

DipIETE – CS

Time: 3 Hours

JUNE 2014

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. In object oriented design of software, objects have
- (A) attributes and names only
 - (B) operations and names only
 - (C) attributes, name and operations
 - (D) None of these
- b. Which one is the quality model
- (A) Waterfall
 - (B) Spiral
 - (C) CMM
 - (D) All of these
- c. Software testing techniques are most effective if applied immediately after
- (A) Requirement specification
 - (B) Design
 - (C) Coding
 - (D) Integration
- d. Waterfall model is not suitable for
- (A) Small Project
 - (B) Accommodating change
 - (C) Complex Project
 - (D) None of these
- e. Which of the following type of maintenance takes the maximum chunk of the total maintenance effort in a typical life cycle of software product?
- (A) Adaptive maintenance
 - (B) Corrective maintenance
 - (C) Preventive maintenance
 - (D) Perfective maintenance
- f. In risk analysis of spiral model, which of the following risk is included?
- (A) Technical
 - (B) Management
 - (C) Both (A) and (B)
 - (D) None of these

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- g. A data model consists of the following information?
- (A) Data Object
 - (B) The attributes that describe data object
 - (C) Relationship that connect data object to one another
 - (D) All of these
- h. The main difference between program testing and system testing is,
- (A) Program testing is more comprehensive than system testing
 - (B) System testing focuses on testing the interface between program and program testing focuses on individual programs
 - (C) System testing is tough and program testing is easy
 - (D) None of these
- i. The testing technique that requires devising test cases to demonstrate that each program function is operational is called
- (A) black-box testing
 - (B) glass-box testing
 - (C) grey-box testing
 - (D) white-box testing
- j. _____ measure the characteristics of the documentation and code.
- (A) Process metric
 - (B) Product metric
 - (C) Software quality metric
 - (D) Software metric

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

- Q.2** a. List various software process paradigms. Explain how a waterfall model and prototyping model can be accommodated in a spiral model. (8)
- b. Explain the concept of risk mitigation, monitoring and management with the help of examples. (8)
- Q.3** a. Describe the significance of “Formal Technical Review”. Should it access both programming style as well as correctness of software? Give reasons. (8)
- b. What is the significance of system models in requirement engineering processes? Give the differentiating features between various system models. (8)
- Q.4** a. Explain a rapid integration tool for Rapid application development approach. Explain its utility. (8)

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- b. Write a formal specification sheet for a proposed project of your choice. Make necessary assumptions wherever necessary. **(6)**
- c. Give the advantage of agile methods in software engineering. **(2)**
- Q.5** a. Explain system organization models in detail. **(8)**
- b. What is a Distributed System? Explain the significance and limitations of using a Distributed System. **(8)**
- Q.6** a. How do object oriented design (OOD) and structured design differ? What aspects of these two design methods are the same? **(8)**
- b. What do you mean by software reuse? Explain various application frameworks associated with software reuse. Give examples. **(8)**
- Q.7** a. Write the importance of user interface in software. How this phase is designed and implemented? **(8)**
- b. Explain software architectural design and describe how component level design gets implemented. **(8)**
- Q.8** a. Describe the alpha, beta, stress and integration testing schemes. Illustrate these schemes with suitable examples. **(8)**
- b. Differentiate between black box testing and white box testing. **(8)**
- Q.9** a. What do you mean by revision control? How is configuration management carried out? Explain. **(8)**
- b. Explain the facilities provided by system-building CASE tools. **(8)**