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

CLASS: BE **SEMESTER : VI**
BRANCH: PRODUCTION **SESSION : SP/17**

SUBJECT: PE6005-PRODUCTION PLANNING AND CONTROL

TIME: 03:00 **FULL MARKS: 60**

INSTRUCTIONS:
1. The question paper contains 7 questions each of 12 marks and total 84 marks.
2. Candidates may attempt any 5 questions maximum of 60 marks.
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.
6. Nothing should be written on front or back of the question paper except tick marking.

Q.1(a) Discuss the activities of a production manager. [2]
(b) What do you understand by classification of production systems? Explain. [4]
(c) In what sense are the following considered to be 'Production' activities? (a) airline (b) farm (c) restaurant (d) University. [6]

Q.2(a) Define forecast, and explain the characteristics which are common to all forecasts. [2]
(b) Regression analysis is one of the best statistical methods to identify and extrapolate trend. Discuss. [4]
(c) An investigation into the demand for water pumps manufactured by Joy Engineering Pvt. Ltd. Resulted in the following historical data ; [6]
Project the trend of sales for next 2 years.

Year	1988	1989	1990	1991	1992	1993
No of water pumps sold	28	33	37	48	54	68

Q.3(a) What is meant by aggregate production planning? Why is it required? [2]
(b) Why is scheduling fairly simple for continuous systems but fairly complex for job shops. [4]
(c) What are the Gantt Charts? How are they used in scheduling? What advantages & limitations are associated with Gantt Charts? [6]

Q.4(a) Define inventory & why inventory management is important? [2]
(b) Discuss the assumptions of EOQ Model. [4]
(c) Find the sequence that minimizes the total elapsed time required to complete the following task on 2 machines. [6]

Job No	1	2	3	4	5	6	7	8	9
Machine A	2 hrs	5	4	9	6	4	7	5	4
Machine B	6 hrs	8	7	4	3	9	3	8	11

Q.5(a) Explain the technique "Always better Control". [2]
(b) The success of the business, besides other factors, depends to a large extent on the efficient storage & material control. Justify. [4]
(c) A Company uses 8000 units of a product as row material costing rs. 10 each unit. The administrative cost per purchase is Rs. 40. The holding cost are 28% of the average inventory. The company is following an optimal purchase policy and places orders according to EOQ. It has been offered a quantity discount of 1% if it purchases its entire requirement only four times a year. Should the company accept the offer of quantity discount of 1%. If not what discount should the company demand ? [6]

Q.6(a) Discuss the techniques used in purchasing. [2]
(b) Enumerate the various factors to be considered in the design of plant layout. [4]
(c) Discuss the conceptual framework of facility design and analysis. Explain in brief the different phases of the design process. [6]

Q.7(a) What are the objective of plant Maintenance. [2]
(b) What do you understand by centralized & decentralized dispatch? [4]
(c) Name different types of maintenance used in industry. Give merits and demerits of each. [6]

*******28/04/17******M**