662 Register No.: [ ]

April 2024

Time – Three hours
(Maximum Marks: 100)

[N.B. 1. Answer all questions under Part-A. Each question carries 3 marks.
2. Answer all the questions either (A) or (B) in Part-B. Each question carries 14 marks.]

PART – A

1. List out three steps followed in value analysis.
2. What is critical operation?
3. Mention the dimensions of quality.
4. Define qualities as defined by Demings.
5. List out the types of check sheets.
6. Write about the matrix diagram and its types.
7. What is the significance of statistical analysis?
8. Compare variable chart with attribute chart.
9. Write the difference between Kaizen and Kairyo.
10. List the benefits of implementing Total Productive Maintenance.

[Turn over.....

PART – B

11. (a) (i) List out the advantages of generative process planning.(7)
(ii) Discuss the processes involved in value analysis.(7)

(Or)

(b) (i) Specify the rules for deciding operation sequences.(7)
(ii) The available time duration machines can be used for a week is 96 hrs. However, the machines are actually run for 80 hours. The standard running time = 70 hours.
Calculate (1) Machine utilisation ratio (2) Machine efficiency (3) Machine effective utilisation ratio.(7)

12. (a) (i) Explain PDCA cycle for continuous improvement. (7)
(ii) Mention the characteristics of TQM. (7)

(Or)

(b) (i) What is brain storming? Draw the flow diagram of activities in brain storming. (7)
(ii) Describe the seven steps to strategic planning. (7)

13. (a) (i) Explain the pareto diagram for process improvement. (7)
(ii) Explain arrow diagram with example. (7)

(Or)

(b) Explain:
(i) Inter relationship diagram (5) (ii) Tree diagram (5) (iii) Process decision programme chart (PDPC) (4)

14. (a) (i) Write the classification of data and tabular presentation of data. (7)
(ii) Explain the principle and procedure of six sigma concept. (7)

(Or)

(b) Explain the types of control charts.

15. (a) (i) How 5s concept is implemented in shop floor for process improvement? (7)
(ii) Explain the JIT Philosophy. (7)

(Or)

(b) (i) Discuss about Value stream mapping. (7)
(ii) Discuss the steps involved in DMAIC. (7)
