

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)**

CLASS: MTECH
BRANCH: AMS

SEMESTER : I
SESSION : MO/18

SUBJECT: PE503 PLANNING AND CONTROL OF PRODUCTION SYSTEMS

TIME: 03:00 HRS.

FULL MARKS: 50

INSTRUCTIONS:

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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- Q.1(a) Differentiate between “Make to stock” and “Make to order” production systems. [5]
Q.1(b) Define production planning and control and state the objectives of production planning and control department? [5]

- Q.2(a) Name the different qualitative forecasting methods. Briefly describe the steps that are used to develop a forecasting system? [5]

- Q.2(b) Consulting income of Raghav and Associates for the period Feb. - July has been as follows: [5]

Month	Feb	March	April	May	June	July
Income (in thousands)	70	68.5	64.8	71.7	71.3	72.8

Use trend adjusted exponential smoothing, compute forecast for August income. Assume that the initial forecast for Feb. is Rs. 65000 and the initial trend adjusted is 0. The smoothing constant selected are, $\alpha = 0.1$ and $\beta = 0.2$.

- Q.3(a) Outline the purposes of MRP and explain how an MRP system can achieve these purposes. [5]

- Q.3(b) Product 800 is made from 801 subassemblies, three 802 subassemblies, and two 803 subassemblies. An 801 subassembly consists of two units of component 406 and two units of component 407. The 802 subassembly is made from two units of component 205 and one unit of component 603. An 803 subassembly consists of one unit of component 407, one unit of 950 component, and three 747 subassemblies. A 747 subassembly is made from six units of item 910, three units of item 205, and one unit of item 942. Create a product structure tree for product 800 and determine how many units of each component is required to produce 150 units of product 800. [5]

- Q.4(a) Illustrate center of Gravity method with the help of a suitable example. [5]

- Q.4(b) Discuss the various factors influence the selection of plant location? What are the different quantitative models for facility location? [5]

- Q.5(a) Explain “Desegregation of Aggregate plan” with the help of a suitable example. [5]

- Q.5(b) Explain the following: [5]
i) PPC in process industries
ii) Scheduling

*****28.11.18*****M