

(2 ½ Hours)

[Total Marks: 75]

- N.B. :** 1) All questions are **compulsory**.  
 2) **Figures** to the right **indicate marks**.  
 3) Illustrations, in-depth **answers** and **diagrams** will be appreciated.  
 4) Mixing of **sub-questions** is **not allowed**.

**Q. 1** Attempt All (Each of **5 Marks**)**(15)**

- a) 1. Software Requirement Specification (SRS) is also known as specification of\_\_\_\_\_.
- White box testing
  - Acceptance testing
  - Integrated testing
  - Black box testing
2. Which is the most desirable form of coupling?
- Control coupling
  - Data coupling
  - Common coupling
  - Stamp coupling
3. Kind of diagrams which are used to show interactions between series of messages are classified as\_\_\_\_\_.
- activity diagrams
  - state chart diagrams
  - collaboration diagrams
  - object lifeline diagrams
4. Six Sigma methodology defines three core steps\_\_\_\_\_.
- analyse, improve, control
  - analyse , design , verify
  - define , measure, analyse
  - define , measure, control
- 5 Diagrams which are used to distribute files, libraries and tables across topology of hardware are called\_\_\_\_\_.
- deployment diagrams
  - use case diagrams
  - sequence diagrams
  - collaboration diagrams
- (b) 1. HLD stands for .....
2. SDP short for .....
3. KLOC stands for .....
4. RMMM stands for .....
5. CMP stands for .....

- (c) 1. Define time line charts in Software Engineering?
- 2. Define Quality assurance?
- 3. Define validation?
- 4. Define Software Engineering?
- 5. Define module cohesion?

**Q. 2 Attempt the following (Any THREE) (15)**

- (a) What is SRS? Write characteristics of SRS.
- (b) State advantages and disadvantages of waterfall model.
- (c) Differentiate between sequence diagram and collaboration diagram.
- (d) What are the attributes of good software?
- (e) Explain Agility and write its advantages and disadvantages.
- (f) Define Use case diagram? Draw and explain symbols for the same.

**Q. 3 Attempt the following (Any THREE) (15)**

- (a) Define coupling what are the various levels of coupling.
- (b) Calculate Cyclomatic complexity for Quadratic equation. Find various paths and design test cases.
- (c) Explain Software user interface design.
- (d) Define Object-Oriented Programming and features of OOPs.
- (e) Write the scope of software metrics.
- (f) Explain Halstead's metrics with an example.

**Q. 4 Attempt the following (Any THREE) (15)**

- (a) Explain Capability Maturity Model.
- (b) What is Risk management ? Explain Software risk management process.
- (c) Explain the purpose of six sigma.
- (d) Explain any five software quality attributes.
- (e) What is Structural testing? Write its advantages and disadvantages.
- (f) Explain McCall's Quality factors.

**Q. 5 Attempt the following (Any THREE) (15)**

- (a) Draw a Sequence diagram for online ordering of food delivery System.
- (b) State and Explain the Quality metrics.
- (c) State the difference between Black box testing and white-box testing?
- (d) State all and write down a short note on any 3 fact finding techniques.
- (f) Explain requirement validation.

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