

Code No: **R4203A****R10****Set No. 1****IV B.Tech II Semester Supplementary Examinations, April - 2018****PRODUCTION PLANNING AND CONTROL****(Common to Mechanical Engineering and Automobile Engineering)****Time: 3 hours****Max. Marks: 75****Answer any FIVE Questions
All Questions carry equal marks**

- 1 a) "PPC is very important in a production department". Justify the statement by illustrating the significance of it. [8]
b) Explain the objectives of PPC. [7]

- 2 a) Write any four short term objectives and four long term objectives of forecasting. [8]
b) A car manufacturing firm has experience the following demand for its modeling software package.

Period	1	2	3	4	5	6	7	8
Units	66	71	65	80	76	75	82	85

- i) Develop an exponential smoothing forecast using $\alpha = 0.4$ and an adjusted exponential smoothing using $\alpha = 0.4$ and $\beta = 0.2$.
ii) Compare the accuracy of two forecasts using MAD and cumulative error. [7]
- 3 a) Explain any eight functions of inventories. [8]
b) Consumption is 600 items/month. The unit cost is ₹30. Inventory holding cost is at 20% of unit cost and the ordering cost is ₹60 per order with a lead time of one month stock, for a Q model. Determine.
(i) Re-order quantity (ii) Minimum level (iii) Re-order level
(iv) Maximum level and (v) Average inventory. [7]
- 4 a) Explain about JIT system. [8]
b) Write a short note on ERP system. [7]
- 5 a) Explain about the routing procedure in detail. [8]
b) Write any three differences between loading and scheduling. [7]

- 6 a) Explain about different steps involved in Johnson's rule of scheduling. [8]
b) A college painting contractor has five departments to paint. The estimated time required to paint each department and due date for completion are given below.

Department	CE	CSE	ECE	EEE	ME
Estimated time(days)	3.5	5.0	4.0	6.0	3.0
Due date	7	10	9	14	17

Use shortest processing time rule to sequence the five jobs. Compute average flow time and average tardiness per job using this sequence. [7]

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- 7 a) The precedence diagram for assembly activities A to G is shown in figure 7 (a). The element times required for activities are shown in minutes. The line operates for 7hrs/day and an output of 550 units/day is desired. Calculate
- Cycle time
 - Theoretical minimum no. of workstations.
 - Group the tasks into appropriate no. of workstations.
 - Calculate the balance efficiency.

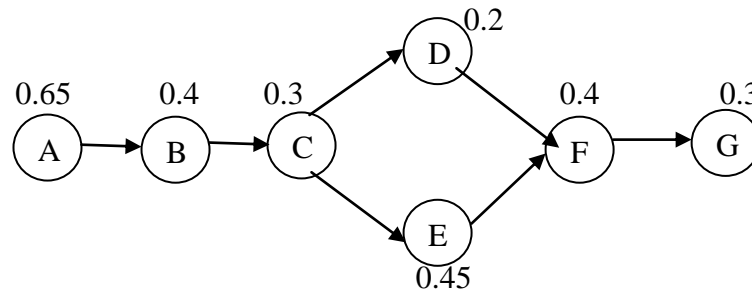


Figure. 7 (a)

- Write a short note on expediting. [8]
[7]
- 8 a) What is dispatching? Explain its importance in production planning with its advantages. [8]
b) What is follow up? Explain different types of follow up. [7]