Final Exam   Date: May 06, 2019
Maximum marks: 60   Duration: 3 hours

1. Write short notes on the following:-   [3 x 5 = 15]

a) Taguchi Loss Function Concept

b) Chain Sampling Plan Procedure

c) β-correction Technique

2.   [3 + 10 + 2 = 15]

a) Illustrate CSP - 1, CSP - 2, CSP - 3 plans.

b) Compute the AQL, LTPD values from the OC curve for the CSP Plan.

$$i = 50 \text{ and } f = \frac{1}{5}$$

c) Compute the AOQL value of the plan.

3. Data has been collected from a process for the product characteristic with the specification $50 \pm 5\, mm$. The observations are collected continuously with an interval of 5 minutes.   [15 + 5 + 5 = 25]

35, 40, 45, 45, 50, 48, 52, 55, 58, 52, 60, 56, 60, 62, 58, 59.

a) Compute the β-correction factor by using Nested ANOVA method ($\alpha = 0.05$). Present all ANOVA table with conclusion.

b) Calculate the limit when process does not require any correction.

c) Prepare the correction table for any 5 observation which require correction.

4. State which sampling plan gives more protection to customer (with justification)

n = 50, C = 2 vs n = 50, C = 1.   [5]