Name : .....

Roll No. : .....

Invigilator's Signature : .....

CS/BCA/SEM-6/BCA-E-602A/2010

2010

SOFTWARE ENGINEERING

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) Most software continues to be custom built because

a) component reuse is common in the software world

b) reusable components are too expensive to use

c) software is easier to build without using someone else's components

d) off-the-shelf software components are unavailable in many application domains.

ii) Process models are described as agile because they

a) eliminate the need for cumbersome documentation

b) emphasize maneuverability and adaptability

c) do not waste development time on planning activities

d) make extensive use of prototype creation.

iii) Evolutionary software process models

a) are iterative in nature

b) can easily accommodate product requirements changes

c) do not generally produce throwaway systems

d) all of these.

iv) The use of traceability tables helps to

a) debug programs following the detection of run-time errors

b) determine the performance of algorithm implementations

c) identify, control and track requirements changes

d) none of these.

v) Polymorphism reduces the effort required to extend an object system by

a) coupling objects together more tightly

b) enabling a number of different operations to share the same name

c) making objects more dependent on one another

d) removing the barriers imposed by encapsulation.

vi) Usability questionnaires are most meaningful to the interface designers when completed by
   a) customers
   b) experienced programmers
   c) product users
   d) project managers.

vii) What is the normal order of activities in which traditional software testing is organized ?
   a) Integration testing, validation testing, unit testing, system testing
   b) System testing, validation testing, integration testing, unit testing
   c) Unit testing, integration testing, validation testing, system testing
   d) Integration testing, system testing, unit testing, validation testing.

viii) Which of the following are characteristics of testable software ?
   a) Observability b) Simplicity
   c) Stability d) All of these.

ix) The software re-engineering process model includes restructuring activities for which of the following work items ?
   a) Codeb) Documentation
   c) Datad) All of these.

x) Which of the following rules should a software engineer apply as he/she performs software work ?
   a) Never steal data for personal gain
   b) Never distribute or sell proprietory information obtained as part of your work on a software project.
   c) Never maliciously destroy or modify another person's programs, files or data.
   d) Never violate the privacy of an individual, a group or an organization.
   e) All of these.

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following. 3 × 5 = 15

2. Explain the RAD model.
3. Explain the role and functions of a Systems Analyst in the overall project development.
4. Why is SRS document also known as the black box specification of a system ?
5. What are CASE tools ?
6. Discuss about integration testing.

GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following. 3 × 15 = 45

7. What do you mean by life cycle model of software development ? Describe the generic waterfall model. Compare the classical waterfall model and spiral model of software development. 3 + 8 + 4
8. Discuss the salient features of ISO 9000 in software industries. What are the differences between CMM and ISO 9000 ? Discuss the process how to get the ISO 9000 certification ? 5 + 3 + 7
9. What is DFD ? Draw a DFD of Banking system. Discuss the differences between DFD and ERD. 2 + 8 + 5
10. Discuss the various phases of software maintenance. What is feasibility study ? Why is it necessary ? What is bug fixing ? 7 + 2 + 2 + 4
11. Write short notes on any *three* of the following : 3 × 5
    a) Test automation
    b) Software quality assurance plan
    c) Regression testing
    d) Prototyping model.