

ALLAMA IQBAL OPEN UNIVERSITY, ISLAMABAD
(Department of Computer Science)

WARNING

1. **PLAGIARISM OR HIRING OF GHOST WRITER(S) FOR SOLVING THE ASSIGNMENT(S) WILL DEBAR THE STUDENT FROM AWARD OF DEGREE/CERTIFICATE, IF FOUND AT ANY STAGE.**
2. **SUBMITTING ASSIGNMENTS BORROWED OR STOLEN FROM OTHER(S) AS ONE'S OWN WILL BE PENALIZED AS DEFINED IN "AIOU PLAGIARISM POLICY".**

Course: Software Quality and Testing (3483)
Level: BS (CS)

Semester: Spring, 2014
Total Marks: 100

ASSIGNMENT No. 1
(Units: 1–4)

Note: All questions are compulsory. Question 1, 2 and 3 has 20 marks each, Question 4 has 10 marks and Question 5 has 30 marks.

- Q. 1 a) What is testing? What does a software tester exactly do? Explain with the help of two real life examples.
b) Explain Big Bang Model with the help of suitable examples. (20)
- Q. 2 a) Why is it impossible to test a program completely? Explain in detail with the help of suitable examples.
b) What is the difference between Testing and Quality assurance? Explain Verification and Validation with the help of suitable examples. (20)
- Q. 3 a) Write a Comparison between Static and Dynamic software testing.
b) Define Specification. Also explain the Specification Review in detail with the help of suitable examples. (20)
- Q. 4 Explain the Formal Review and Walkthrough Review with the help of Suitable example. (10)
- Q. 5 Consider the Website (<http://dcs.aiou.edu.pk>) of Department of Computer Science, Allama Iqbal Open University (AIOU) and perform a Compatibility Testing in five different browsers. (30)

ASSIGNMENT No. 2

(Units: 5–8)

Total Marks: 100

Note: All questions are compulsory. Question 1 has 20 marks, Question 2 & 3 has 15 marks each and Question 4 has 50 marks.

- Q. 1 (a) How to overcome compatibility problems?
(b) Define Software Documentation. Also explain the Types of Software Documentation in detail with the help of suitable examples. **(20)**
- Q. 2 (a) What is the concept of Cyclomatic Complexity? How many different methods do exist to calculate it? Discuss them by giving an example.
(b) Write a short note on Software Quality Assurance. **(15)**
- Q. 3 (a) What is the difference between Translation and Localization? Explain in detail.
(b) What are the major issues of localization? How you to deal with these issues? **(15)**
- Q. 4 Suppose you are a Software tester and your job is to perform Black Box Testing on the Allama Iqbal Open University (AIOU) Website <http://www.aiou.edu.pk>. You should apply different Black Box Testing techniques on AIOU Website and found the errors that still exist in it. Write a brief report on it. **(50)**
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3483 Software Quality & Testing

Credit Hours: 4 (3+1)

Recommended Book:

Software Testing by Ron Patton, 2nd Edition

Course Outlines:

Unit No. 1 Software Testing Fundamentals

Software Testing Background, Realities of Software Testing, Examining the Specifications

Unit No. 2 Software Testing Techniques

Testing the Software, Examining the Code, Testing the Software with x-ray Glasses

Unit No. 3 Configuration Testing

Overview, Approaching the task, Obtaining the Hardware, Identifying the Hardware Standards, Configuration Testing other Standards

Unit No. 4 Compatibility Testing

Overview, Platforms and Application Versions, Standards and Guidelines, Data Sharing and Compatibility

Unit No. 5 Testing the Documentation

Overview of Software Documentation, Types of Software Documentation, Importance & Realities of Documentation Testing

Unit No. 6 Web Site Testing

Web page fundamentals, Black-box Testing (Test, Hyperlinks, Graphics, Forms, and Objects), Gray-box Testing, White-box Testing, Configuration & Compatibility Testing, Usability Testing, Introducing Automation

Unit No.7 Working with Test Documentation

Planning the Test Effort, Writing and Tracking Test Cases, Reporting the Test, Measuring the Success

Unit No. 8 Software Quality Assurance

Overview, Testing and Quality in the Workplace, Test management & Organization Structure, Capability Maturity Model, ISO 9000

Unit No. 9 Software Testing Careers

Software Tester Job, Finding a Software Testing Position, Gaining Hands on Experience, Formal Training Opportunities, Internet Links & Professional Organization

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