

Code No: 138EG

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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