School of Computing and Information Technology

Student to complete:

Family name	
Other names	
Student number	
Table number	Not available

CSIT314
Software Development
Methodologies
Hong Kong Campus

Alternative Examination (Open Book)
Semester B 2020/22

Exam duration   3 hours

Directions to students

- The total mark of this paper is 50 marks.
- This paper is worth 50% of final marks of this subject. To pass your course, you need at least 20 marks (40%) in this exam.
- Answer all questions.
- Note the following instruction:

– This exam is open book, the time allowed is 3 hours. Include the download and submit this exam paper.

– Convert your finished paper to pdf file format and submit to Moodle

– Please arrange suitable time for individual question. Your answer should be precises and focused.

– For any question requires drawing, e.g., UML diagram, you can use software (e.g., MS WORD or any CASE Tool) or scratch by hand. **However, you need inserting your drawings into this exam paper submitted together with other questions' answer. Mark would not give to drawing answer in separate files, or poor-quality drawings.**

NOTE:

The exam paper will be at MS WORD format. You need to answer in the space provided with the question

SAMPLE Q1

Use the Scrum software development method as a model to discuss why 'Agile' software development is an adaptive method?
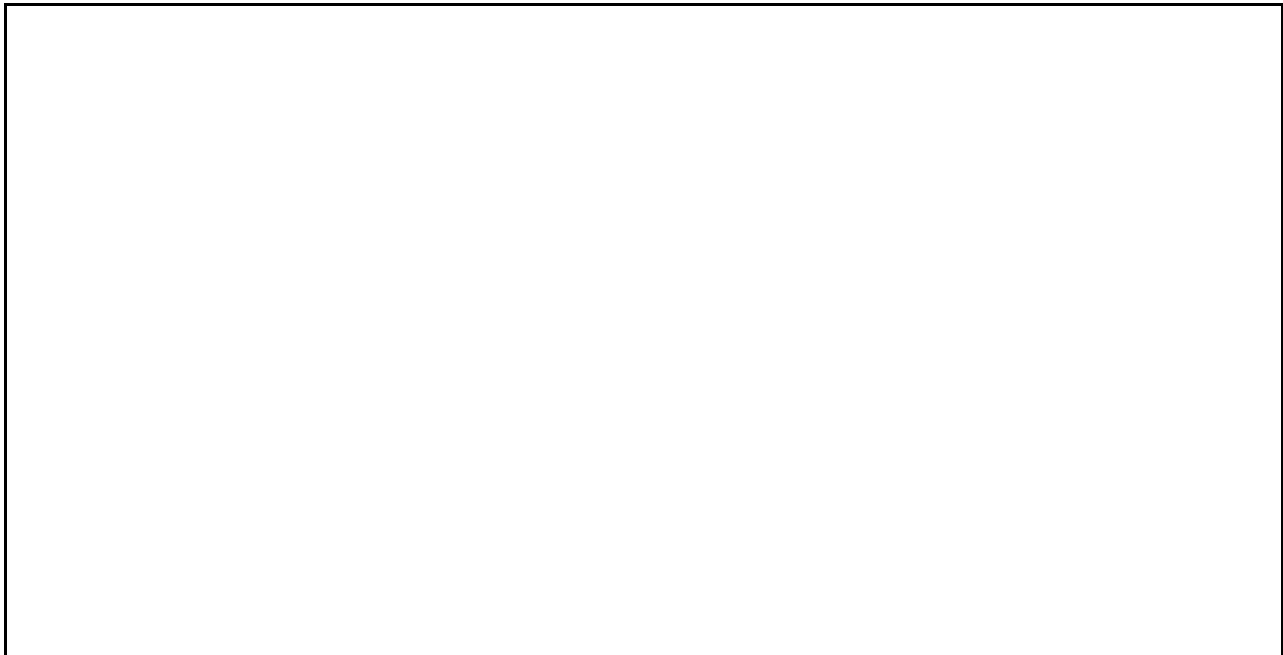
SAMPLE Q2

There is a problem that both the linearity of waterfall model and the cross-functionality of agile software development are still unable to <u>ensure quick and continuous delivery of flawless software applications</u>. While CI/CD software development methodology is claimed effectively to reduce the time involved in SDLC for prompt deliveries and securing the continuous production. Please discuss how the CI/CD software development methodology can improve the problem stated in the question.

School Theatres Ltd is a small company formed by many actors who give performances at local schools. The actors are 'a group of friends' and they have organised advertising in their plays and selling tickets for a long time. Now they would like to use DSDM develop a software to provide following services.

- Advertise their performances using a website, including details such as author, title, etc., as well as the distribution of roles between them.
- Scheduled days for each school and occasionally there might be two performances on the same day where bookings exceed venue capacity.
- Offer membership on the website, with advance information if a play is scheduled at their school, and a discount of 10% off the ticket price. Members or non-members wishing to obtain tickets can go to the website and make a booking.
- Payment can be made by card, in which case the confirmation is automatic, or they can choose to pay cash at the school. In this case the school's Head of Drama will have a login to confirm any such payment received.
- An administrator login will also be required to produce reports on revenue generated for each performance, as well as check the bookings for each performance (of course, the Administrator should also be able to add details of new schools and plays).

(a) Develop the UC Diagram for School Theatres Ltd's ticket selling system
(b) Identify the specific processes (workflows), tasks, roles, events (e.g. milestones, meetings), artefacts recommended by the RUP methodology.
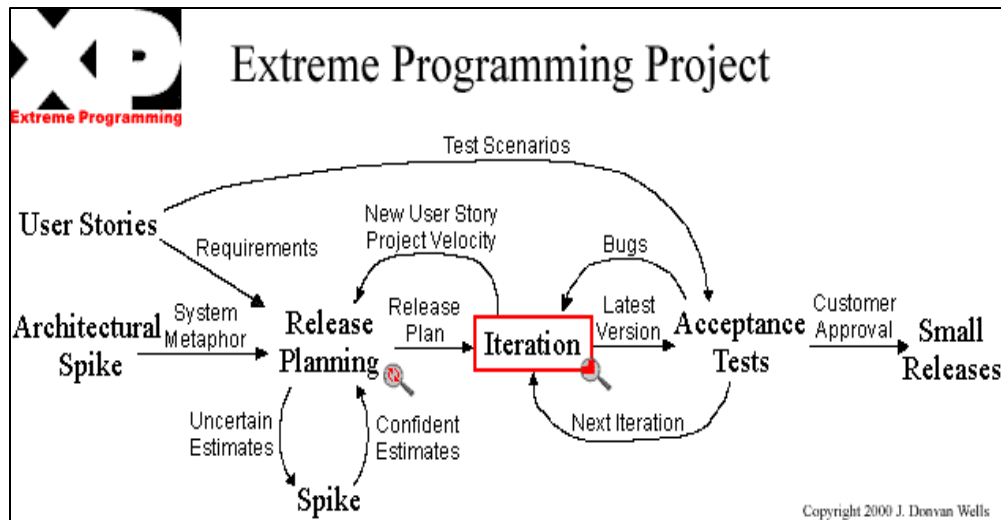
SAMPLE Q4

Identify the CMMI Engineering process area at 'Maturity Level Define', discuss how it relates to Agile 'User Stories'.

SAMPLE Q5

Given a scenario of Extreme programming project as described as follow. Explain, with examples, why it is focused on developing reliable software.

Extreme Programming Project

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END OF PAPER