2017
MCA
Paper : 4.2

SOFTWARE ENGINEERING

Full Marks: 75

Time: 3 hours

The figures in the margin indicate full marks for the questions

1. **Answer the following questions (1 mark each):**   1 X 5=5

    i. What are the Components of a Software ?

    ii. What is an error?

    iii. Define Coupling.

    iv. What is Software Process?

    v. Define Software maintenance?

2. **Answer the following questions (2 marks each):**   2 X 5=10

    i. What is Software Prototyping?

    ii. Define CASE tools?

    iii. What is meant by unit testing?

    iv. Explain Bottom up design.

    v. What are the Objectives of Designing?

       P.T.O.

3. **Answer any four questions from the following (5 marks each):**

$$5 \times 4 = 20$$

i. Explain software maintenance process.

ii. Draw the E-R diagram for Library Management System. Make your own assumption about the system.

iii. Draw Use Case diagram for a Railway Reservation system with Use Cases like, Update train Info, report generation, login, view reservation status, view train schedules, reserve seat, cancellation.

iv. Explain the role of Inheritance in Object Oriented Design.

v. Let a project was estimated to be 500 KLOC. Calculate the effort and development time for each of the three modes, i.e. organic, semidetached and embedded of COCOMO.

Answer any four questions from the following (10 marks each)::

$$10 \times 4 = 40$$

4. Explain various steps involved in requirement analysis.

5. Draw DFD up to level 2 for Student Result Management system. Make your own assumption about the system.

6. Describe COCOMO.

7. Explain the phases in Spiral Model used in SDLC.

8. Explain the components which are used in constructing an E-R diagram.

9. Describe Size Estimation techniques in Software Engineering.

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