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M.Sc. FOOTWEAR TECHNOLOGY (MSCFWT)

Term-End Examination

December, 2013

MFW-033 : PRODUCTIVITY AND PRODUCTION AND OPERATION MANAGEMENT

Time : 3 hours *Maximum Marks : 70*

Note : *Answer **any seven** questions. All questions carry **equal** marks. Use of calculator is **permitted.***

1. What do you understand by Production Planing and Control (PPC) ? What are the objectives of PPC ? 10

2. Explain the various factors that are to be taken into account for plant location. Discuss in connection with setting up a footwear equipment plant. 10

3. Explain the differences between process and product type layouts. Under what circumstances would you prefer process layout and why ? Give suitable examples for product and process layout in industry. 10

4. Explain the procedure for taking a time study and the method for calculation of standard time. 10

5. The following activities are part of a project to be scheduled using Critical Path Method (CPM). 10

Table 1

Activity	Intermediate Predecessor	Time (Weeks)
A	-	6
B	A	3
C	A	7
D	C	2
E	B, D	4
F	D	3
G	E, F	7

(a) Draw the network diagram

(b) Find out the critical path

(c) How many weeks will it take to complete the project ?

6. There are Seven Jobs each of which has to pass through machines M_1 and M_2 in order, $M_1 \rightarrow M_2$. Processing times (in hours) are given below. Determine the sequence that will minimise the elapsed time, idle time for M_1 and M_2 and prepare a time schedule chart. **10**

Table 2

Jobs / Machines	1	2	3	4	5	6	7
M_1	3	15	12	6	10	11	9
M_2	8	10	10	6	12	1	3

7. A company is manufacturing 30,000 components per month by employing 150 workers in daily 8 hr. shift. The company gets additional orders to produce additional 8000 components. The management decides to employ additional workers. What will be production and productivity level when the number of additional employed workers are : **10**

(a) 50, (b) 30 and (c) 15

8. What is forecasting ? What are the common methods of forecasting ? Explain the Delphi method. **10**

9. Write short notes on ***any five*** of the following. **5x2=10**

(a) Job design

(b) Work Sampling

(c) Flexible Manufacturing Systems (FMS)

(d) Productivity Improvement

(e) Computer Aided Design (CAD)

(f) Lean Manufacturing

(g) Industrial Robot