

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 Define Quality.
- 2 What is the basis of Statistical Quality Control?
- 3 What do you mean by an acceptance sampling plan?
- 4 What is Average Sample Number?
- 5 Write any two advantages of acceptance sampling for variables.
- 6 What is meant by known sigma variable sampling plans?
- 7 List out the different plans of Sequential Sampling plans.
- 8 Define ATI.
- 9 Define Just I time manufacturing.
- 10 What are the objectives of JIT?

SECTION - B (25 Marks)

Answer **ALL** Questions

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

- 11 a Compare chance causes of variation and assignable causes of variation.
OR
b Explain product control and process control.
- 12 a Explain producer's risk and consumer's risk.
OR
b Describe the procedure for single sampling plan.
- 13 a What are the assumptions of Acceptance sampling for variables?
OR
b Derive n and k for known σ plan.
- 14 a Describe item by item sequential sampling plan.
OR
b Derive OC curve of sequential sampling plan.
- 15 a What are the elements of JIT?
OR
b Explain the concept of Six Sigma.

SECTION - C (30 Marks)

Answer any **THREE** Questions

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

- 16 What are the benefits of Statistical Quality Control?
- 17 Describe ASN and ATI of Double Sampling Plan.
- 18 What is acceptance sampling for variables? Derive n and k for unknown σ variable sampling plan.
- 19 Write short notes on Normal, Reduced and Tightened plans.
- 20 Describe Kanban system.