

**PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)**

**MSc DEGREE EXAMINATION MAY 2018
(Fourth Semester)**

Branch-STATISTICS

STATISTICAL QUALITY CONTROL

Time: Three Hours

Maximum: 75 Marks

**Answer ALL questions
ALL questions carry EQUAL marks (5 x 15 = 75)**

- 1 a Explain the concept of TQ and its importance.
b Describe the various tools of TQM.
OR
c Explain the ISO models in standard quality,
d Explain the goal and approach of six sigma quality.
- 2 a Explain the uses of control charts in SQC.
b Explain the one sided decision method in CUSUM.
OR
c Explain V mask.
d Explain ARE for Shewhart control chan.
- 3 a Explain single sample acceptance sampling plant. Also obtain its OC, AOQ, ASN and ATI functions.
OR
b Explain the CSP -1, CSP - II and CSP - III plans.
- 4 a Explain the variable sampling plan. Obtain its OC curve for VSSP when cr is known.
OR
b Derive the n and k values for VSSP with specified P_1 , P_2 , a and (3 when a is unknown.
c Explain the Sequential sampling plan for variables.
- 5 a Define Hazard function.
b Obtain the UMVUE of reliability under complete sample with single parameter exponential distribution.
OR
c Explain :
(i) IFR and DFR distribution
(ii) Exponential failure model
(iii) Censored sample and its types
(iv) Concept of reliability in K out of M system.

Z-Z-Z

END