

Name :

Roll No. :

Invigilator's Signature :

CS / MBA(OLD) / SEM-(2FT & 4PT) / MB-204 / 2010

2010

PRODUCTION MANAGEMENT

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following :

10 × 1 = 10

- i) Production, Planning and Control activities are carried out to
 - a) ensure timely delivery
 - b) utilize resources effectively
 - c) both (a) and (b)
 - d) none of these.
- ii) Manufacturing of jigs and fixtures is undertaken by
 - a) jobbing production
 - b) batch production
 - c) mass and flow production
 - d) process production.



- iii) SQC is done to
 - a) prevent any defective product from going out of the factory
 - b) observe the trend of product quality
 - c) initiate corrective action if quality trend shows an adverse pattern
 - d) none of these.
- iv) The premise of JIT approach is
 - a) no interruption of flow in the supply chain
 - b) to have no buffer stock
 - c) not to procure material earlier than one hour
 - d) none of these.
- v) The objective of plant maintenance is to
 - a) increase the availability of the equipment and facilities
 - b) increase the utilization of machines and equipment
 - c) upgrade machines and equipment
 - d) none of these.
- vi) Work measurement is done for
 - a) fixing standard time for a job
 - b) streamlining the method
 - c) ensuring high productivity
 - d) none of these.



vii) Measure of efficiency of a productive system is known as

- a) utility
- b) efficacy
- c) effectiveness
- d) productivity.

viii) Multiple activity chart is also known as

- a) two handed process chart
- b) flow process chart
- c) man-machine chart
- d) none of these.

ix) Material handling efficiency is

- a) directly proportional to material handling cost
- b) inversely proportional to material handling cost
- c) not related to material handling cost
- d) none of these.

x) Dimensional characteristics of a product can be assessed by

- a) average chart
- b) range chart
- c) p -chart
- d) \bar{X} - R chart.

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- xi) For a plastic ware industry, the production system used is
- a) process production system
 - b) mass and flow production system
 - c) mass production system
 - d) batch production system.
- xii) ABC analysis is
- a) anytime better control
 - b) always better control
 - c) always best control
 - d) none of these.

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following. $3 \times 5 = 15$

2. State the objectives of Production Management.
3. Define the concept of JIT & VED.
4. Differentiate between Process Layout and Product Layout.
5. What do you mean by Inspection Control and Quality Control ?
6. State the steps in Production, Planning and Control.



GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

7. a) Following are the elemental times of a broaching operation. The corresponding Ratings and Relaxation allowances are given :

<i>Element</i>	<i>Observed time (min)</i>	<i>Ratings</i>	<i>Relaxation</i>
A	0.15	80	13%
B	0.05	80	13%
C	0.50	100	11%
D	0.04	110	13%
E	0.10	13%	13%
F	0.05	100	11%
G	0.10	80	13%

Calculate standard time for this operation assuming contingency allowance of 3%. 8

- b) What is work measurement ? What are its uses ? 7
8. a) 10 samples, each of size 50, of a pipe were inspected in pressure testing. The results of the inspection are given below :

<i>Sample No.</i>	1	2	3	4	5	6	7	8	9	10
<i>No. of defectives</i>	2	3	2	0	2	3	2	1	2	3

State your conclusion by applying suitable chart. 6

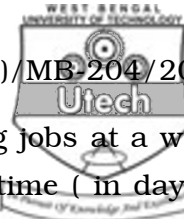
- b) What are the advantages of SQC ? 3
- c) Explain Quality. What are the different characteristics of quality ? 2 + 4



9. a) Give a suitable plant layout for shoe factory. Discuss the various symbols used for recording facts in method study. 3 + 4
- b) Swati Ltd. company has 50 general purpose machines in their workshop. A work sampling study was carried out in the shop to establish ineffective time in its various forms. The first two days' analysis revealed that the machine idle time was 40%.
- i) How many observations will be necessary to ensure that the observed time has the accuracy of $\pm 2\%$ with confidence limit of 95% ?
- ii) Determine the total number of rounds and rounds per day.
- iii) Calculate average time between the rounds. 8
10. a) Explain Johnson's Method. 3
- b) Seven jobs go first over machine-I and then over machine-II. Processing times in hours are given as :

Job	A	B	C	D	E	F	G
Machine-I	6	24	30	12	20	22	18
Machine-II	16	20	20	12	24	2	6

Find the optimum sequence in which jobs should be processed and calculate the minimum elapsed time to finish all the jobs. Also calculate the idle time for both machines. 12



11. a) XYZ company has received the following jobs at a work centre to be processed. The processing time (in days), arrival date and due date are given. Determine the sequence in which these jobs should be processed according to each of the following priority rules viz.

SPT (Shortest Processing Time), LPT (Longest Processing Time), EDD (Earliest Due Date), TSPT (Truncated Shortest Processing Time), LS (Least Slack), and COVERT (cost over time), FCFS (First Come First Serve) :

Job	Processing time (days)	Arrival date (shop calendar day)	Due date (shop calendar day)
A	15	95	185
B	20	110	200
C	10	112	175
D	30	125	235
E	25	125	180
F	18	130	220

- b) What is Priority sequencing ? 13 + 2

12. Write short notes on any *three* of the following : 3 × 5

- a) Plant maintenance
- b) Time study
- c) Two-Bin and Periodic inventory system
- d) Functions of Production Planning and Control
- e) Assumptions for classical model of EOQ
- f) Standard time, Normal time and their relation
- g) Method study.