CS extra

(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 _____.
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 .....

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(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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