



Name : .....

Roll No. : .....

Invigilator's Signature : .....

**CS/BCA/SEP.SUPPLE/SEM-6/BCAE-602A/2012**

**2012**

**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 × 1 = 10

- i) To achieve good design, modules should have
  - a) Weak cohesion and low coupling
  - b) Weak cohesion and high coupling
  - c) Strong cohesion and low coupling
  - d) Strong cohesion and high coupling.
- ii) 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.



- iii) The basic goal of software engineering is to
  - a) Produce high quality software
  - b) Write programs
  - c) Design systems and logic
  - d) Produce high quality software irrespective of cost.
- iv) Which is the costliest phase of software development ?
  - a) Analysis
  - b) Coding
  - c) Maintenance
  - d) Testing.
- v) An example of a single variable heuristic cost estimation model is
  - a) Halstead's software science
  - b) Basic COCOMO model
  - c) Intermediate COCOMO model
  - d) Complete COCOMO model.
- vi) Beta testing is performed by
  - a) Developers
  - b) Test teams
  - c) Selected group of friendly customers
  - d) none of these.
- vii) Which of the following life cycle models deals with the risks associated with software products ?
  - a) Prototyping model
  - b) Waterfall model
  - c) Spiral model
  - d) Incremental model.
- viii) Which of the following problems can be considered to be contributing to the present software crisis ?
  - a) Large problem size
  - b) Shortage of skilled manpower
  - c) Lac of rapid progress of software engineering
  - d) All of these.



- ix) In the classical waterfall model during which phase is the Software Requirement Specification (SRS) document produced ?
- a) Design
  - b) Maintenance
  - c) Requirement Analysis and Specification
  - d) Coding .
- x) Which of the following is not the main reason to undertake software quality assurance ?
- a) Reduced software personnel turnover
  - b) Legal liability
  - c) Insistence by the user on the satisfactory software quality assurance program
  - d) Marketing reasons.

**GROUP – B**

**( Short Answer Type Questions )**

Answer any *three* of the following.  $3 \times 5 = 15$

- 2. What is the advantage of spiral model over waterfall model ? 5
- 3. Explain prototype model. 5
- 4. What is Gantt chart ? Explain in brief. 5
- 5. Discuss the difference between object oriented and function oriented designs. 5
- 6.
  - a) What is 99 per cent complete syndrome ?
  - b) Why SRS document is called black box specification of the problem ?
  - c) What is regression testing ?  $2 + 2 + 1$



**GROUP – C**

**( Long Answer Type Questions )**

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

7. a) What is feasibility study ? Why is it important for system design ? How does cost benefit analysis contribute to it ? 8
- b) What is risk ? How many types of risks are there ? What is the importance of Risk Management ? 7
8. a) Differentiate between coupling and cohesion ? 5
- b) What is Software Quality assurance ? What are the factors which influence the quality of a software ? 10
9. a) Differentiate between black box testing and white box testing. 5
- b) What is McCabe's Cyclomatic Complexity Number ? Explain with the help of an example. 10
10. a) What is a test plan ? 4
- b) What is Equivalence partitioning ? Explain with the help of an example. 6
- c) Differentiate between verification and validation. 5
11. Write short notes on any *three* of the following :  $3 \times 5$
- a) Software maintenance
- b) Software documentation
- c) User interface design
- d) Data dictionary
- e) DFD.