

STATISTICAL QUALITY CONTROL - II

Time : Three Hours

Maximum : 75 Marks

SECTION-A (20 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks (10 x 2 = 20)

- 1 What are the evolution of total quality?
- 2 State the three critical processes for Quality management.
- 3 Define 3 a limit.
- 4 What are the steps involved in the construction of control chart?
- 5 Write any two limitations of P-chart.
- 6 If the sample size is varying, state the control limits for defects per unit.
- 7 Define process capability index.
- 8 What are the essential areas for process control?
- 9 Define Reliability.
- 10 What is meant by IFRA?

SECTION - B (25 Marks)

Answer **ALL** Questions

ALL Questions Carry **EQUAL** Marks (5 x 5 = 25)

- 11 a Discuss the concept of product quality and process quality.
OR
b Explain briefly six sigma of total quality management.
- 12 a Discuss briefly the following
(i) Process & Product control, (ii) Control chart techniques.
OR
b Discuss the 3a limits in S.Q.C.
- 13 a Discuss the uses of control chart.
OR
b Explain briefly criteria for detecting lack of control in \bar{X} & R charts.
- 14 a Discuss the process capability analysis.
OR
b Explain briefly the relationship of process in control to upper and lower specification limits.
- 15 a Discuss the basic concept of reliability.
OR
b Discuss the four important factors associated with reliability.

SECTION - C (30 Marks)

Answer any **THREE** Questions .

ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

- 16 Explain the need for management of product quality.
- 17 Discuss the following
 - (i) Chance causes
 - (ii) Assignable causes
 - (iii) Specification limit
 - (iv) Natural tolerance limit
- 18 Explain the construction of P and np charts.
- 19 Discuss the use and interpretation of process capability ratio.
- 20 State and explain the factors to be considered in designing for reliability.