

22573

23124

3 Hours / 70 Marks

Seat No.

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- Instructions* –
- (1) All Questions are *Compulsory*.
 - (2) Answer each next main Question on a new page.
 - (3) Illustrate your answers with neat sketches wherever necessary.
 - (4) Figures to the right indicate full marks.
 - (5) Assume suitable data, if necessary.
 - (6) Use of Non-programmable Electronic Pocket Calculator is permissible.
 - (7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

- 1. Attempt any FIVE of the following. **10****
- a) Define method study.
 - b) State any four application of 'Ergonomics' in areas of garment industry.
 - c) Classify control charts on the basis of attributes and variables.
 - d) State any four objectives of PPC.
 - e) State Fulkerson's rule of network constructions.
 - f) Enlist any five types of maintenance.
 - g) Define 'Maintenance cost index'.

P.T.O.

- 2. Attempt any THREE of the following. 12**
- a) Draw non-type process flow chart for collar making.
 - b) Enlist macro and micro level PPC functions and explain any one.
 - c) Explain P -chart and nP -chart with example.
 - d) Explain graphical analysis of Margin of safety.
- 3. Attempt any THREE of the following. 12**
- a) Explain performance rating and allowances.
 - b) State C.L., UCL, LCL with respect to \bar{X} and \bar{R} charts.
 - c) Explain direct material cost and direct labour cost.
 - d) Explain equipment utilization and manpower efficiency.
- 4. Attempt any THREE of the following. 12**
- a) Explain AON and AOA in network construction with suitable example.
 - b) Explain 'Motion Study'.
 - c) Give significance of profit-volume ratio and graph in break-even analysis.
 - d) Explain concept of cost, cost centre and cast unit.
 - e) Explain concept of maintenance performance evaluation with suitable example.

5. Attempt any TWO of the following.

- a) Calculate standard time for following data:

Elements	Cycle Time in min.		
	1	2	3
A	1.3	6.5	11.2
B	2.00	6.2	12.5
C	4.5	10.15	14.5

- b) Explain "Acceptance Sampling" with suitable example.
- c) Consider following activity times in a project of a garment industry.

Activity	Time (Days)	Predecessor Activities
A	3	–
B	4	–
C	5	A
D	6	B
E	7	C
F	8	C
G	9	D, E

- i) Find a critical path.
- ii) Compute the project completion time.
- iii) Compute the total floats and free floats for the activities.

6. Attempt any TWO of the following.

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- a) Explain three time estimates in PERT.
- b) Explain advantages and limitations of break-even analysis.
- c) Describe various costs of maintenance and state advantages of maintenance.