UNIVERSITY *of* LIMERICK

O L L S C O I L   L U I M N I G H

COLLEGE *of* INFORMATICS *and* ELECTRONICS

Department of Computer Science
and Information Systems

End-of-Semester Assessment Paper (REPEAT)

Academic Year:	2005/2006	Semester:	Repeat
Module Title:	Software Quality	Module Code:	CS4157
Duration of Exam:	2½ Hours	Percent of Total Marks:	100
Lecturer(s):	Michael T. Lane	Paper marked out of :	100
	Michael English		

For Exam creation:

Instructions to Candidates:

- Two sections to Paper – section A and B. Please use a separate answerbook for each section.
- Section A This section covers 50% of examination.
    - o Question 1 is mandatory – 20%
    - o Answer two of remaining 3 questions out of section A (Q2, Q3 or Q4). Each question carries 15%

- Section B - to be completed. This section covers 50% of the examination

Section A – 50%
- Note – Question 1 is compulsory.
- Please answer 2 of the remaining 3 questions from section A.

Q1. a) Describe the fundamental differences between software products and other industrial products that have an impact on quality. Your description should include differences in characteristics of the products and also of their development and production processes.

8 Marks

b) Distinguish between software errors, software faults and software failures.

6 Marks

c) List the 7 phases in the SDLC (Software Development Life Cycle Model) and give a very brief (1 – 2 lines) description of each phase.

6 Marks

Q 2. McCall's factor model classifies all software requirements into 11 software quality factors. These factors are grouped into three categories. Name the three categories.

For each category:
- List the names of two factors in the category.
- Provide a one-line description of each factor.
- *NOTE – each factor named must be accompanied by a one line description or it will receive no mark

Provide a detailed description of any two factors not described in the above list.   This description should include reasons why the factor would be applied to a software development process and methods that would be used to check the factor.

15 Marks

Q3. a) List three objectives of development and quality plans
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3 Marks

b) Explain the difference between baseline and intermediate software configuration versions

4 Marks

c) Describe the concepts of verification, validation and qualification for quality assurance activities.

6 Marks

d) List the different levels of the Capability Maturity Model and provide a 1 to 2 line description of each level.

2 Marks

Q4. a) List the four types of review methodologies discussed by Galin

2 Marks

b) Two of the review methodologies mentioned by Galin fall under the category of "peer reviews". Compare and contrast these two processes.

8 Marks

c) Identify and describe the elements of a quality plan

5 Marks