

C10-R4 : SOFTWARE SYSTEMS

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) Explain bath-tube curve. Elaborate the statement “ software doesn’t wear out”.
 - (b) What do you mean by SRS ? Enlist good characteristics of SRS.
 - (c) Define the following terms : Error, Bug, Fault, Defect, Failure.
 - (d) What are the various characteristics for selection of life cycle model ?
 - (e) Explain the term Software crisis. Elaborate the reason associated with crisis.
 - (f) Enlist non-functional requirement of software.
 - (g) What do you mean by Software Engineering ? (7×4)
2.
 - (a) Explain Spiral model with suitable diagram. Also Specify why it is called Meta Model.
 - (b) Explain waterfall model of software development. Discuss its merits and demerits.
 - (c) Describe Iterative incremental model of software development. (6+7+5)
3.
 - (a) Describe the basic components of data Flow diagram. Make a DFD for Library Management System.
 - (b) Explain the term coupling and cohesion. Explain their types also.
 - (c) Draw E-R Diagram for Online Reservation System. (5+8+5)
4.
 - (a) Describe the term data dictionary. Specify how data dictionary is helpful for DFD.
 - (b) What do mean Requirement Elicitation ? Describe various elicitation technique.
 - (c) What do you understand by Object Oriented Analysis ? Also specify its various approach. (5+8+5)

5. (a) Describe Use case diagram with suitable example.
(b) Explain the term modularization in software design.
(c) What do you mean by State diagram in UML ? Draw state diagram for online order. **(6+6+6)**
6. (a) Differentiate between Validation and Verification.
(b) Explain different levels of Testing.
(c) Write short notes on the following :
(i) Boundary Value Analysis
(ii) Equivalence Class Testing **(6+6+6)**
7. (a) Describe the term Software Re-engineering and Software Reverse Engineering.
(b) Explain software reliability and define how software and hardware reliability are related to each other.
(c) What do you mean by Software Agents ? Enlist various types of software agents. **(6+5+7)**

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