Code No: 138EG

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech IV Year II Semester Examinations, July - 2021
PRODUCTION PLANNING AND CONTROL
(Mechanical Engineering)

Time: 3 hours

Max. Marks: 75

Answer any Five Questions
All Questions Carry Equal Marks

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1.a) What is the need for forecasting production management? Why can't they produce based on just the orders received?

b) What is the kind of relation and coordination required between Production Planning and Control (or PPC In-charge) and the Marketing Department? [7+8]

2.a) Should one always go by just a single approach for forecasting the production quantity? Justify your answer giving logical reason for it.

b) Explain the kind of inventory items for which VED analysis can usefully be employed. Name the establishments where this analysis is most appropriate. [8+7]

3. A certain company requires 10,000 Units of component annually. The ordering cost is Rs.10 per order. Carrying cost is 25% of inventory value per annum Each unit of the component costs Rs.20. The supplier offers 2% discount if purchases are made in lots of 5000. Is the discount offer attractive? If not for what reduced quantity can company, ask for the same 2% discount? [15]

4. An assembly line consists of four workstations. Each workstation performs a designated work for which the work contents (time required per piece) are as under:

Station	Work contents in minutes
1	4
2	2
3	2
4	2.5

a) What is the cycle time?
b) Calculate delay for each station.
c) Calculate line efficiency.
d) How many units will be made in a day of 8 hours work which includes a total of one hour break for both lunch and tea. [15]

5.a) What are the contents of route sheet? What purpose does it serve?

b) For which type of production process, line balancing is suitable? Explain. [8+7]

6. Given below are 5 jobs to be scheduled with the processing time and delivery schedule in days.

Job	Processing time	Delivery schedule
A	6	8
B	19	22
C	16	20
D	11	14
E	13	14

Using the scheduling rule of 'First come first served' and 'Shortest processing time', calculate separately the total flow time and slippage in delivery for each of the jobs. [15]

7.a) What do you understand by the term loading the shop? How does it differ from scheduling?

b) For which type of production process the economic batch quantity (EBQ) approach is appropriate? What are the various costs that influence EBQ? [7+8]

8.a) What is the need for follow-up and expediting when every aspect of production is planned?

b) Why the role of dispatcher is crucial in production planning and control? [8+7]

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