R13

Code No: 118DZ

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year II Semester Examinations, May - 2017

PRODUCTION PLANNING AND CONTROL

(Common to ME, MCT)

Time: 3 hours **Max. Marks: 75**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A

(25 Marks)

1.a) Differentiate between the production planning and production control. [2]
b) How the "controlling" can be done to regulate the progress of work? [3]
c) Give the step by step Forecasting procedure for using time series [2]
d) A forecaster is using an exponential smoothing model with a = 0.4 and wishes to convert to a moving average. What length of moving average is approximately equivalent? [3]
e) What do you understand by the term operating doctrine in the inventory modelling? [2]
f) Do JIT enhance return on investment (ROI)? Explain. [3]
g) What are the assumptions in flow shop scheduling? [2]
h) Compare *infinite* loading and *finite* loading. [3]
i) What are the methods to take corrective action in follow-up? [2]
j) Differentiate between centralized and decentralized dispatching. [3]

PART - B

(50 Marks)

2.a) Briefly explain the prerequisites of PPC.
b) Explain the production lifecycle with the aid of a graph. [5+5]

OR

3.a) "PPC regulates and controls "how," "where," and "when" work is to be done," What do you understand by this statement?
b) State the principles of good production planning and control. [5+5]

4.a) What are the levels of aggregation in forecasting for a manufacturing organization? How should this hierarchy of forecasts be linked and used?
b) List out the advantages and disadvantages of short term long term forecasting. [5+5]

OR

5. A firm uses simple exponential smoothing with $\alpha = 0.1$ to forecast demand. The forecast for the week of February 1 was 500 units, whereas actual demand turned out to be 450 units.
a) Forecast the demand for the week of February 8.
b) Assume that the actual demand during the week of February 8 turned out to be 505 units. Forecast the demand for the week of February 15, Continue forecasting through March 15, assuming that subsequent demands were actually 516, 488, 467, 554 and 510 units. [10]

6.a) Explain the concept behind the two-dimensional and multi 3-D models of inventory control.

b) What is MRP and MRP-II? How they are related? Explain. [5+5]

OR

7.a) *Inventory is waste!* Do you agree? Justify your answer.

b) Find the economic lot size, the associated total cost, and the length of time between two orders, given that the set- up cost is Rs.100, daily holding cost per unit of inventory is Rs. 0.05, and daily demand is approximately 30 units. [5+5]

8.a) Distinguish between the routing functions of continuous and intermittent productions.

b) Explain the use of Line of Balance (LOB) in Production control. Explain in detail the steps involved in LOB. [5+5]

OR

9.a) Describe the following costs in aggregate planning and explain the difficulties that arise in attempting to measure them in a real operation environment.
i) Smoothing costs (ii) Holding costs

b) What do you understand by Compensatory Off Policy? Explain its merits and demerits. [5+5]

10.a) "The PPC function 'dispatching' is often misunderstood." Explain the correct meaning and duties of the dispatching function.

b) What are the stages of follow up? Explain any two. [5+5]

OR

11.a) What are the functions of dispatching?

b) When do you prefer decentralized dispatching to centralized dispatching? Explain their features. [5+5]

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