

**M.Sc. FOOTWEAR TECHNOLOGY
(MSCFWT)**

Term-End Examination

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June, 2017

**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. Define productivity. Explain the relationship between productivity and production. Explain the various tools and techniques to improve productivity. 10
2. What is the need of Production Planning and Control (PPC) in an organisation ? Explain the functions of PPC. 10
3. Explain the various factors to be considered in the selection of plant location of a footwear equipment manufacturing unit. 10

4. How would operation strategy for a service industry be different from the manufacturing industry ? Explain with suitable examples. 10

5. A worker operating on a machine performs the following activities. The description of activities, their observed time and ratings are given. Compute the standard time : 10

Elements	Description	Observed Time	Rating	Relaxation Allowance
A	Position the Job	0.25	80%	10%
B	Switch 'on' and lower drill	0.09	100%	11%
C	Drill hole	2.8	90%	12%
D	Raise drill and switch 'off'	0.05	80%	10%
E	Remove Job from Jig	0.15	110%	11%

6. Define Plant Layout. What are the various types of layouts ? Give suitable examples for each layout. 10

7. What is forecasting ? What are the common methods of forecasting used by any manufacturing company ? 10

8. A project consists of 8 activities. Precedence relation and activity times are given. Draw the network diagram and critical path. Show the slack for each activity in a tabular form :

10

Activity	Immediate Predecessor	Activity time (weeks)
P	—	12
Q	—	20
R	—	28
S	R	12
T	P, Q	28
U	T, S	12
V	S	8
W	U, V	8

9. There are seven jobs, which are to be processed first on Machine 1 and then on Machine 2. Processing time in hours are given below :

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Job	Machine 1	Machine 2
A	6	16
B	24	20
C	30	20
D	12	13
E	20	24
F	22	2
G	18	6

Find the optimal sequence and total elapsed time.
Compute the idle time on Machine 2.

10. Write short notes on any *five* of the following : $5 \times 2 = 10$

- (a) Lean Manufacturing
 - (b) Productivity Improvement
 - (c) Critical Path Method
 - (d) Total Quality Management
 - (e) Standard Time
 - (f) Work Sampling
 - (g) MIS
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