UTM
UNIVERSITI TEKNOLOGI MALAYSIA

Advanced
Informatics School
(UTM AIS)

FINAL EXAMINATION
SEMESTER 1 SESSION 2017/2018

COURSE CODE : MANP 1433

COURSE : SOFTWARE PROJECT & CONFIGURATION MANAGEMENT

PROGRAMME : MASTER OF SOFTWARE ENGINEERING

DURATION : 2 HOURS & 30 MINUTES

DATE :

VENUE :

INSTRUCTIONS TO CANDIDATES:

Section A: **Answer ALL questions on the given answer booklet. 60 marks are allocated for this section.**

Section B: **Answer ALL questions on the given answer booklet. 40 marks are allocated for this section.**

Name	
Passport/ID No.	
Lecturer Name	**HASLINA MD SARKAN**

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THIS EXAMINATION PAPER CONSISTS OF 9 PAGES ONLY (INCLUDING THIS PAGE).

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   OR

   b) Using the information stated above for the purpose of answering exam questions

   OR

   c) Cheating or attempting to cheat or behaving inappropriately during examination

   OR

   d) Other misconduct set by the University.

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   OR

   b) Receive a ZERO (0) mark for the course

   OR

   c) Receive a ZERO (0) mark for all registered courses for the semester

   OR

   d) Suspended from study for a duration specified by the Senate.

SECTION A: ANSWER ALL QUESTIONS (60 MARKS)

Q1. According to SWEBOK V3, there are seven (7) main activities in SCM. One of them is to control software configuration.

a) From your understanding, interpret software configuration control.

[2 Marks]

b) Design a software change request process that is suitable for your upcoming class project, bearing in mind that your team will be comprised of **five (5)** or **six (6)** members only.

[4 Marks]

c) Plan how to implement software changes during your class project.

[4 Marks]

[10 Marks]

Q2. Software configuration identification activity classifies items to be controlled, establishes identification schemes for the items and their versions and establishes the tools and techniques to be used in acquiring and managing controlled items.

a) Explain in your own words the steps to identify the items that you want to control during the software project.

[3 Marks]

b) Differentiate between the terms version, revision and variant.

[3 Marks]

c) Explain the definition of baseline and describe **three (3)** commonly used baseline in a software engineering project.

[4 Marks]

[10 Marks]

Q3. Release management is a software engineering process intended to oversee the development, testing, deployment and support of software releases.

a) Explain the goal of Software Release Management.

[2 Marks]

b) Release management involves a few major processes necessary to successfully plan and deploy authorized software releases. Show the importance of **three (3)** these processes.

[6 Marks]

c) Sketch the release management process mentioned in Q3(b).

[2 Marks]

[10 Marks]

Q4. Software development effort estimates are the basis for project bidding, budgeting and planning. These are critical practices in the software industry, because poor budgeting and planning often has dramatic consequences.

a) Explain the term *effort* in the context of software project?

[2 marks]

b) Identify the consequences of under estimating and over estimating software effort in a project.

[4 marks]

c) Point out your own idea on how to improve the accuracy of software estimates.

[4 marks]

[10 Marks]

Q5. Project failure is said to be preventable with good project planning based on a well-constructed deliverables-based Work Breakdown Structure and proper controls. A good project manager is able to break down the work including its tasks, activities and deliverables associated with the project into manageable portions of information. This allows the team members to fully understand the what, when, why and how of the desired results at each phase of the project.

a) Present in your own words how you construct a work breakdown structure (WBS).

[3 marks]

b) When there is a change in the software requirement, predict how a project manager can make use of the WBS to ensure that there will be no project delay by accepting this change.

[4marks]

c) Construct the evidence to convince people that using a WBS is more of a help to the success of the project than a waste of precious project time.

[4 marks]

[10 Marks]

Q6. Controlling risk in software projects is considered to be a major contributor to project success. On the other hand, without risk, a project offers little potential for reward. Effective risk management requires identifying risks, measuring their potential for harm, and creating plans to deal with the threats.

a) Discuss how would you, as a project manager engage your team to identify your software project's risks.

[2 marks]

b) Design a risk management plan for your class project that is easy to be understood and implemented by the software development team.

[5 marks]

c) Prepare the risk management process that you are going to implement in your class project.

[3 marks]

[10 Marks]

(Total Section A = 60 marks)

SECTION B: ANSWER ALL QUESTIONS (40 MARKS)

Q7. Change is inevitable in all stages of a software project. Understanding and controlling changes is one of the biggest challenges to the software development team. Change Management attempts to control, manage and support changes to software. It is able to help you direct and coordinate those changes so they can enhance instead of hindering your software. Managing change improves quality, increases customer satisfaction, and reduces the time to market. Software Configuration Management on one hand ensures the integrity, reliability and reproducibility of developing software products from planning to release.

a) List down the process required to implement an effective change management system.

[7 Marks]

b) Elaborate the purpose and design the procedures for executing configuration management in a software project.

[7 Marks]

c) Outline and explain a Configuration Control Process Flow.

[6 Marks]

[20 Marks]

Q8. Project failure can be defined as one or a combination of cost overruns, late deliveries, poor quality, and/or developing a product that does not get used. According to the 2010 Standish Group Chaos Report on IT Projects, projects using Agile are 49% successful and failure is only 9%, whereas those using Waterfall contributed to a failure rate of 29%. Only 14% projects were successfully delivered.

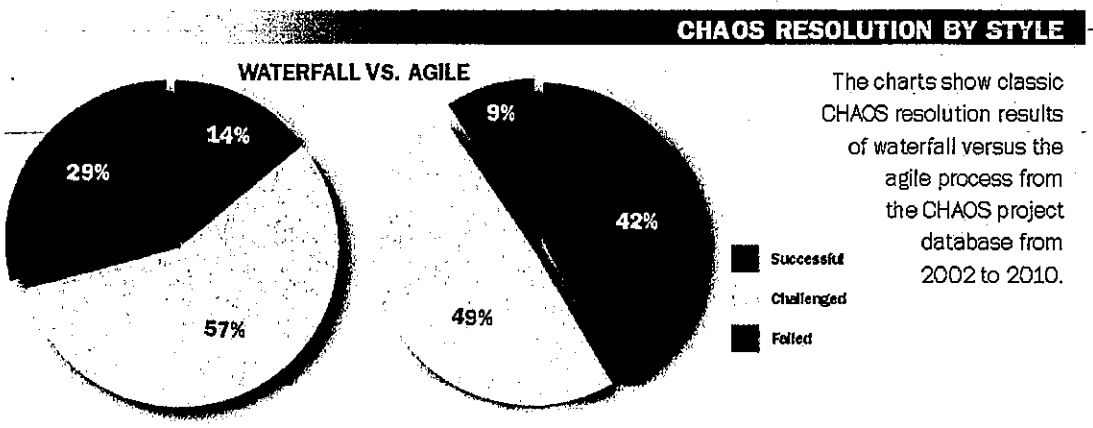

Figure 1: Standish Group report 2010 on Waterfall vs Agile successful project

a) Study the charts in Figure 1 and analyze why there is a significant gap for a project to be successful when using Agile methodology instead of waterfall.

[6 marks]

b) Explain why you think the waterfall approach is still relevant today despite the above findings and relate to a specific kind of software project that best suits this approach.

[6 marks]

c) Changes to existing requirements can also be a problem depending on the nature and timing of the change. Projects using Agile methods can manage changes to requirements details, as long as they occur before construction of a given iteration. However, any changes to requirements of software architecture that cause rework of code already written will almost certainly have an impact to the

schedule and budget. Propose two measures that you think will work, to curb requirements from changing at a later phase of the software development.

[4 marks]

d) Would integrating waterfall with agile improve project success? Debate and defend your answer.

[4 marks]

[20 Marks]

(Total Section B= 40 marks)