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Family Name					
Given Name/s					
Student Number					
Teaching Period	Semester 1, 2019				

PRT551 – Project Management, Risk and Reliability	DURATION	
	Reading Time:	10 minutes
	Writing Time:	180 minutes

INSTRUCTIONS TO CANDIDATES

The examination has **4** sections.

Section A: Suggested Time:	Best Practice / Multiple Choice Questions: Answer ALL questions. 30 minutes (20 marks)
Section B: Suggested Time:	Simulation / Short-Answer Questions: Answer ALL questions. 60 minutes (30 marks)
Section C: Suggested Time:	Staff Management Case Study – Analysis / Short-Answer Question: Answer ALL questions. 30 minutes (20 marks)
Section D: Suggested Time:	Risk and Reliability - Calculations / Short-Answer Questions: Answer ALL questions. 60 minutes (30 marks)

Section A must be answered on the multiple-choice answer booklet provided in this examination paper and must be handed in with your other answer booklet. Please ensure that your name and student number are clearly indicated on the booklets and at the top of this examination paper.

Sections B-D is to be answered a single booklet separate from section A. Each Section (B, C, & D) are to be started on a new page.

1. Note that questions **ARE NOT** of equal value.
2. Read **ALL** questions in a section before starting to answer the questions
3. Read **ALL** questions carefully.

EXAM CONDITIONS	
<u>You may begin writing from the commencement of the examination session.</u> The reading time indicated above is provided as a guide only.	
This is a CLOSED BOOK examination.	
Any non-programmable calculator is permitted.	
No handwritten notes are permitted.	
No dictionaries are permitted.	
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

**THIS EXAMINATION IS PRINTED
DOUBLE-SIDED.**

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Section B

Simulation Short-Answer Questions

Total Number of Marks for This Section: 30

This section should be answered in the Answer Booklet provided. Answer all questions.

Suggested Time Allocation for Section B: 60 minutes

Whilst studying project management in this subject (PRT551), you participated in a project management simulation (Double Masters).

1. (1 mark) The simulation included a direct relationship between cost and time.
 - a. What was that direct relationship?
 - b. How did that direct relationship influence the decisions that you made during the simulation?
2. (7 marks) Name and describe two tools or techniques used in the simulations that aided your ability to analyse a problem or situation.
3. (10 marks) Explain how the analysis tools you described in your previous answer helped you make effective decisions?
4. (2 marks) What were the primary project management skills and knowledge that the simulation was designed to help you learn? (Answer this question from a perspective of being a project manager, not from the perspective of a university student.)
5. (2 mark) How did you perform? (Use the performance indicators that were provided to you by the simulation to describe your performance. You will be assessed on the accuracy of your interpretation. Your level of performance will have a low level of significance.)

6. (3 marks) If you were to participate in this project management simulation again, what would you do differently to improve your performance?
7. (5 marks) The simulation included a range of risks that were contained in the risk register.
- a. (1) What were those risks?
 - b. (2) Name and describe some (at least two) additional risks that could have been included in the project?
 - c. (2) Describe a mitigation strategy that could be used for one additional risk you described in your answer to the previous question?

Section C

Staff Management Case Study – Analysis / Short-Answer Question

Total Number of Marks for This Section: 20

This section should be answered in the Answer Booklet provided. Answer all questions.

Suggested Time Allocation for Section C: 30 minutes

Case Scenario

You and several colleagues have been working on a project for the past few months. You and your team has just finished developing a Project Management Plan.

The project plan includes:

- An executive summary
- Background
- Scope
- Assumptions
- Stakeholders management
- Schedule Management
- Budget and Cost Management
- Quality Management
- Communications Management
- Risk Management
- Procurement

Even though you have just started the project, there are already several challenges that you and your team face relating to the way the team is working together.

- One team member is not doing the work that is allocated to him, even when he agrees that he will do a task he does not deliver. He has other work outside the project, which leaves him time poor. He is the nephew of the project sponsor, who is aware that he is less reliable, but she wants her nephew to learn to be more responsible by working on the project. The nephew/team member has good skills and they are difficult to find. It would take more time than you have available to replace him.

- The project team members come from different areas in the company, they all seem to have different work cultures and have ethnically diverse backgrounds. There are two Anglo Australian engineers, a recent migrant from India who is looking after finance, a lady with indigenous heritage is looking after the information system. The team has more diversity but much of the detail is unknown. One team member, who is also almost impossible to replace in the time available, has racial prejudices and wrongly believes her work is more valuable than everyone else's. She routinely offends other team members, and whilst no team member has made a complaint, it is clear to any astute person that the team's productivity is slow and will diminish in quality over time if something is not done to change her behaviour.

Questions

Perform the following tasks and answer the question:

1. (10) The project scenario presents at least two organisational risks related to human resource management. You are to identify two risks and analyse them using a probability / impact matrix. (Note you are expected to develop a separate matrix for each risk.)
2. (10) Describe 2 techniques you would use to manage the two team members described in the project scenario. In your answers, explain:
 - a. What you would do?
 - b. Why you would do it?
 - c. What outcomes would you expect / hope to happen?

Note: You need only to describe 2 techniques. You do not need to describe 2 techniques for each team member. You may wish to describe one technique for each team member or two techniques that address the challenges created by both team members. Be aware that each technique is marked separately.

Section D

Risk and Reliability Calculations / Short-Answer Questions

Total Number of Marks for This Section: 30

This section should be answered in the Answer Booklet provided. Answer all questions.

Suggested Time Allocation for Section D: 60 minutes

Questions

1. (5) Explain the difference between risk and reliability as it applies to project management?

2. (2) (Qualitative Risk Analysis) Draw an illustration of a "Probability / Impact Matrix".

3. (3) (Quantitative Risk Analysis) Name and describe 3 basic response strategies to negative risks or threats.

4. (5) Name 5 headings that are typically included in a risk register, briefly describe the type of information that would be recorded under each heading and explain why.

5. (6) Probability calculations:
 - a. What is the probability of getting a sum 9 from two throws of a dice?
 - b. Tickets numbered 1 to 10 are mixed up and then a ticket is drawn at random. What is the probability that the ticket drawn has a number which is a multiple of 2 or 3?
 - c. One card is drawn from a standard pack of 52 playing cards. Let A be the event that it is a red card, and B be the event that it is a court (or face) card (i.e. K, Q and J). What is the probability that both A and B occur?

6. (3) Failure Rate calculations:

You have been asked to determine the failure rate of a specific type and brand of light bulb. You used five light bulbs and connected them to an automatic circuit, so they could be turned on and off once per hour for 1,000 hours. The result was:

- Bulb 1 burned out after 422 hours.
- Bulb 2 burned out after 744 hours
- Bulb 3 burned out after 803 hours
- Bulb 4 burned out after 678 hours
- Bulb 5 stayed lit for 1000 hours

What is the failure rate of your sample? Provide your answer in number of failures per hour.

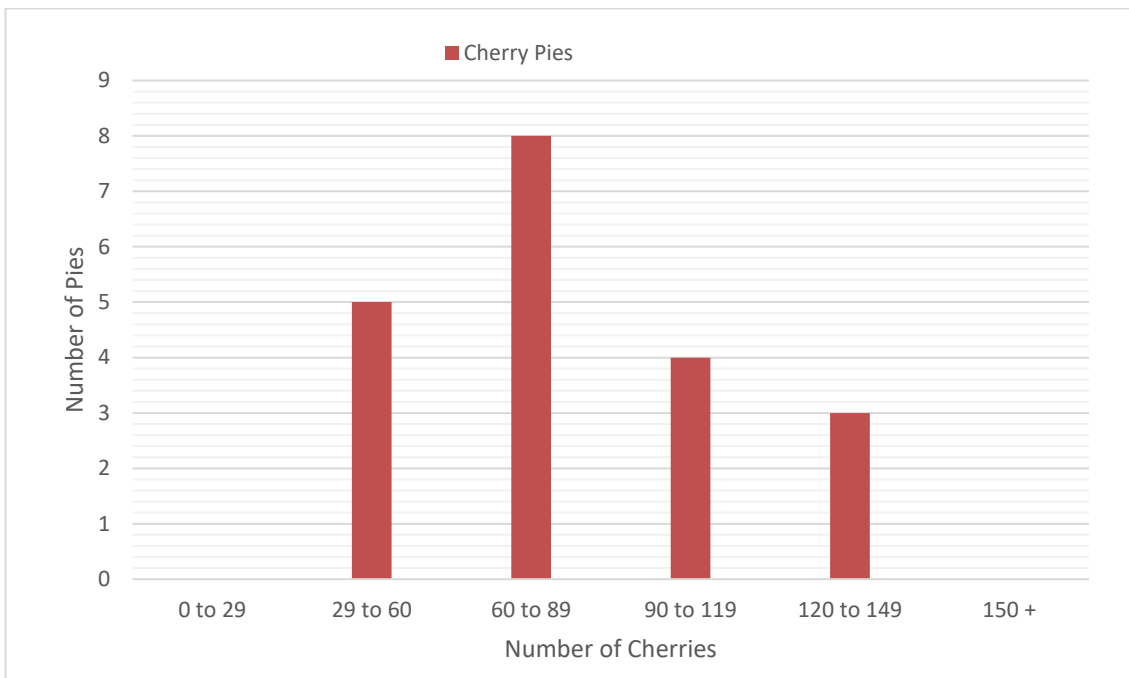
7. (3) Explain the relationship between quality and cost, and explain how this relates to risk?

8. (3) Interpret this histogram

You have been asked to analyse cost and quality of cherry pies in your grandmother's shop. You are to make the following assumptions:

- The more cherries the better the quality and greater cost.
- More than 120 cherries will reduce profit below acceptable levels.
- Less than 60 cherries will reduce sales and damage reputation due to poor quality.
- 100% of the pies in the store are charted on the histogram.

With this information interpret the histogram below and answer the following questions:



- a. How many pies are in the store?
- b. How many would be considered poor quality and why?
- c. How many pies meet cost parameters and quality standards?