M. Tech. 2nd Semester Mech. Engg. (MTA)
Examination – January, 2012

QUALITY CONTROL TECHNIQUES
Paper : M-608-A

Time : Three hours]   *[Maximum Marks : 100*

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt any *five* questions. All questions carry equal marks.

1. What is the Quality Control ? What is the graphical representation of grouped data, continuous and discrete probability distributions ? Also explain the control limit theorem.   20

2. What is process control and product control, what are the chance and assignable causes of quality variation ? Also explain the type I and type II error.   20

3. What are X, R and P charts ? Explain the process control charts for variables ? Also explain the theory of runs.   20

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4. (a) What is the group control chart ? Also explain the arithmetic moving X and R charts.   10

   (b) What is the quality rating ? Explain the CUSUM in detail.   10

5. What is Inspection ? Explain the various types of Inspection in detail. Also explain the O.C. curves.   20

6. (a) What are single, double and multiple sampling plans ?   10

   (b) What is ASM curve ? Explain in detail.   10

7. (a) What is producers risk and consumer's risk ? Also explain the AOQ ?   10

   (b) What is AOQ curve ? Explain in detail.   10

8. Write short notes on the following :   20

   (a) Trial control limit,

   (b) Natural tolerance limit,

   (c) Dodge demerit chart.