

## **WARNING**

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Family Name					
Given Name/s					
Student Number					
Teaching Period	Semester 1, 2018				

<b>PRT551 – Project Management Risk and Reliability</b>	<b>DURATION</b>	
	Reading Time:	<b>10 minutes</b>
	Writing Time:	<b>180 minutes</b>
<b>INSTRUCTIONS TO CANDIDATES</b>		
<p>Please ensure that your name and student number are clearly indicated on your Answer Sheet and at the top of this examination paper.</p> <p>1.1 The examination has 2 sections.</p> <p>Section A – Suggested Time: 100 minutes Short Answer Questions: Answer 6 of 9 questions.</p> <p>Section B – Suggested Time: 80 minutes Short Essay Questions: Answer ALL 3 questions.</p> <p>Section A and Section B are to be answered in one booklet.</p> <p>1.2 Note that questions ARE NOT of equal value.</p> <p>1.3 Read ALL questions carefully.</p>		
<b>EXAM CONDITIONS</b>		
<p><u>You may begin writing from the commencement of the examination session.</u> The reading time indicated above is provided as a guide only.</p>		
This is a CLOSED BOOK examination.		
Any non-programmable calculator is permitted.		
No handwritten notes are permitted.		
No dictionaries are permitted.		
<b>ADDITIONAL AUTHORISED MATERIALS</b>	<b>EXAMINATION MATERIALS TO BE SUPPLIED</b>	
No additional printed material is permitted.	1 x 20-Page Book 2 x Scrap Paper	

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DOUBLE-SIDED.**

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## Section A

### Short Essay Questions

**Total Number of Marks for This Section: 54**

This section should be answered in the Answer Booklet provided. Please note that only **6** of the **9** questions need to be answered. Answering more than **6** will not result in extra marks as only the first **6** 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 54 marks.  
Suggested Time Allocation for Section A: 100 minutes

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#### Question 1 (9 marks)

- a. What is a project, and what are the main characteristics?
- b. What is project management?
- c. Briefly describe the project management framework.

#### Question 2 (9 marks)

- a. How do you decide which project to pursue using net present value analysis?
- b. How does return on investment relate to net present value analysis?

#### Question 3 (9 marks)

- a. Describe the different types of maintenance.
- b. Write down three of the seven Reliability-Centred Maintenance basic questions.
- c. What is failure mode, effect and criticality analysis?

**Question 4 (9 marks)**

- a. What is the main purpose of developing a stakeholder management plan?
- b. What information in it might be sensitive and kept confidential?
- c. Why should a project have a project charter?

**Question 5 (9 marks)**

- a. Describe practices that should be followed in directing and managing project execution.
- b. Why are deliverables such an important output of project execution?
- c. What are some of the typical challenges that project teams face during project execution?

**Question 6 (9 marks)**

- a. What are the main planning processes performed as part of project time management?
- b. What are some of the most common outputs created from planning processes, and how are they used?

**Question 7 (9 marks)**

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

**Question 8 (9 marks)**

- a. What is a risk cause?
- b. Describe the steps in risk management process.
- c. What is the difference between Bottom-up and Top-down techniques of risk management?

**Question 9 (9 marks)**

- a. What is the main purpose of a staffing management plan?
- b. What tool should you use to graphically show total staffing needs for a project?  
Describe this tool in detail.
- c. What tool should you use to clarify roles and responsibilities for tasks?  
Describe this tool in detail.

## **Section B**

### **Case Study**

**Total Number of Marks for This Section: 46**

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 B: 80 minutes

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### **Mercure Darwin Hotel - Refurbishment Project**

Mercure Darwin Hotel, which specializes in package holidays and wedding functions, is experiencing negative feedback from their customers regarding the decorative state of their main 3-star rated hotel and its gardens. It is thought that this is the main reason for a 40% drop in wedding bookings and a 20% drop in holiday guests when compared to the previous 2 years.

As a result, the Managing Director has issued a mandate to the hotel's General Manager to commission a project for the purpose of carrying out an urgent refurbishment of the hotel and to re-landscape the hotel's garden area where weddings are held.

The project will include the following work:

- Redesign and refurbishment of the bar, lounge, restaurant and the premier bedrooms
- Redesign and landscaping of the garden and building a garden room for wedding ceremonies.

The General Manager has stressed that all of the staff that work in these respective areas should be properly represented and communicated with throughout the project to ensure their needs are met.

The final project product will be a refurbished hotel and new garden/wedding function facility, the work for which will be outsourced to a specialist interior refit company and a professional landscaping company. The design of the interior must comply with the Mercure Hotel's corporate standards to ensure that the look and feel of the hotel is consistent with their other hotels.

**The objectives of the project are summarized as follows:**

**Time:** The project is expected to be completed within 4 months, by 31<sup>st</sup> May (+4 days/- 1 week).

**Cost:** The project is to cost \$1.5 million (± \$100,000).

**Quality:** To create a product (refurbished hotel, including a new wedding function facility) that meets official 4-star hotel rating standards. Materials used should last a minimum of 15 years with only minor maintenance required every 3 to 4 years.

**Scope:** The project will aim to refurbish/landscape only the following areas:

- Bar, lounge, restaurant and 40 premier bedrooms. No other internal areas or bedrooms are to be included.
- The rear garden area adjacent to the glen where weddings are held. No other garden areas are to be included

**Benefit:** To increase holiday and wedding bookings and wedding functions by 30% and non-resident use by 20%, within the first year following project completion.

**Risk:** Any situation that may prevent the project from completing on time, or the outcome not resulting in the projected increase in bookings, should be identified and managed.

**The project consists of the following stages:**

Stage 1 – Initiation

- Set-up the project and create the Project Charter

Stage 2 – Design and Invitation to Tender

- Interior and garden designs and invitations to tender for interior and landscaping work

Stage 3 – Preparation

- Preparation of all interior and garden areas

Stage 4 – Construction

- Installation of fittings and furnishings. Decorating and hard & soft landscaping.



### **Question 1: Business Case Theme (15 marks)**

Table 1 lists true statements, some or all of which will be included in the Business Case document for the refurbishment project. Determine for each statement if it will be included in the Business Case and select under which heading from Table 2 it should be recorded.

Table 1 – True Statements

1	Mercure Darwin Hotel is experiencing negative feedback from their customers regarding the decorative state of their main hotel and its gardens. It is thought this is the cause of the 40% drop in wedding functions, a 20% drop in holiday guest bookings and a 10% drop in non-residential use compared to the previous 2 years.
2	The Managing Director of Mercure Darwin Hotel has issued a project mandate to commission a project for the purpose of carrying out an urgent refurbishment of the hotel.
3	The project can be started on 1 <sup>st</sup> February and must be completed by 31 <sup>st</sup> May. Earlier completion of up to 1 week is feasible.
4	The schedule is very tight and it is vital that the work is completed before the majority of summer holiday guests begin to arrive. Not meeting the deadline could result in unhappy customers and a consequential loss of bookings in the first year.
5	The bedrooms, bar, lounge and restaurant will be decorated during Stage 4.
6	The project's product will cost the hotel \$50,000 per annum to operate and maintain. This is to be funded by the hotel's annual revenue.
7	The project will include the following work:  Redesign and refurbishment of the bar, lounge, restaurant and the premier bedrooms.  Redesign and landscaping of the garden and building a garden room for wedding ceremonies.
8	Another consideration is to invest extra time and money by carrying out a complete revamp of the somewhat-dated hotel interior, including the much-needed replacement of furniture. For the garden area, extensive landscaping could be undertaken to radically change its appearance.
9	Holiday guest bookings: 30% increase in year one (minimum 20%)  Wedding function bookings: 30% increase in year one (minimum 25%)  Non-residential use: 20% increase in year one (minimum 10%)

10	The trend in the drop in holiday bookings will continue if nothing is done to address the situation. This is not considered to be an acceptable option.
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Table 2 – Business Case Document Headings

A	Background
B	Options and Recommendation
C	Opportunity Statement
D	Project Requirement
E	Schedule and Timescales
F	Costs
G	Potential Risks
H	Not Included

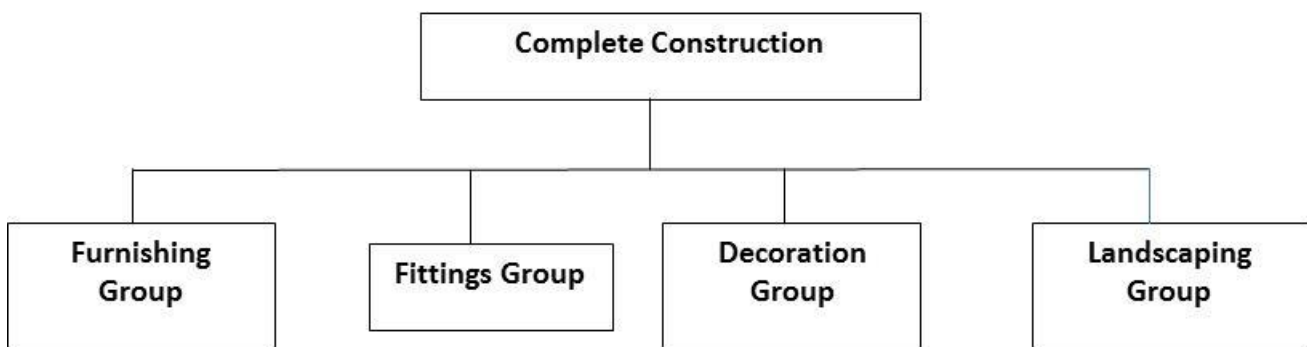
**Question 2: Plans Theme (16 marks)**

Plumbing needs to be installed, taking into account the hotel's existing plumbing system, the diagrams of which can be obtained from Project Support. Plumbing must be completed before the electrical work can begin to help reduce the risk of any floods which would cause damage to the new electrical wiring. The new electrics must take into account the hotel's existing electrical wiring system, again, the diagrams of which can be obtained from Project Support. Once the electrical fittings have been installed, the bedrooms, bar, lounge and restaurant can be decorated. Following the decoration of these areas, the flooring can be fitted, followed by the installation of furniture and then the soft furnishings.

Whilst all the interior work is being carried out, work can commence to build the garden room, which will be built using some garden room designs that were produced by a previous project. Building regulations must be considered whilst building the garden room, a copy of which can be obtained from Project Support. Whilst the garden room is being built, work can commence on constructing the ornamental pond and the turf can be purchased from the local garden centre. On completion of the garden room and ornamental pond, the paths can be laid. Work can then commence with laying the turf to create the lawn and creation of the flowerbeds.

The stage will be complete once the soft furnishings have been installed, the lawn laid and flowerbeds created.

Use the information in the plan theme and project description, and create a Work Breakdown Structure. The first-level of the Work Breakdown Structure for the refurbishment project is shown below.



**Question 3: Risk Theme (15 marks)**

The following are risk responses identified in the risk register for the project.

Table 3 – Risk Response Statements

1	As part of the agreement of the contract with County Landscapes, it could be requested that they take on part of the responsibility for the costs of the risk, should it occur and the cost plan is exceeded. If it does not occur, they will be given a sum of the budget allocated to this risk on project completion.
2	If the ground becomes flooded, look to hire water pumps to help remove the excess water.
3	Take out an insurance policy against the risk of the garden flooding.
4	Hope that the weather remains fine with no significant rain fall during the project.
5	Exclude the garden landscaping from the project's scope.
6	Install drainage to help divert some of the water to the car park.

The following table shows the risk response type.

Table 4 – Risk Response Types

Risk Response Types	
Negative Impact	Avoid
	Reduce
	Transfer
	Accept
Positive Impact	Enhance
	Exploit
	Accept
	Share

Match the risk response statements (Table 3) to risk response types (Table 4) and discuss your answers.