

**R13**

Code No: 118DZ

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech IV Year II Semester Examinations, April - 2018****PRODUCTION PLANNING AND CONTROL****(Mechanical Engineering)****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) List out the various functions of production planning and control [2]
- b) What are the needs for PPC? [3]
- c) What is the importance of forecasting? [2]
- d) What are the differences between short term and long term forecasting? [3]
- e) What is meant by inventory control? [2]
- f) State the costs associated with inventory problems. [3]
- g) Define line balancing. [2]
- h) Explain routing procedure [3]
- i) What is dispatching? [2]
- j) State any three objectives of follow up [3]

**PART - B****(50 Marks)**

- 2.a) Explain the scope of production planning and control.
- b) Explain different types of production systems and differentiate between them. [5+5]

**OR**

- 3.a) Distinguish between production planning and production control and state their objectives.
- b) Discuss organization of Production planning and control department. [5+5]

- 4.a) Discuss the factors which affects the choice of forecasting method..
- b) Forecast the production for next two years when the production quantity for last ten years is as follows: 200, 225, 235, 240, 255, 260, 265, 275, 270, 271  
Use the following methods and comment on results  
i) Moving average (3 years and 5 years)  
ii) Exponential smoothing for  $\alpha=0.3$  and  $0.7$ . [5+5]

**OR**

- 5.a) Describe 'Least Square Method' of sales forecasting with its advantages and limitations.
- b) Describe the Survey of buyers intention method of sales forecasting with its advantages and limitations. [5+5]

6.a) Derive the expression for EOQ when the demand of the item is uniform, the production rate is infinite and no stocks out are allowed.

b) Explain the various elements of JIT. [5+5]

OR

7.a) What is meant by VED analysis? What is its significance?

b) Alpha industry estimates that it will sell 12000 units of its product for the forthcoming year. The ordering cost is Rs. 100 per order and the carrying cost per unit per year is 20% of the purchase price per unit. The purchase price per unit is Rs.50. Find i) Economic Order quantity, ii) No. of orders per year and iii) Time between successive orders. [5+5]

8.a) Define routing and its significance. Explain about the important components of routing sheets?

b) What is aggregate planning? Write its functions, merits and demerits. [5+5]

OR

9.a) Explain various functions of Routing.

b) Bring out any four differences between scheduling and loading. [5+5]

10.a) Define follow up and explain different types of the follow up in detail.

b) Discuss in detail the sequential steps involved in dispatching. [5+5]

OR

11.a) Describe the following forms used in dispatching:

i) Move order

ii) Production ticket.

b) Explain the applications of computer in production planning and control. [5+5]