Code No: 128DZ

R15

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech IV Year II Semester Examinations, May - 2019
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)   State the functions of PPC.   [2]
  b)   Draw the internal organization of PPC.   [3]
  c)   Explain Delphi procedure of forecasting.   [2]
  d)   What is forecast error? State various ways of representing forecast error.   [3]
  e)   How are the A class items controlled?   [2]
  f)   Derive expression for basic EOQ.   [3]
  g)   State the standard scheduling policies.   [2]
  h)   Define line balancing problem, balance efficiency and balance delay.   [3]
  i)   State the steps involved in dispatching.   [2]
  j)   How do you make use of computer in aggregate planning?   [3]

PART - B
(50 Marks)

2.a)   State and explain various objectives of Production Planning and Control.
  b)   State and explain various elements of production control.   [5+5]

OR

3.   Classify production system according to volume and variety they produce and write characteristics of each type of production system.   [10]

4.   What is forecasting? State and explain principles of forecasting.   [10]

OR

5.   A firm uses simple exponential smoothing with α=0.02 to forecast demand. The forecast for first week of January was 400 units whereas the actual demand turned out to be 450 units.

a) Forecast the demand for the second week of January

b) Assume that the actual demand during second week of January turned out to be 460 units. Forecast the demand up to February third week, assuming the subsequent demands as 465, 434, 420, 498 and 462.   [10]

6. The following information is about a group of items.. Classify the items as A, B and C.[10]

Item no	501	502	503	504	505	506	507	8	9	10
Annual use	30000	280000	3000	110000	4000	220000	15000	80000	60000	8000
Price	10	15	10	5	5	10	5	5	15	10

OR

7.a)   Explain the working principle of fixed order quantity system. State its advantages and disadvantages over P system.

b)   Explain about MRP logic.   [5+5]

8.a)   Explain various steps involved in routing procedure.

b)   Draw a route sheet by taking an example.   [5+5]

OR

9.a)   State the conditions for applying Johnson algorithm for n jobs and 3 machine sequencing problem

b)   We have five jobs each of which must go through the machines A, B and C in the order ABC processing times (in hours) is as follows:

Jobs	1	2	3	4	5
Machine A	5	7	6	9	5
Machine B	2	1	4	5	3
Machine C	3	7	5	6	7

Determine the sequence of the jobs that will minimize the total elapsed time.   [5+5]

10.a)   State and explain activities of dispatcher.

b)   Draw the move ticket by taking an example.   [5+5]

OR

11.a)   What are different types of follow-ups. Explain.

b)   Explain the need of existence of follow up procedure.   [5+5]

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