

DiplETE – CS

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. 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 information about the project
 - (C) never destroy another person's work
 - (D) all of these
- b. It is likely that the process model of preference for most software teams as we move in to the 21st century will be
- (A) linear sequential models
 - (B) spiral models
 - (C) agile incremental method
 - (D) formal models
- c. When we refer to knowledge in the context of information technology, we mean
- (A) raw data having special meaning
 - (B) information having business meaning
 - (C) unrelated piece of information
 - (D) data or information having different context
- d. What is software engineering?
- (A) It is a step that encompasses the method, tool, procedure used in software.
 - (B) It is Design, Coding, and Procedure
 - (C) It is the establishment and use of sound engineering practice in order to produce economical and reliable software that will perform efficiently on real machine
 - (D) It implements a single independent function

- e. Which of the following is not an example of Prototype in Engineering Paradigm?
- (A) paper prototype (B) working prototype
(C) software prototype (D) engineering prototype
- f. Software development process contains three generic phrases namely
- (A) coding, design, software engineering (B) definition, development, maintenance
(C) design, coding, development (D) development, definition, testing
- g. The following are properties of 'Modularity' except
- (A) it implements a single independent function
(B) it performs a single logical task
(C) it has a single entry and exit point
(D) none of these
- h. Which of the following construct in formal model in software engineering execute each statement in succession?
- (A) selection construct (B) sequence construct
(C) iteration construct (D) statement construct
- i. Which of the following translator convert high-level language on statement- by- statement basis?
- (A) compiler (B) interpreter
(C) assembler (D) none of these
- j. What is the important component of feasibility analysis?
- (A) political feasibility (B) environment feasibility
(C) technical feasibility (D) all of these

Answer any FIVE Questions out of EIGHT Questions.

Each question carries 16 marks.

- Q.2** a. What is a Process Framework? How the Process Model differ from one another? (8)
- b. What are the different phases of Unified Process? Explain. (8)

- Q.3** a. Explain the objectives of Requirement Analysis. How the System Context Diagram is different from system Flow Diagram? (8)
- b. What do you understand by the term “System Modelling”? List out the factors of “Data Modelling”. (8)
- Q.4** a. What is Rapid Application Development(RAD) Model? Write its features and the drawbacks. (8)
- b. What is the difference between the “Known Risks” and “Predictable Risks”? Why Formal Methods are not widely used? (8)
- Q.5** a. Explain the advantages of using a distributed approach to system development. Also discuss disadvantages of distributed system. (8)
- b. Write the role of Software Architecture Design. What are the important roles of Conventional component within the Software Architecture? (8)
- Q.6** a. What is object-oriented systems development methodology? Write its advantages and disadvantages. (8)
- b. Explain the various steps involved in adapting an application family to create a new application. (8)
- Q.7** a. Define software component. Explain how components are different from objects. (8)
- b. Discuss the advantages of graphical information display and suggest four applications where it would be more appropriate to use graphical display. (8)
- Q.8** a. Explain why validation is a particularly difficult process. (4)
- b. Explain why program inspections are an effective technique for discovering errors in a program. (4)
- c. What is Regression Testing? Explain how the use of automated tests and a testing framework simplifies regression testing. (8)
- Q.9** a. Define Software Quality Assurance. Why do we need Formal Technical Reviews? (8)
- b. Discuss CASE tools for configuration Managements. (8)