

Total No. of Questions : 12]

SEAT No. :

P1475

[Total No. of Pages : 3

[4164] - 723

May June 2012

B.E. (IT)

SOFTWARE TESTING AND QUALITY ASSURANCE

(2008 Pattern) (Sem. - I)

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates:-

- 1) Answer question 1 or 2, 3 or 4 and 5 or 6 from Section I and question 7 or 8, 9 or 10 and 11 or 12 from Section II.
- 2) Answers to the two sections should be written in separate books.
- 3) Neat diagrams must be drawn wherever necessary.
- 4) Figures to the right indicate full marks.
- 5) Assume suitable data, if necessary.

SECTION - I

Q1) a) Explain following terms :

[12]

- i) Unit testing
- ii) Regression testing
- iii) Integration testing
- iv) System testing

b) What are difference between errors, faults and defects.

[3]

c) Explain the term "Test bed".

[3]

OR

Q2) a) Explain "Testing Life cycle" with a neat diagram.

[6]

b) List different components of Test Plan. Explain any 3 of them.

[6]

c) What is boundary value analysis? Explain the same.

[6]

Q3) a) What is white box testing? Explain any one of the white box testing approach in detail.

[8]

b) What is test management? Explain in detail.

[8]

OR

P.T.O

- Q4) a) Explain defect life cycle. [6]
b) What are different types of defect analysis procedures? [6]
c) Explain defect prevention process. [4]

- Q5) a) Explain representational theory, scales and meaningfulness in measurement. [8]
b) What are different metrics for software maintenance? [8]

OR

- Q6) a) Explain in-process quality metric. [7]
b) Explain terms : [9]
i) MTTF
ii) Defect Density
iii) Function point.

SECTION - II

- Q7) a) Define Software Quality and Software Quality Assurance. List the various objectives of Software Quality Assurance (SQA). [8]
b) Classify software quality factors with respect to Product operation and Product revision. Explain correctness and maintainability quality attributes with proper examples. [8]

OR

- Q8) a) Explain defect amplification and removal process in brief. Compare this process when review conducted and when no reviews are conducted. [8]
b) Compare the following : [8]
i) Quality Control and Quality Assurance.
ii) Prevention cost of quality and Appraisal cost of quality.

- Q9) a) Explain the benefits of using SQA standards. Also describe the contributions made by the use of standards in SQA. [6]
b) What is SEI's Capability Maturity Model (CMM)? Explain briefly each level with their Key Process Area (KPA). [10]

OR

- Q10) a) Differentiate between CMM and CMMI quality models. [8]
b) Describe the general principles underlying quality management according to ISO 9000. Also describe the ISO 9000 certification process. [8]

Q11) Write short notes on any three : [3 × 6 = 18]

- a) Six Sigma measure of software quality.
- b) Software Configuration Management (SCM).
- c) Goals and Activities performed in Organization Process Definition (OPD).
- d) Process Change Management (KPA for Level 5).

OR

- Q12) a) Write in detail the actors and their roles in a typical software quality assurance Organizational framework. [6]
b) Compare between Inspection, Walkthrough and Review. [4]
c) Write a note on : [2 × 4 = 8]
i) Pareto Chart.
ii) Fishbone Diagram.

