FACULTY OF ENGINEERING

B.E. 4/4 (Mech./Prod.) II – Semester (New) (Main) Examination, April / May 2014

Subject: Production and Operations Management

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

Note: Answer all questions from Part A. Answer any five questions from Part B.
PART – A (25 Marks)

1	Differentiate plant location from plant layout.	2
2	Define rating. What is its necessity?	2
3	Explain the demand patterns in forecasting.	3
4	Compare between single moving average and weighted moving average method.	3
5	What is master production scheduling?	2
6	What is meant by ERP?	2
7	Briefly explain Fulkerson's rule.	3
8	Write down the expression of EOQ, defining each term in it.	2
9	What is the importance of inventory control?	3
10	Distinguish between Job shop, batch and continuous production.	3

PART – B (50 Marks)

11 (a) What is meant by combination layout? Explain with a neat sketch.   5
   (b) Differentiate between method study and work measurement.   5

12 (a) Briefly explain the moving average and exponential smoothing methods of forecasting.   5
   (b) Discuss about the various qualitative forecasting model.   5

13 (a) What is aggregate planning? List out its objectives.   5
   (b) Differentiate between MRP and MRP II.   5

14 (a) Explain the deterministic and stochastic inventory models.   6
   (b) Calculate EOQ if annual consumption of raw material is 20,000 units. Cost of placing
       the order is Rs. 20 per order. Interest and other carrying cost is 10% per annum.   4

15 A small project is composed of activities as shown below.   10

Activities		Time in weeks		
i	j	t_o	t_m	t_p
1	2	1	1	7
1	3	1	4	7
1	4	2	2	8
2	5	1	1	1
3	5	2	5	14
4	6	2	5	8
5	6	3	6	15

Draw the network diagram for the above and calculate the critical path and expected project duration.

16 (a) What are the different types of incentive plans? Discuss.   6
   (b) Differentiate between PERT and CPM.   4

17 Write short notes on any three of the following: 10
      i) Break even analysis   ii) Delphi technique
      iii) Forecast errors   iv) Features of ERP packages

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B.E. 4/4 (M/P) II - Semester (Old) Examination, April / May 2014

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Time : 3 Hours   Max. Marks: 75

Note: Answer all questions of Part - A and answer any five questions from Part - B.
PART – A (25 Marks)

1   What is process variation?
2   Describe fish bone diagram.
3   Describe the functions of Management.
4   Define the FMS and its benefits.
5   Differentiate between loading and scheduling.
6   Explain the various factors for selecting of a location.
7   Define TQM.
8   Define Method study.
9   Classify different types of organization.
10 State the principles of hydraulic conveying system.

PART – B (5 x 10 = 50 Marks)

11 (a) Describe the functions of management in an organization.
    (b) Describe the scientific management of F.W. Taylor.

12 (a) Compare and contrast the product layout and process layout.
    (b) Consider the following single machine and 6 jobs scheduling problem.

Job	1	2	3	4	5	6
Processing (days)	8	24	12	20	6	25
Due date (days)	15	30	20	32	12	40

   Find optimal schedule using
   (i)   FCFs   (ii) EDD rule (iii) SPT rule (iv) Critical ratio

13 (a) Write short notes:
    (i)   X – chart   (ii) C – Chart
    (b) Briefly explain the procedure in method study.

14 (a) Discuss how various factors affect in selecting materials handling equipment
        in a production shop.
    (b) Describe in brief.
        (i)   Conveyors   (ii) Cranes

15 (a) What is the important to study Japanese manufacturing in a production and
        operations management system?
    (b) Discuss the strength and weakness of Deming's philosophy.

16 (a) Discuss various types of AGVS.
    (b) Explain criteria for selection of hoisting equipment with examples.

17 Write short notes on any two of the following:
    (a) Working Sampling   (b) Assembly line   (c) Kanban system

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