

Final Term Examination – Spring 2005
Time Allowed: 150 Minutes

Please read the following instructions carefully before attempting any of the questions:

1. Attempt all questions. Marks are written adjacent to each question.
2. Do not ask any questions about the contents of this examination from anyone.
 - a. If you think that there is something wrong with any of the questions, attempt it to the best of your understanding.
 - b. If you believe that some essential piece of information is missing, make an appropriate assumption and use it to solve the problem.
 - c. Write all steps, missing steps may lead to deduction of marks.

****WARNING: Please note that Virtual University takes serious note of unfair means. Anyone found involved in cheating will get an `F` grade in this course.**

Total Marks: 60

Total Questions: 11

Question No. 1

Marks : 10

What is meant by Maintainable Code? Describe it briefly. [10 marks]

Question No. 2

Marks : 05

Explain how effective modular design is achieved through functional independence of the individual modules?

[5 marks]

Question No. 3

Marks : 02

Which of the followings can not be used to relate use cases with each other? [2 marks]

- Extends
- Include
- Exclude
- Uses

Question No. 4

Marks : 05

What are the symptoms of Boolean Bugs? [5 marks]

Question No. 5

Marks : 15

Following is the prototype of a function to find the square root of a number.

```
double sqrt (int num);
```

(a) Identify equivalence partitions to devise black-box test cases for this function. [10 marks]

(b) Write test cases against each partition identified in part (a).

[5 marks]

Question No. 6

Marks : 02

Which of the followings is not a testing type? [2 marks]

- Subsystem testing
- Alpha testing
- Beta Testing
- Gamma Testing

Question No. 7

Marks : 02

Which of the following documents should be prepared before the commencement of a software project? [2 marks]

- Quality plan
- Design specification
- Validation (Test) Plan
- Software requirement specification

Question No. 8

Marks : 02

During the requirement analysis stage, which of the following requirements be identified? [2 marks]

- Functional requirements
- Performance requirements
- Software tools requirements
- Personal resources requirements

Question No. 9

Marks : 02

Which of the followings is design tool? [2 marks]

- Collaboration Diagram
 - State Transition Diagram
 - Flow Chart
 - Data Flow Diagram
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Question No. 10

Marks : 10

Draw the corresponding object model diagram for the following system description.

[10 marks]

(Note: Use the UML Object Model Notation)

"A bank account is either, a current account, a deposit account, or a mortgage account. All bank accounts can be opened and closed and all bank accounts have a balance. Deposit accounts pay interest. For current accounts it is possible to set up an overdraft facility. All mortgage accounts have a 'term' (the number of years the mortgage runs). A bank customer (who is characterized by name and address) can have one or more accounts."

Question No. 11

Marks : 10

Which of the followings is design tool? [2 marks]
