

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 Engineering-II (3465)
Level: MBA - IT

Semester: Spring, 2014
Total Marks: 100

ASSIGNMENT No. 1
(Units 1–4)

Note: All questions carry equal marks.

- Q.1 What is software engineering? How is it different from other traditional engineering branches? Distinguish between a software product and a software process. What are the characteristics of software product?
- Q.2 Explain different process models along with their relative merits and demerits. Also describe different software design strategies with proper illustrations.
- Q.3 Explain how both waterfall model and the prototyping model can be accommodated in the spiral process model. Also describe Layered Technology with proper examples.
- Q.4 Mention the six specific design process activities. Give explanation for two of them. Also explain briefly Software Quality?
- Q.5 Explain the role of testing in software? What are Testing Strategies and Tactics? Also describe briefly the Metrics for analysis & Design Models.

ASSIGNMENT No. 2

(Units 5–8)

Total Marks: 100

Note: All questions carry equal marks.

- Q.1 What are the types of testing? Explain in detail. Also describe briefly the Validation Testing with proper examples.
- Q.2 What is Black Box testing & White Box testing? Give the difference between Black and White Box testing? Also differentiate between Throw away and evolutionary prototyping?

- Q.3 What are the different types of interface errors that can occur and what are the general guidelines for interface testing. What are the issues in the design of the software?
- Q.4 What do you understand by software development lifecycle in SDLC? Why it is important to adhere to a life cycle model while developing a large software product? Suppose you are working as a software engineer involved in the development of an e-commerce website. What are 2 most important characteristics your software must have?
- Q.5 Explain spiral model in detail with advantages and disadvantages in details. Also describe briefly prototyping model, its advantages and disadvantages.

3465 Software Engineering-II

Recommended Book:

Software Engineering, 5th Edition by Roger Pressman

Course Outlines:

Unit No.1 Introduction

Overview of Process, Project Management, System Engineering, Overview of Analysis, Overview of Design

Unit No.2 Architectural Design

Software Architecture, Data Design, Architectural Styles, Analyzing Alternative Architectural designs, Mapping Requirements into a Software Architecture, Refining the Architectural Design

Unit No.3 User Interface Design

User Interface Design, Rules for designing user interface, Interface Design Activities, Task Analysis and Modeling, Implementation Tools, Design Evaluation

Unit No.4 Component- Level Design

Structured Programming (Graphical Design Notation, Tabular Design Notation, Program Design Language), Comparison of Design Notation, Case Study

Unit No.5 Testing Strategies

Introduction to Strategic Approach, Strategic Issues, Unit Testing, Integration Testing, Validation Testing, System Testing, Debugging Approaches

Unit No.6 Software Quality Assurance

Software Quality Concepts, Software Quality Assurance, Software reviews, Formal technical Reviews, The ISO 9000 Quality Standards, SQA plan

Unit No.7 Component-Based Software Engineering

Engineering of Component-Based Systems, The CBSE process, Domain Engineering, Component-Based Development, Classifying and Retrieving Components, Economics of CBSE

Unit No.8 Client-Server Software Engineering

Structure of Client-Server System, Software Engineering for Client-Server System, Analysis Modeling Issue, Design for C/S systems, Testing Issues

Unit No.9 Case Study

Software Engineering Case Study (Small Project)