2491 Register No.:

October 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. Define process planning.
2. What is break even quantity?
3. State the TQM concepts.
4. Mention about quality policy statement.
5. List the types of check sheet.
6. What is Affinity Diagram?
7. Define coefficient of variation.
8. Define fraction defective.
9. Write about Just In Time (JIT) concept.
10. What is meant by overall equipment effectiveness?

PART – B

11. (a) (i) Explain about the generative process planning and state its advantages. (10)

(ii) Distinguish between cost control and cost reduction. (4)

(Or)

(b) A component can be produced on either a turret lathe or an automatic lathe. Cost data are given below.
Turret Lathe
Fixed cost = Rs.1400
Variable cost = Rs.5 per unit
Automatic Lathe
Fixed cost = Rs.5100
Variable cost = Rs.1.50 per unit.
If cycle time for production is same for turret as well as automatic lathe, which machine will you select for producing (i) 1500 units (ii) 900 units (iii) 1200 units (iv) 800 units.

[Turn over.....

12. (a) What is brain storming? Draw the flow diagram of activities in brain storming.

(Or)

(b) Explain the Deming Philosophy fourteen points on route to quality.

13. (a) Explain the following diagrams for quality improvement.
(i) Pareto diagram (4) (ii) Cause and effect diagram (5) (iii) Histogram (5)

(Or)

(b) Explain (i) Inter relationship diagram (ii) Matrix diagram.

14. (a) (i) Discuss graphical representation of a frequency distribution. (7)

(ii) Write the steps in constructing C and U charts. (7)

(Or)

(b) Tyre is made in lots of 200 each. The number of defectives found in the inspection of 10 lots are recorded and given in the table below:

(i) Draw the np chart and state whether the process is in control.

(ii) If the process is not in control, find the new value of mean fraction defective after eliminating the points outside control limits.

(iii) Examine whether the process is still in control or not.

Lot No	1	2	3	4	5	6	7	8	9	10
No.of Defectives	1	3	0	6	3	9	0	2	4	2

15. (a) (i) Explain how Kaizen activities are followed in an industry for continuous process improvement. (7)

(ii) Describe about six sigma process for new product process improvement. (7)

(Or)

(b) (i) Explain about DMADV. (7)

(ii) How TPM process is implemented in an organisation? Explain. (7)
