R09

Code: 9A03801

B.Tech IV Year II Semester (R09) Advanced Supplementary Examinations June/July 2016
PRODUCTION & OPERATIONS MANAGEMENT
(Mechanical Engineering)

Time: 3 hours   Max. Marks: 70

Answer any FIVE questions
All questions carry equal marks
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1 (a) Define productivity. Discus the factors affecting productivity.
   (b) Explain the steps involved in new product development.

2 (a) Discuss the steps of Delphi method in forecasting techniques.
   (b) Alpha company has the following sales pattern during 2000 to 2008. Compute the sales forecast for year 2009.

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008
Sales (in Lakhs)	8	10	13	25	35	39	45	50	60

3 (a) Classify and discuss various types of plant layout in detail.
   (b) Write the steps involved in automated layout design program (ALDEP) algorithm.

4 (a) Explain the aggregate planning strategies in detail.
   (b) Write a note on aggregate planning costs.

5 (a) Explain purchase model with shortages in one of model of inventory.
   (b) Discuss the 'P' system and 'Q' system of inventory.

6 (a) Consider the following two machines and five jobs flow shop scheduling problem. Using Johnson's algorithm, obtain the optimal sequence which will minimize the makespan.

Job (i)	Machine 1	Machine 2
1	7	8
2	1	4
3	15	12
4	8	5
5	11	6

   (b) Explain the following topics:
        (i) Active schedule.
        (ii) Semi active schedule.
        (iii) Non delay schedule.

7 Enumerate the different methods which are available to determine effective lot size in MRP.

8 (a) Describe the principle involved in pull system of Kanban with a diagram.
   (b) Write a detailed note on six sigma technique involved in total quality management.

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