

IV B.Tech II Semester Regular/Supplementary Examinations, July - 2021**PRODUCTION PLANNING AND CONTROL****(Common to Mechanical Engineering and Mining Engineering)****Time: 3 hours****Max. Marks: 70***Question paper consists of Part-A and Part-B**Answer ALL sub questions from Part-A**Answer any FOUR questions from Part-B************PART-A(14 Marks)**

1. a) Write a short note on planning phase of PPC. [2]
- b) Write the importance of forecasting. [2]
- c) From the available information estimate the EOQ. Annual usage of 20,000 units, ordering cost ₹400/order and carrying costs of ₹4 per unit per annum. [3]
- d) What is loading? [2]
- e) What is chase planning? [2]
- f) List out the various record maintained by dispatching department. [3]

PART-B(4x14 = 56 Marks)

2. a) Explain the scope of production planning and control. [7]
 - b) Write about the functions of PPC. [7]
 3. a) Using exponential smoothing technique, compute the forecasts from the following data under the situations when $\alpha = 0.3$ and $\alpha = 0.7$. Compute the forecast for the 8th period. Which forecast do you accept? Give reasons. [7]
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| Week | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Sales | 39 | 44 | 40 | 45 | 38 | 43 | 39 |
- b) What do you mean by forecast error? Describe various measures that are used for measuring the accuracy of forecasting models. [7]
 4. a) What MRP I? What are the functions of MRP I? Describe the inputs and outputs of the same in detail. [7]
 - b) Write a short note on KANBAN system by taking an example. [7]
 5. a) What is routing? Write the functions of routing. [7]
 - b) Explain about (i) Manufacturing order and (ii) job order. [7]
 6. a) Find the sequence that minimize the total elapsed time required to complete the following jobs on three machines A, B, C. Calculate the idle time of individual machines and also total idle of the system. (Processing time in Hrs.) [7]
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|-----------|---|----|---|---|----|
| Job(i) | 1 | 2 | 3 | 4 | 5 |
| Machine A | 8 | 10 | 6 | 7 | 11 |
| Machine B | 5 | 6 | 2 | 3 | 4 |
| Machine C | 4 | 9 | 8 | 6 | 5 |
- b) Define aggregate planning and write the various inputs, outputs of the aggregate planning with a neat block diagram. [7]
 7. a) Explain the procedure of dispatching. [7]
 - b) Describe various types of follow up in detail. [7]