

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION DECEMBER 2018
(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 Total Quality Management.
- 2 Write the basic elements of total quality.
- 3 What are the two types of Control Charts?
- 4 Define Statistical process control.
- 5 Write the control limits of 'P' chart.
- 6 What is meant by attribute control chart?
- 7 What is process capability?
- 8 Write the statistical measures of process capability.
- 9 What do you mean by Hazard rate?
- 10 Define DFR.

SECTION - B (25 Marks)

Answer **ALL** Questions

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

- 11 a Briefly explain the evolution of total quality.
OR
b Explain the various needs for quality improvement.
- 12 a Explain the concept of statistical process control in brief.
OR
b Explain the procedure of construction of 'cr' chart.
- 13 a Compare attribute and variable control chart techniques.
OR
b Ten pieces of cloth out of different rolls of equal length contained the following number of defects:
3,0,2,8,4,2,1,3,7,1.
Construct 'C*' chart and comment the state of statistical control.
- 14 a Write a brief note on various tools used for improving the quality.
OR
b Explain the concept of process capability index.
- 15 a Define reliability. Explain its various needs.
OR
' b Write a brief note on IFR and DFR distributions.

SECTION - C (30 Marks)

Answer any **THREE** Questions

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

- 16 Write a detailed note on various models associated with total quality management(TQM).

Cont...

Construct mean and range charts for the following informations:

Days	1	2	3	4	5	6	7	8
Mean (x)	23.0	23.5	23.8	24.0	22.0	22.4	23.9	22.5
Range (R)	1.5	2.4	3.0	2.2	1.5	0.9	3	2.5

Comment the state of statistical control

(Given for $n=6, A_2=0.48, D_4=2, D_3=0$)

Explain the procedure of constructing 'P' chart with a suitable example.

Explain the uses and interpreting of process capability index.

Explain the importance of reliability in everyday life.

Z-Z-Z

END