16117

3 Hours / 100 Marks   Seat No.

Instructions : (1) All Questions are *compulsory*.

(2) Answer each next main Question on a new page.

(3) Illustrate your answers with neat sketches wherever necessary.

(4) Figures to the right indicate full marks.

(5) Assume suitable data, if necessary.

(6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. **(A) Answer any THREE of the following :**   **12**

(a) Describe any four categories of software.

(b) State and describe six principles of communication practices.

(c) With neat diagram, describe inputs and output of domain analysis.

(d) Write any four features of Agile Software Development approach.

(B) Answer any ONE of the following :   **6**

(a) With neat diagram, explain RAD model with its advantages and disadvantages. (2 each)

(b) Draw DFD level 0 and level 1 for Hotel management system.

2. Answer any FOUR of the following :   **16**

(a) Explain process framework with suitable diagram.

(b) Describe in brief four level testing process in test execution.

(c) Differentiate between cardinality and modality. (Any four points)

(d) Differentiate between waterfall and incremental model. (any four points)

(e) Explain following with reference to design concepts in design modelling.

   (i)   Abstraction

   (ii) Functional independence

(f) Explain software engineering as a layered technology approach with neat diagram.

3. Answer any FOUR of the following :   **16**

(a) Describe Team Software Process (TSP) model in detail.

(b) Describe four principles of analysis modelling.

(c) Explain general format of Software Requirement Specification (SRS).

(d) Describe Data Dictionary. Wire any four advantages.

(e) Explain.

   (i)   Component-level design elements

   (ii) Deployment level design elements.

   With respect to design model.

4. **(A)** **Answer any THREE of the following :** **12**

(a) What do you mean by testing strategies ?

(b) Explain basic principles of project scheduling.

(c) Write steps to perform statistical SQA.

(d) Explain smoke testing with its advantages and disadvantages (2 each)

(B) **Answer any ONE of the following :** **6**

(a) Explain CPM. How is it different from PERT ?

(b) Explain CMMI with its levels and neat diagram.

5. **Answer any TWO of the following :** **16**

(a) State and describe various core principles of software engineering.

(b) Describe the following with respect to Risk assessment :

(i) Risk identification

(ii) Risk analysis

(iii) Risk prioritization

(c) What is Quality Assurance ? Describe various SQA activities.

6. **Answer any FOUR of the following :** **16**

(a) Differentiate between verification and validation.

(b) Explain Brute force approaches used in debugging stratetics.

(c) Explain any four features of SCM.

(d) Explain the following management spectrum :

(i) The Process

(ii) The Project

(e) Describe white box and black box testing of software.

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