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 5Marks)   (15M)

(a)   **Multiple Choice Questions:**
(i)   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

(ii)   Which of the following a part of Software Requirement Specification (SRS)?
       a. Observation   b. structured walkthrough
       c. stakeholder   d. None of the option

(iii) Kind of diagrams which are used to show interaction between series of messages are classified as _____
       a. activity diagrams
       b. state chart diagrams
       c. collaboration diagrams
       d. object lifeline diagrams

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

(v)   Test Conditions are derived from
       a. Test Design, b. Test Cases, c. Test Data, d. Specifications

(b)   **Fill in the blanks.**
1.   1. ISO stands for ....
2.   2. SDP stands for ....
3.   3. SQL stands for ....
4.   4. RMMM stands for ....
5.   5.CMM stands for ....

(c)   **Answer in *one-two* lines**
1.   What is software re-engineering?
2.   Define Quality Assurance.
3.   What is software metrics?
4.   What is Black Box testing?

5.   Define module cohesion.

Q.2   Attempt the following (Any THREE)   (15M)
(a)   Explain, why requirements are expressed as scenarios which are also known as the user stories in Extreme programming.
(b)   State advantages and disadvantages of waterfall model.
(c)   What is SRS? State and explain its types.
(d)   What is Component Diagram? Draw and explain symbols for the same.
(e)   Elaborate on Unified Process.
(f)   Define Use Case diagram? Draw and explain symbols for the same.

Q.3   Attempt the following (Any THREE)   (15M)
(a)   Define coupling What are levels of Coupling.
(b)   Write a short note on Cyclomatic Complexity.
(c)   Write the scope of software metrics
(d)   Explain Software Design Specification.
(e)   Write a short note on COCOMO.
(f)   Explain Halsted's metrics with one example.

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

(a)   Define Test Case, Test Oracle, and Test Plan.
(b)   What is Risk Management? Explain Software risk management Process.
(c)   What is Quality Assurance? What are Quality Assurance Criteria?
(d)   Define Testing. Explain the objectives of Testing.
(e)   Explain Capability Maturity Model.
(f)   Explain McCall's Quality Factors.

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

(a)   List and write short note on any three fact finding techniques.
(b)   List and explain the Quality metrics.
(c)   Explain Verification and Validation.
(d)   Describe the Incremental model.
(e)   Explain requirements Gathering process.