

Time: 3 Hours

DECEMBER 2012

Max. Marks: 100

PLEASE WRITE YOUR ROLL NO. AT THE SPACE PROVIDED ON EACH PAGE IMMEDIATELY AFTER RECEIVING THE QUESTION PAPER.

NOTE: There are 9 Questions in all.

- Question 1 is compulsory and carries 20 marks. Answer to Q.1 must be written in the space provided for it in the answer book supplied and nowhere else.
- The answer sheet for the Q.1 will be collected by the invigilator after 45 Minutes of the commencement of the examination.
- Out of the remaining EIGHT Questions, answer any FIVE Questions. Each question carries 16 marks.
- Any required data not explicitly given, may be suitably assumed and stated.

Q.1 Choose the correct or the best alternative in the following: (2×10)

a. Output comparators are used in

- (A) static testing of single module
- (B) dynamic testing of single module
- (C) static testing of single and multiple module
- (D) dynamic testing of single and multiple module

b. The advantage of using LOC (lines of code) as a size-oriented metric is

- (A) LOC is easily computed
- (B) LOC is a language dependent measure
- (C) LOC is a language independent measure
- (D) LOC can be computed before a design is completed

c. The feature of the object oriented paradigm which helps code reuse is

- (A) object
- (B) class
- (C) inheritance
- (D) aggregation

d. The quality assurance standard that applies to software engineering is

- (A) ISO 9000
- (B) ISO 9001
- (C) ISO 9002
- (D) ISO 9003

e. What are the three generic phases of software engineering?

- (A) Definition, Development, Support
- (B) What, How, Where
- (C) Programming, Debugging, Maintenance
- (D) Analysis, Design, Testing

Code: AC63/ AT63**Subject: SOFTWARE ENGINEERING**

- f. Improving the implementation of the system according to the customer requirements is known as
- (A) Adaptive maintenance (B) Perfective maintenance
(C) Corrective maintenance (D) Effective maintenance
- g. FP-based estimation techniques require problem decomposition based on
- (A) information domain values (B) project schedule
(C) software functions (D) process activities
- h. If every requirement can be checked by a cost-effective process, then the SRS is
- (A) Verifiable (B) Traceable
(C) Modifiable (D) Complete
- i. What is the normal order of activities in which software testing is organized?
- (A) unit, integration, system, validation
(B) system, integration, unit, validation
(C) unit, integration, validation, system
(D) none of these
- j. Each time a defect gets detected and fixed, the reliability of a software product
- (A) increases (B) decreases
(C) remains constant (D) becomes zero

**Answer any FIVE Questions out of EIGHT Questions.
Each question carries 16 marks.**

- Q.2** a. What are the key challenges being faced by software engineering? (5)
- b. What is meant by risk management? Explain risk management process. (6)
- c. What are the attributes of a good software? (5)
- Q.3** a. Explain the following terms giving suitable example:
- (i) Functional requirement
(ii) Non-functional requirement
(iii) Domain requirement (9)
- b. What is meant by an object model? Discuss Inheritance model, Aggregation model and Interaction model in brief. (7)

- Q.4** a. List the benefits of prototyping. Differentiate between the objectives of evolutionary and throw-away prototyping. (8)
- b. Identify the merits and limitations of formal requirements specification. (8)
- Q.5** a. Describe object request brokers and the principles underlying the CORBA. (5)
- b. List the advantages and disadvantages of distributed system architectures. (5)
- c. What do you mean by domain specific architectural model? Differentiate between two types of domain specific models. (6)
- Q.6** a. What are the various abstractions possible in Component Based Software Engineering? List few problems associated with CBSE. (8)
- b. What is meant by design patterns? What are the advantages of using design patterns? (8)
- Q.7** a. Define the following terms with respect to UI design principles:
(i) User Familiarity
(ii) Consistency
(iii) Minimal Surprise
(iv) Recoverability
(v) User Guidance
(vi) User Diversity (6)
- b. What do you mean by fault tolerance? Where is fault tolerance required? (4)
- c. Differentiate between forward and backward fault recovery techniques. (6)
- Q.8** a. Write a brief note on the following estimation techniques:
(i) Algorithmic cost modelling
(ii) Expert judgement
(iii) Estimation by analogy
(iv) Parkinson's Law
(v) Pricing to win (10)
- b. Write some guidelines for interface testing. (6)
- Q.9** a. What is the main purpose of SEI Capability Maturity Model (SEI CMM)? Explain five different levels of SEI CMM model. (6)
- b. What do you understand by software configuration? Differentiate among release, version and revision of a software product. (4)
- c. Write a brief note on software quality review and review process. (6)