Sl. No.

B3.3-R4 : SOFTWARE ENGINEERING AND CASE TOOLS

NOTE :
1. **Answer question 1 and any FOUR from questions 2 to 7.**
2. **Parts of the same question should be answered together and in the same sequence.**

Time : 3 Hours   **Total Marks : 100**

1. (a) What do you mean by SRS ? Discuss Why SRS is most Important in SDLC ?

   (b) Define the term error, bug, fault and failure and describe how they are related to each other.

   (c) List out characteristics of software and justify why software does not wear out ?

   (d) What is the difference between a Revision and a Version ?

   (e) List out different case tools and Discuss the Significance of CASE tools.

   (f) Why are Evolutionary process models considered by many to be the best Approach to Software development in a modern context ?

   (g) Define the term Software. Explain the difference between Software Process and a Software Process model. **(7x4)**

2. (a) Discuss Potentialities and limitations of ISO 9001 and CMM certifications.

   (b) Describe the differences between Software module Coupling and Cohesion. What should be Preferred-strong coupling or strong cohesion ?

   (c) What do you mean by Software life cycle model(s) ? Is it compulsory to follow it while developing a project ? Explain in brief. **(6+6+6)**

3. (a) What are the attributes and principles of a good software design ?

   (b) Describe Software Configuration Management Process.

   (c) What do you mean by software Maintenance ? What are the different types of Maintenance that a Software product might need ? **(6+6+6)**

4. (a) Define the term Code Review, Code Walk Through, Code Inspection.

   (b) The library management system should be able to handle requests for membership, issue and return of books as well as handle purchase of books from the suppliers. Draw a context level Data Flow Diagram (DFD) and level-0 Data Flow Diagram for a Library Management System

   (c) Define the Term Software Agent and Program. Differentiate between Software Agent and Program. **(6+6+6)**

5. (a) List out Different Types of Testing. Explain White box testing techniques with example.

   (b) Discuss the Importance of Design during project Development. Describe Graphical User Interface and Interface Design.

   (c) What do you understand by requirements validation ? How can requirements be validated ? **(6+6+6)**

6. (a) Discuss how software quality can be achieved during software development. Is it possible to Assess quality of software before the programs are actually developed ?

   (b) Explain the concept of encapsulation, inheritance, and polymorphism with example.

   (c) What is requirement engineering ? What are the activities related to it ? What is requirement elicitation ? Explain any one technique in brief. **(6+6+6)**

7. (a) List out the different Software Development Process model which are used to develop Large Project System. Explain Prototype model with its advantage and disadvantage.

   (b) Write a Short note on "Six Sigma"

   (c) What do you mean by Software Reliability ? Explain Reliability in brief. **(6+6+6)**

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