Sl. No.

C10-R4 : SOFTWARE SYSTEMS

NOTE :
1. **Answer question 1 and any FOUR questions from 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) Explain the drawbacks of Classical Waterfall Model.

   (b) Why is the Spiral Model called Meta Model ?

   (c) What is meant by UML ? Where Class Diagrams are used ?

   (d) Explain reverse Engineering and why reverse engineering is required ?

   (e) Explain the system software and its features.

   (f) List a few Cross-browser testing tools.

   (g) What are the differences between Alpha Testing and Beta Testing ? **(7x4)**

2. (a) What are Advantages and disadvantages of the prototype model ?

   (b) Describe the different types of software based on the application.

   (c) Explain the primary purpose of the error guessing technique.

   (d) What is meant by dynamism in software architecture ? Explain architecture based testing and analysis. **(5+5+4+4)**

3. (a) Write the differences between automation testing and manual testing.

   (b) Develop a state chart for "Airline Reservation System".

   (c) Explain the Objectives of Software Design. Also list characteristics of six sigma in software sytem.

   (d) Explain classification of Software Requirements in Software Engineering. **(3+6+6+3)**

4. (a) Briefly explain the Data Flow Testing. Why DFD is made in terms of levels ?

   (b) Develop E-R diagram and prepare data dictionary for Hospital Management System. Assume relevant data yourself.

   (c) Write a short note on Software Cost Estimation.

   (d) What is Software Project Management ? Explain with the help of suitable example. **(3+8+3+4)**

5. (a) Explain features of Lambda test. Also explain different software fault tolerant techniques.

(b) Draw Use Case diagram for a simple "University Management System". Assume suitable data yourself.

(c) Explain the Rapid Application Development Model for software development.

(d) Explain the Quality Characteristics of a good SRS in Software Engineering.

(4+8+4+2)

6. (a) Differentiate between quality and reliability of software. Can a software be correct and still not exhibit good quality ? Can a software be correct and still not be reliable ?

(b) Explain Challenges in eliciting requirements of software engineering.

(c) Write a short note on the following :-

(i) Behavioral Diagrams

(ii) Deployment Diagram

(iii) Component Diagram

(6+6+6)

7. (a) Explain Comparison of Objects and Agents in software development.

(b) Explain UML activity diagram, also explain the process to draw activity diagram and where to use an activity diagram.

(9+9)

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