Note: correction in red

THIS PAPER IS NOT TO BE REMOVED FROM THE EXAMINATION HALLS

UNIVERSITY OF LONDON **CO3353 ZA**

BSc Examination

COMPUTING AND INFORMATION SYSTEMS and CREATIVE COMPUTING

Software Engineering Project Management

Date and Time: Wednesday 17 May 2017: 10.00 – 12.15

Duration: 2 hours 15 minutes

There are **FIVE** questions on this paper. Candidates should answer **THREE** questions. All questions carry equal marks and full marks can be obtained for complete answers to three questions. The marks for each part of a question are indicated at the end of the part in [.] brackets.

Only your first **THREE** answers, in the order that they appear in your answer book, will be marked.

There are 75 marks available on this paper.

No calculators may be used.

Question 1

a) In recent years, there has been an increased use of Agile project management methods. Discuss what you see as the benefits of Agile project management.

[6 marks]

b) Define the following terms in the context of a software development project:

i. A process model

[5 marks]

ii. A work breakdown structure

[5 marks]

c)

i. Define the term 'milestone' in the context of a software development project

[3 marks]

ii. Give examples of **THREE** review stages where milestones would be drawn up.

[6 marks]

Question 2

a) FURPS is an acronym representing a model for classifying the attributes of a system's quality. Explain what this acronym means.

[13 marks]

b) Scheduling is essentially the translation of a process model into a network of activities. Discuss **FOUR** factors that determine how the network is constructed.

[12 marks]

Question 3

a) One of the most challenging tasks for a software engineer is to estimate the costs of a software development project. Discuss **THREE** methods that may be used to assist the manager in undertaking this task.

[13 marks]

b) It is generally agreed that building new software is a risky business. It is suggested that the **THREE** main categories of risks are those that would affect the project, those that would affect the product and those that would affect the customer's business. For **EACH** of these categories discuss **FOUR** potential risks that need to be taken into consideration.

[3 x 4 marks]

Question 4

a) Once software development is underway, it is crucial for the project manager to maintain control of the process. In some instances, this may be achieved by delegation of some of her roles to other members of staff. However, it is likely that she will require reports from these delegates at different points during the process. Discuss **THREE** types of report that may be required and the information they may contain.

[15 marks]

b) UML graphical models may be used to represent the context in which the system will operate, as well the interactions between the system and the environment, the static and dynamic structures of the system and its responses to stimuli. Despite the many advantages of using UML, the software engineer needs to ask some pertinent questions before deciding on its use. Discuss **FIVE** of these questions.

[10 marks]

Question 5

a) Project management may be approached from many perspectives; there is no universal right or wrong way of managing a software development project. However, in many instances there are recognised standards that are put in place throughout the process of the project. Discuss the reasons why these standards may be beneficial.

[9 marks]

b) Testing of both the product and process is a critical activity throughout the lifecycle of a software development project. Discuss the various types of software tests that can be carried out.

[16 marks]

END OF PAPER