP?	7M
4.	a)	"Mixed strategies are always superior to pure strategies in an APP exercise." Comment on this statement.	7M
	b)	Discuss controlling aspects of aggregate planning?	7M
5.	a)	What are the benefits of ABC analysis?	7M
	b)	Discuss EOQ model by taking suitable example?	7M
6.	a)	Explain the different steps in Johnson's Algorithm	5M
	b)	Consider the following three machines and 5 jobs flow shop problem. Check whether Johnson's rule can be extended to this problem. If so, what is the optimal schedule and the corresponding make span?	

Job	Processing Time		
	Machine 1	Machine 2	Machine 3
1	7	4	3
2	9	5	8
3	5	1	7
4	6	2	5
5	10	3	4

9M

7.	a)	How is MRP II different from MRP? What are the additional advantages that an organization	10M
	b)	What are the inputs to material requirement planning?	4M
8.	a)	Why does JIT manufacturing require changes in manufacturing architecture? What are the key changes made to a manufacturing system for JIT manufacturing?	7M
	b)	What is the relationship between lean management and JIT manufacturing?	7M

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