

Roll No. ....

Total Pages : 02

**BT-7/M-20**

**37057**

**STATISTICAL QUALITY CONTROL AND  
RELIABILITY  
ME-405E**

Time : Three Hours]

[Maximum Marks : 100

**Note :** Attempt *Five* questions in all, selecting at least *one* question from each Unit.

**Unit I**

1. Write briefly on the following :
  - (a) Taguchi's concept of quality **10**
  - (b) Economics of quality. **10**
2. Briefly discuss the concept of TQM and describe its implementation with respect to role of customers, management and employees. **20**

**Unit II**

3. Write briefly on the following :
  - (a) Trial control limits **7**
  - (b) Reject and revoke **7**
  - (c) pi chart. **6**

(2)L-37057

1

4. What is sensitivity of a chart ? Draw a suitable control chart for the given data : 20

Item No.	1	2	3	4	5	6	7	8
No. of Defects	9	3	6	5	8	10	3	7

### Unit III

5. Describe the importance of sampling plans. How are these sampling plans selected ? 20
6. Describe, how are sampling plans designed ? With an OC curve, describe consumer risk and producer risk. 20

### Unit IV

7. Write briefly on : 10
- (a) Factors affecting reliability 10
- (b) Reliability optimization. 10
8. Discuss the ways to evaluate reliability. Calculate the reliability of the system shown below : 20

