

BSc DEGREE EXAMINATION MAY 2019
(Sixth Semester)

Branch – STATISTICS

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 Define TQM.
- 2 State any two TQM models.
- 3 Define process control.
- 4 State the 3σ limits of σ charts.
- 5 State the 3σ limits to np chart.
- 6 State any two applications of c chart.
- 7 Define process capability ratio.
- 8 State any two aims of SPC.
- 9 Define reliability.
- 10 Define hazards rate.

SECTION - B (25 Marks)

Answer ALL Questions

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

- 11 a Briefly explain need for quality improvement.
OR
b Briefly explain elements of TQM.
- 12 a Briefly explain SPC.
OR
b Briefly explain the major parts of control charts.
- 13 a How will you construct p –chart?
OR
b Briefly explain the construction of C chart.
- 14 a Briefly explain the process capability index.
OR
b Describe the quality improvement in SQC.
- 15 a Briefly explain the need of reliability concept in SQC.
OR
b Write a short note on (i) IFR (ii) DFR.

SECTION - C (30 Marks)

Answer any THREE Questions

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

- 16 Explain ISO 9001 : 2000 (E) series with reference to process control and statistical techniques.
- 17 Explain the construction of \bar{x} and R charts.
- 18 The following are the figures of defectives in 22 lots each containing 2,000 rubber belts: 425, 430, 216, 341, 225, 322, 280, 306, 337, 305, 356, 402, 216, 264, 126, 409, 193, 326, 280, 389, 451, 420. Draw control chart for fraction defective and comment on the state of control of the process.
- 19 Describe process capability ratio for an off center process.
- 20 Explain failure distribution with constant failure rate and cumulative Hazard rate.