CHARLES DARWIN UNIVERSITY

Family Name	
Given Names	
Student Number	
Teaching Period	Semester 1, 2016

FINAL EXAMINATION	DURATION
PRT551 – Project Management Risk and Reliability	Reading Time: **10** minutes
	Writing Time: **180** minutes

INSTRUCTIONS TO CANDIDATES

Please ensure that your name and student number are clearly indicated on your Answer Sheet and at the top of this examination paper.

1.1 The examination has 3 sections

Section A – Suggested Time: 40 min

Multiple Choice Questions: Answer ALL 40 questions on the Answer sheet provided in this examination paper and must be handed in with your answer booklet

Section B – Suggested Time: 70 min

Short Answer Questions: Answer 5 of 9 questions

Section C – Suggested Time: 70 min

Short Essay Questions: Answer ALL 4 questions

Section A must be answered directly onto the Multiple Choice Paper. Please ensure that your Name and Student Number are written clearly in the space provided at the top of this page.

Section B and Section C are to be answered in one booklet.

1.2 Note that questions ARE NOT of equal value.

1.3 Read ALL questions carefully.

EXAM CONDITIONS

You may begin writing from the commencement of the examination session. The reading time indicated above is provided as a guide only.

This is a RESTRICTED OPEN BOOK examination

Any non-programmable calculator is permitted

No handwritten notes are permitted

Hard copy, unannotated English translation dictionary only

ADDITIONAL AUTHORISED MATERIALS	EXAMINATION MATERIALS TO BE SUPPLIED
No additional printed material is permitted	1 x 20 Page Book 1 x 4-Multiple Choice Answer Sheet 1 x Scrap Paper

Section A
Multiple Choice Questions
Total No of Marks for this section: 20

This section should be answered in the Multiple Choice Question Answer Booklet.
Please do not write your answers on the exam question paper.

All questions are worth **half a mark** each.
Suggested Time allocation for Section A: 40 minutes

This section should be answered in the Answer Booklet provided.
Please note that only **5** of the **8** questions need to be answered. Answering more than **5** will not result in extra marks as only the first **5** you answer will be assessed.

Your answers should be about **one (1)** page in length.

All questions are worth 9 marks each for a total of 45 marks.
Suggested Time allocation for Section B: 70 minutes

Question 1   (9 marks)

a. What is the difference between Bottom-up and Top-down techniques of risk management?
b. Select one technique from each group and make a comparative analysis of the two.

Question 2   (9 marks)

a.   What is quality assurance, and how does it affect project execution?
b.   What are the tools and techniques used in performing quality assurance?

Question 3   (9 marks)

a. Q3.1 What is RCM? Explain how it works.
b. Q3.2 Read the following statements carefully and state whether they are True or False.
  − Reliability Centred Maintenance procedures may mean repairing equipment before it fails, even if it is working fine.   **True/False**
  − The main concern of reliability centred maintenance is to ensure that the system or system components work the first time they are required, and every time after that   **True/False**
  − When using Reliability Centred Maintenance, it is not important to know the cause of every failure, just the most likely time between failures.   **True/False**
  − In Reliability Centred Maintenance, cost is not an issue so long as all failures are prevented.   **True/False**
  − Reliability Centred Maintenance does not evaluate the technical content and performance interval of maintenance tasks.   **True/False**

Question 4   (9 marks)

    a. Briefly describe what is the difference between Project Due Diligence and Project Risk Management?

    b. Describe the Project Due Diligence sequence?

Question 5   (9 marks)

    a. What are the four common ways to close or terminate a project?

    b. Why is it important to close a project?

Question 6   (9 marks)

    a. Why is it so difficult to ensure good communication on projects?

    b. Identify and explain four (4) tools and techniques used for managing project teams.

Question 7   (9 marks)

    a. What is a project, and what are the main attributes?

    b. How is the project different from what most people do in their day-to-day jobs?

    c. What is the triple constraint?

Question 8   (9 marks)

    a. What is Six Sigma?

    b. Describe the process of Six Sigma, what it does, how it is implemented, its benefits and drawbacks.

This section should be answered in the Answer Booklet provided.
All Questions in this section should be answered.

Marks for each question are indicated.
Suggested Time allocation for Section C: 70 minutes

Case Study: Electric Bikes

After 23 years of committing themselves running a successful engineering project management business, Mark and Jacob have decided to have a tech free holiday – no cars, no phones, no computers. Although they want to relax and have considered spending a few weeks in a rented house on the beach, they know the temptation to re-connect will be too great so decide instead to do something completely different and spend a month cycling through Vietnam. Neither has really cycled very much so this whole experience will be very new.

Upon their return, Mark and Jacob want to share their new found passion and have encouraged their employees to do the same. They've built shower facilities, provided lockers and even organised a bike repair workspace.

Mark and Jacob expected a few people to participate but never expected so many to take up cycling. Staff have even begun to organise weekend a number of people who began using the workshop to build their own electric bicycles.

Mark found that this team work was not only having healthy benefits, but staff were taking fewer sick days and were more energised and engaged at work, thus, more productive.

Building upon this new found interest within their business Mark and Jacob decide to hold a competition where whoever can produce the most energy via pedal power within an hour will receive a new bicycle from the local dealer.

As Mark and Jacob's Director of Human Resources you know how important it is to maintain a positive working environment where employees can take pride in their work so have approached Mark and Jacob about using this opportunity to follow up the competition with a company barbeque. They think it is a great idea and have asked you to organise something fun.

Fortunately, the company owns the large parking lot behind the office building and it is a perfect place to hold a party.

So, to begin planning, you and your colleagues get together to discuss some of the details which include overseeing the results of the competition, arrange the main prize and organise a BBQ for an expected 120 employees. Your budget is $4000 and needs to at least cover catering and equipment hire including tables and chairs. The event is to be held three weeks from Thursday.

Question 1 (10 marks)

    a. Identify the stakeholders (3 marks)
    b. Use this information to develop a communication matrix (7 marks)

Question 2 (25 marks)

    a. Develop a Work Breakdown Structure (WBS) to the lowest level of decomposition to create work packages. (8 marks)
    b. Create a milestone list from the WBS. (4 marks)
    c. Create an activity list with attributes for this project. (10 marks)
    d. Based on the activity list create an Activity-on-activity (AoA) diagram. (3 marks)