

(2 1/2 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 _____.
 - a. White box testing
 - b. Acceptance testing
 - c. Integrated testing
 - d. Black box testing

2. Which is the most desirable form of coupling?
 - a. Control coupling
 - b. Data coupling
 - c. Common coupling
 - d. Stamp coupling

3. Kind of diagrams which are used to show interactions between series of messages are classified as _____.
 - a. activity diagrams
 - b. state chart diagrams
 - c. collaboration diagrams
 - d. object lifeline diagrams

4. Six Sigma methodology defines three core steps _____.
 - a. analyse, improve, control
 - b. analyse , design , verify
 - c. define , measure, analyse
 - d. define , measure, control

- 5 Diagrams which are used to distribute files, libraries and tables across topology of hardware are called _____.
 - a. deployment diagrams
 - b. use case diagrams
 - c. sequence diagrams
 - d. 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.
