Name : .....

Roll No. : .....

Invigilator's Signature : .....

CS/B.Tech(CT)/SEM-7/HU(CT)-702/2009-10

2009

QUALITY ASSURANCE

Time Allotted : 3 Hours Full Marks : 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for the following : $10 \times 1 = 10$

   i) 5-way analysis is for

      a) continuous improvement

      b) customer satisfaction

      c) finding out root causes

      d) all of these.

   ii) Third party audit is

      a) an internal audit

      b) an audit by the customer or client

      c) an independent organisation

      d) none of these.

iii) A system based on the requirements of ISO 9001 aims to

a) achieve customer satisfaction

b) demonstrate an organisation's ability to consistently supply conforming products

c) prevent non-conformity

d) all of these.

iv) A team wants a technique for determining and displaying priorities based on frequency of various defects. They should use

a) written and diagrammed work instructions

b) cause and effect diagrams

c) Pareto chart

d) matrix diagram.

v) FMEA is an acronym for

a) Finally Measure Effect & Analyse

b) Failure Mode Effect Analysis

c) Finally Measure Effect of Action

d) None of these.

vi) A team wants a technique for obtaining a large number of possible reasons for excess variation in a dimension. They should use

a) Pareto diagram b) Gantt chart

c) Brain storming d) PDCA Cycle.

vii) The quality leader responsible for the term '7 QC tools' is

a) Juran b) Ishikawa

c) Crossby d) Taguchi.

viii) The Quality Leader Associated with the concept of robustness is

a) Deming b) Taguchi

c) Feigenbaum d) Ishikawa.

ix) Accuracy means closeness between target and process average.

a) True b) False

c) Insufficient statement d) Can't say.

x) Target of value of sigma of a process output should be

a) high b) medium

c) low d) none of these.

GROUP – B

(Short Answer Type Questions)

Write short notes on any *three* of the following. $3 \times 5 = 15$

2. Total Quality Management.
3. Brain Storing.
4. Six Sigma.
5. PDCA Cycle.
6. Steps for correction of non-conforming products.

GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

7. Give two definitions of Quality. Explain with suitable example stated and implied needs. What is the difference between IS certification & ISO 9001 certification ? Define Quality Assurance and explain how it differs from Quality control activities. Explain Quality Loop of an organisation.

$2 + 3 + 3 + 3 + 4$

8. Define corrective & preventive actions with suitable example. Differentiate between chance and assignable causes. Discuss types of quality characteristics and their advantages & disadvantages. What is the purpose of OHSAS-18001 certification ? Define process. Draw a Gantt chart for the football tournament for your college.

3 + 3 + 4 + 1 + 1 + 3

9. Define process capability study. When do you need to study capability of a process ? Define accuracy & precision. Explain with diagram the following situations :

   a) Accurate and precise process

   b) Accurate but imprecise process

   c) Inaccurate but precise process

   d) Inaccurate and imprecise process.

   Mention two benefits from implementation of ISO 9000 quality management system. 1 + 3 + 2 + 8 + 1

10. Draw a cause and effect diagram for a crack occurring after firing in a whiteware industry. Draw a Pareto diagram on the following data :

    Crack – 15%, Pin holes – 3%, black spot – 5%,
    bad handling – 4%, warpage – 1%, dunting – 2%.

    Draw a pie chart on the product cost of a ceramic product :

    Raw materials – 15%, Sliphouase – 12%, Firing – 35%, Shaping – 7%, Glazing – 5%, Testing – 8%,
    Overheads – 15%, Rest – others. 6 + 5 + 4

11. Discuss different elements of quality costs. Show graphically optimum cost of quality. Discuss briefly the role of CEO of an organisation to improve the quality of all its products to reach highest grade of respective brands at any cost.

4 + 3 + 8