



FINAL EXAMINATION
SEMESTER FALL 2004
CS504-Software Engineering

Total Marks:60
Duration:120mins

StudentID/LoginID	
Name	
PVC Name/Code	
Date	17 Feb, 2005

Maximum Time Allowed: (2 Hour)

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 copy and paste from handouts. If any thing found copy from handouts, no mark would be awarded for it.
3. 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.**

For Teacher's use only							
Question	Q1	Q2	Q3	Q4	Q5	Q6	Total
Marks							

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Question No: 1	Marks: 10
What are Design Patterns? Explain them briefly.	
Question No: 2	Marks: 15
<p>i- Consider the following Code Segment: (10)</p> <pre> Input: sequence of numbers, size, number Variable: count=0 Do while (end of sequence) If (sequence[i] == prime Number) Count = count++ Else Count = count to END IF END DO If (count == size) "sequence of number is a prime number sequence" if (count is odd) a ← finalMax(sequence) y ← a X number else a ← finalMin(sequence) y ← a X number display y else "sequence of number is not a prime number sequence" END IF END PROGRAM </pre> <ul style="list-style-type: none"> • Draw the Flow Graph for the Code Segment. • Find Cyclomatic Complexity of the Flow Graph. <p>(HINT: for the above code segment, ignore any syntax or grammatical errors.)</p> <p>ii- what is Black Box and White Box Testing. Describe briefly. (5)</p>	
Question No: 3	Marks: 10
<p>Following is the prototype of a function to find the index of the minimum value in an array.</p> <pre>int min(int array[], int arraySize);</pre> <p>(a) Identify equivalence partitions to devise black-box test cases for this function. (5 Pts) (b) Write test cases against each partition identified in part (a). (5 Pts)</p>	
Question No: 4	Marks: 6
What are Boolean Bugs? Describe briefly. What are symptoms of Boolean Bugs?	
Question No: 5	Marks: 10
What is Software Architecture? What is its importance? Describe briefly.	

Give brief answers to the following:

- 1. How do Software characteristics differ from Hardware characteristics? (3 Pts)**
- 2. Write a short note on Data Flow or Pipes and Filter Architecture Configuration.(3 Pts)**
- 3. How do you differentiate between the responsibilities of Developer and Tester? (3 Pts)**