

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION DECEMBER 2019
(Fifth Semester)

Branch - STATISTICS

STATISTICAL QUALITY CONTROL - I

Time : Three Hours

Maximum : 75 Marks

SECTION-A (20 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 x 2 = 20)

- 1 What is meant by Statistical Quality Control?
- 2 What do you mean by Process Capability?
- 3 Define Producer Risk.
- 4 Define Double Sampling Plan.
- 5 Mention the advantages of acceptance sampling plan for variable.
- 6 Define Acceptance sampling for variable when α is known.
- 7 Explain normal reduced plan.
- 8 Define OC curve for sequential sampling plan.
- 9 Define JIT methods with an example.
- 10 Define the concept of Six Sigma.

SECTION - B (25 Marks!)

Answer ALL Questions

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

- 11 a Explain the quality of a product and statistical process control.
OR
b Write a short note on statistical product control with an example.
- 12 a What are the characteristics of AOQ curve?
OR
b Explain double sampling plan with an example.
- 13 a Explain the disadvantages of acceptance sampling for variables.
OR
b Write a note on different types of acceptance sampling by variables with suitable illustration.
- 14 a Explain sequential sampling plan with suitable illustration.
OR
b Derive the OC curve for sequential sampling plans.
- 15 a Distinguish the elements of Just in time manufacturing and waste elimination approach.
OR
b Write a note on the implementation of Kanban system with an example.

SECTION - C (30 Marks)

Answer any THREE Questions

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

- 16 Explain the importance of statistical methods used in process and product control with an example.
- 17 Briefly explain the acceptance sampling for attributes with possible illustrations.
- 18 Derive the acceptance sampling for variable, given n and k when α is unknown.
- 19 Explain SPRT with an example.
- 20 Explain the objectives and benefits of JIT methods and its implementation.