

12243

15116

3 Hours / 100 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) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. a) Attempt any THREE of the following : 12
- (i) Define production. List types of production system.
 - (ii) Define fixed cost and variable cost. Give two examples of each.
 - (iii) Differentiate between floor inspection and centralized inspection.
 - (iv) State the factors affecting scheduling.
- b) Attempt any ONE of the following : 6
- (i) Explain in brief ABC analysis and its role in the inventory control.
 - (ii) Define routing. Distinguish clearly between routing and scheduling.

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- 2. Attempt any TWO of the following :** **16**
- a) Explain process layout with schematic diagram and state its advantages and disadvantages.
 - b) What are the function of stores ? Explain one bin and two bin storage system.
 - c) If worker takes 15 minutes as a standard time for a job in which total allowance is 20% of normal time. If the rating of worker is 100% find the actual time required by the worker.
- 3. Attempt any FOUR of the following :** **16**
- a) Explain the role of government and employer for productivity improvement.
 - b) What are the objectives of plant layout ?
 - c) Describe the 3–2–1 principle of location.
 - d) State the importance of determination of inspection stages in process planning.
 - e) Explain the concept of ‘Just-In-Time’ manufacturing as a tool of improving productivity.
- 4. a) Attempt any THREE of the following :** **12**
- (i) Name the material handling devices suitable for process layout and explain any one.
 - (ii) Define plant capacity, machine capacity and plant efficiency.
 - (iii) What are the different factors affecting process planning ?
 - (iv) Explain the concept of line balancing.
- b) Attempt any ONE of the following :** **6**
- (i) Enlist the types of assembly. What are the techniques of assembly planning ?
 - (ii) Enlist the types of material handling devices and explain any one in brief.

5. Attempt any FOUR of the following :**16**

- a) Explain the concept and need of rapid prototyping.
- b) Describe flow process chart in brief.
- c) Explain the role of ergonomics in production systems.
- d) Differentiate between jig and fixtures.
- e) State the necessity of material requirement planning.
- f) How 5 'S' can be used as waste management technique ?

6. Attempt any FOUR of the following :**16**

- a) Enlist the general principles of jig and fixture design.
 - b) Explain DMIAC cycle in brief.
 - c) Describe procedure of conducting time study.
 - d) Define 'EOQ' briefly. Explain 'EOQ' model.
 - e) Draw two handed process chart for changing refill in a ball pen.
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