T.Y.B.Sc (CS) (Sem V) Dec-2023   Date: 4|12|2023

(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 ANY FOUR from the following: **(20M)**
(a)   What is an error? Explain Types of Errors.
(b)   What is quality in software development? Explain software quality factors.
(c)   What is Quality Assurance? Define the purpose of QA in software development.
(d)   Explain the role of testing in each phase of SDLC.
(e)   What is a V-Model in software testing?.
(f)   Explain the concepts of Software Review, Inspection and walkthrough

Q. 2   Attempt ANY FOUR from the following: **(20M)**
(a)   What are software Testing metrics? Explain different types of metrics.
(b)   What is Black Box testing and its types? Explain state transition testing.
(c)   Explain top-down integration testing.
(d)   What is White Box testing and its types? Explain flow graph notation.
(e)   What is System Testing? Explain different types of testing.
(f)   Explain testing documentation in detail.

Q. 3   Attempt ANY FOUR from the following: **(20M)**
(a)   Explain the defect management process in detail with a neat diagram.
(b)   Explain cause and effect diagram.
(c)   Explain about software metrics and its importance.
(d)   What is a Pareto diagram? Explain steps of drawing a Pareto chart.
(e)   List various methodologies of quality improvement. Explain any four.
(f)   Explain scatter diagram in detail.

Q. 4   Attempt ANY FIVE from the following: **(15M)**
(a)   Explain objectives of SQA.
(b)   Discuss Cyclomatic Complexity with an example.
(c)   How to use a defect for process improvement.
(d)   State the principles of software testing.
(e)   Explain metric lifecycle.
(f)   How to measure quality cost?

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QP Code #0178