Total No. of Questions : 12]

SEAT No. :

P2812

[Total No. of Pages : 3

[5154]-193
B.E. (IT)
SOFTWARE TESTING AND QUALITY ASSURANCE
(2008 Course) (414442) (Semester - I)

Time : 3 Hours] *[Max. Marks : 100*

Instructions to the candidates:

1) ***Answer the questions from Section I as 1 or 2, 3 or 4 and 5 or 6. Answer the questions from Section II as 7 or 8, 9 or 10 and 11 or 12.***
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) Differentiate any two in detail: (4 Marks Each) **[8]**

i) System Testing and Acceptance Testing

ii) Test Plan and Test Strategy

iii) Unit verification and Unit validation

b) 'V & V diagram is basis for every type of testing?' Comment on this statement. What is the role of test plans in a V & V diagram? **[8]**

OR

Q2) a) Describe in brief System Level Testing. (Any 5 methods) **[8]**

b) What are the different methods of White Box Testing? Differentaite between Black Box and White Box Testing. **[8]**

Q3) a) Define test Plan and its Contents. **[4]**

b) Explain STLC phases. Differentiate between SDLC and STLC. **[12]**

OR

Q4) a) What is control flow graph? How is it used in white box testing? How is the cyclomatic complexity value useful to the tester? **[8]**

b) What is a good test case? Write Test cases on Telephone. **[8]**

P.T.O.

Q5) a) Define measurement scale and explain the Nominal, Ordinal, Interval and Ratio scales of measurement. **[8]**

b) What is test metrics? Explain In-Process and Product Quality Metrics in brief. **[10]**

OR

Q6) a) Explain the Metric Plan in brief. Explain Goal Question Metric (GQM) model of measurement. **[10]**

b) What is the origin of defect? What are the different classes of defect?**[8]**

SECTION - II

Q7) a) Define software quality and Software Quality Assurance. List the various objectives of Software Quality Assurance (SQA). **[8]**

b) Illustrate with example the use of following techniques in improving quality: **[8]**

i) Code inspection

ii) Project planning

OR

Q8) a) Classify software quality factors with respect to Product operation and Product revision. Explain correctness and maintainability quality attributes with proper examples. **[8]**

b) Explain Ishikawa's Seven basic tools. **[8]**

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) What is Six Sigma? Explain terms DMAIC & DMADV with reference to Six Sigma. **[8]**

b) List the requirements of ISO 9000 and ISO 9001. **[8]**

Q11) Write short notes on any three (Each note for 6 Marks): **[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) What is Quality Assurance (QA)? How it is different from Quality Control (QC)? **[4]**

c) Write a note on: (Each note for 4 Marks): **[8]**

i) Pareto Chart.

ii) Fishbone Diagram.