22223

3 Hours / 70 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.   **Attempt any <u>FIVE</u> of the following:**   **10**

   a) Draw layered approach of software engineering.

   b) Define software engineering.

   c) List any four characteristics of good SRS.

   d) Enlist four types of risks.

   e) Define empirical estimation approach.

   f) Differentiate between quality assurance and quality control. (Any two points)

   g) Define Software Quality Assurance Plan (SQAP).

2.   **Attempt any <u>THREE</u> of the following:**   **12**

   a) Explain characteristics of software.

   b) Describe the notations used for preparing a structured chart.

   c) Explain the following 4P's management spectrum.

   d) Describe work breakdown structure with diagram.

Marks

3. **Attempt any THREE of the following:** **12**

    a) State the requirements to apply RAD.

    b) Describe any four software coding principles.

    c) Prepare decision table for accessing secured network.

    d) State project size estimation techniques and explain any one.

4. **Attempt any THREE of the following:** **12**

    a) Explain adaptive software development method w.r.to

        i) Speculation

        ii) Collaboration

    b) Describe any four core principles of software engineering practices.

    c) Describe RMMM strategy.

    d) Explain Heuristic method of cost estimation approach.

    e) Prepare Gantt chart for hostel management system.
       (Five days a week). consider phases of SDLC.

5. **Attempt any TWO of the following:** **12**

    a) Draw use-case diagram for ATM system with minimum four use cases and two actors.

    b) Differentiate between black box testing and white box testing (any six points).

    c) Use COCOMO model to calculate

        i) Effort

        ii) Development time

    if estimated size of project is 500 KLOC using organic, semi-detached, and Embedded mode.

Marks

6. Attempt any <u>TWO</u> of the following: **12**

a) Draw and explain conceptual data model with E-R diagram for employee management system.

b) Describe six sigma and state the phases of DMAIC and DMADV.

c) State requirements for given modules of online shopping system.

   i) Order module

   ii) Accountant module

   iii) Categories module.

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