[5561]-685

B.E. (Computer)
SOFTWARE TESTING & QUALITY ASSURANCE
(2015 Pattern) (Semester - I) (Elective - II)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

1) *Assume suitable data if necessary. Mention your assumptions.*
2) *Right indicates the full marks and Bifurcation for sub questions.*
3) *Draw suitable diagrams and tables if necessary.*

Q1) What is software testing process? Why do we have to test the software? Explain the reasons with respect to quality view, financial aspect, customers suppliers and process. **[2+4=6]**

OR

Q2) Identify the software quality attributes for the following scenarios:**[2+2+2=6]**

a) Now a days must of the peoples are using internet banking for online transaction. What could be the top 2 architectural drivers (quality attributes) for this system? Justify your answer.

b) Company want build a game for the children's which they should play from any device. Also various input devices (i.e. mouse, joystick, touch screen etc...) may also integrated for playing a game.

c) A software company is in a process of building social networking site which will have very large number of users in near future. Also company wish to add new features in this site and during addition of new features site should provide all the current features without any disturbance What top 2 quality attribute is being addressed by this tactic? Justify your answer.

Q3) Explain the following example for software testing and Develop test strategy, Test planning, Testing process and number of defects found. **[3+4=7]**

Ex : One of your friend has written a program to search a string in a string and

P.T.O.

requested you to test the below function.

function strpos_generic ($haystack, $needle, $nth, $insensitive)

following are terminology definitions.

- $haystack = the string in which you need to search value.

- $needle = the character that needs to be searched, the $needle should be a single character.

- $nth = occurrence you want to find, the value can be number between 1,2,3

- $insensitive = 1-case insensitive, 0 or any other value is case sensitive

- Passing as Null as parameter in haystack or needle is not a valid scenario and will return Boolean false.

- The function will return mixed integer either the position of the $nth occurrence of $needle in $haystack, or Boolean false if it can't be found.

OR

Q4) a) What are the different errors in software testing? **[3+4=7]**

b) What is process for Mutation testing? Apply mutation testing on following code.

Read Age

If Age > 14

Doctor = General Physician

End if

And Data set is 14, 15, 0, 13

Q5) a) Explain features of J unit software testing tool. **[3+4=7]**

b) Discuss the test Automation for XP/Agile model.

OR

Q6) a) What is data Driven testing (DDT)? Explain data driven testing framework. **[4+3=7]**

b) List features of J Meter software testing tool.

Q7) a) What is Selenium? What are different fetures of selenium IDE? **[6+5+5=16]**

b) List automation tools for software testing. Describe QTP in detail.

c) What are selenium test design considerations?

OR

Q8) a) State & explain the components of selenium tool. **[6+5+5=16]**

b) What is selenium Grid? What is the purpose of selenium Grid?

c) What is Selenium RC? Explain its features.

Q9) a) Discuss Principles of Quality management. **[6+6+5=17]**

b) Explain Software Quality Assurance and elements of SQA.

c) Write short note on ISO 9000 quality standards.

OR

Q10) a) What is Six Sigma? Explain the terms DMAIC & DMADV. **[6+6+5=17]**

b) Define Software Quality & Software Quality Assurance. List the various objectives of SQA.

c) Mean: Avearge, Median : Mid point values in series, Mode : Most repetitive values and Range : difference between highest and lowest value.

*Q11)*a) Enumerate Ishikawa's seven basic quality tools. Explain any two in detail.

[6+6+5=17]

b) Describe key elements of Total quality management.

c) Explain with example product quality metric.

OR

*Q12)*a) Write short note on Total Quality Management approach.

[6+6+5=17]

b) Explain following terms (any two)
   i) Checklists
   ii) Histogram
   iii) Run charts

c) Describe in detail defect injection & defect removal activities for a development process.

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