Code: DC65   **Subject: SOFTWARE ENGINEERING**

DipIETE – 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

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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 Con____ 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)**