

[5254]-183

B.E. (Information Technology)

SOFTWARE TESTING AND QUALITY ASSURANCE

(2008 Pattern)

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates:

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

SECTION - I

- Q1)** a) Explain verification and validation testing with diagram. [8]
b) Explain System testing with suitable example. [8]

OR

- Q2)** a) Differentiate between White box and Black box testing. [8]
b) What is the difference between Regression testing and retesting? Explain in detail regression testing . [8]

- Q3)** a) Explain in detail Software testing lifecycle with suitable diagram. [8]
b) Draw and explain software defect life cycle. [8]

OR

- Q4)** a) Explain Test cases for Find and replace window. [8]
b) Why mutation testing is called fault based test approach? Explain with an example. [8]

- Q5)** a) Explain classification of Software measures. [8]
b) What are software metrics? Explain different scales of measurements with example. [10]

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OR

- Q6)** a) Explain with example the GQM method for identifying software measures?[10]
b) What are Product Quality Metrics & In Process Quality Metrics. [8]

SECTION - II

- Q7)** a) Define Quality. What is the difference between Quality Control & Quality Assurance? list SQA activities. [10]
b) Explain Ishikawa's Seven basic quality tools. [8]

OR

- Q8)** a) Explain the following software reliability quality attributes: [10]
i) Usability
ii) Maintainability
iii) Portability
iv) Integrity
v) Interoperability
b) Explain Software reviews, Inspections & Audits in detail. [8]

- Q9)** a) Explanation for the PDCA cycle with reference to ISO 9000:9001 with Diagram. [8]
b) Explain in detail maturity levels of CMM. [8]

OR

- Q10)** a) List all the requirements of ISO 9000 and ISO 9001. [8]
b) Explain the terms DMAIC and DMADV with reference to six sigma.[8]

- Q11)** a) Explain in detail the Quantitative Process Management KPA. [8]
b) Write a short note on: [8]
i) Peer reviews
ii) Defect prevention

OR

- Q12)** a) Explain: [8]
i) Organization process definition (OPD)
ii) Software product engineering (SPE)
b) What is Software Configuration management? How it is useful in Software Development Process? [8]

