

TU059/TU060/TU256/PhD Probability and Statistical Inferences
PSI CA Timed Task Marking Scheme/Rubric

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Marking Breakdown

ASPECT	ISSUES CONSIDERED FOR EACH OF THE FIVE(5) QUESTIONS				MARKS FOR EACH Q	OVERALL MARKS
EXPLORE	<ul style="list-style-type: none"> Demonstration of understanding of how to conduct an inspection of data and present the results of such an inspection. Reporting the conduct of an inspection of the dataset provided and the outcomes of this. 				3 marks	30 marks
					3 marks	
ANALYSE	<ul style="list-style-type: none"> Demonstration of understanding of how to state hypotheses related to a question. Demonstration of ability to choose the appropriate statistical test to test hypotheses and justify choice. Demonstration of understanding of how to conduct each type of statistical test. Demonstration of ability to interpret and report findings from each type of statistical test and draw conclusions from these. 				2 marks	60 marks
					3 marks	
					3 marks	
					4 marks	
USING R	<ul style="list-style-type: none"> Organisation and presentation of the R Code. Illustrative comments. Ease with which code can be downloaded and executed. 				1 mark	5 marks
					2 marks	
					2 marks	
DOCUMENTATION	<ul style="list-style-type: none"> Organisation and layout Grammar, spelling 				5 marks	5 marks
	Total Marks Available ¹					100 marks
ACHIEVEMENT	EXCELLENT	SATISFACTORY	BASIC		UNSATISFACTORY	
% OF MARKS AVAILABLE	> 75%	55-75%	40-55%		<40%	
Key Characteristics associated with each achievement level for each aspect are described on the next pages. ²						

¹ The task will be marked out of 100 and your result will be weighted to reflect the 40% of this task in the calculation of the overall module marks.

² The characteristics described below in the rubric are for a student submission which addresses all FIVE(5) questions. Where a student attempts fewer than FIVE(5) questions, the marks achieved will depend on how many questions have been addressed and the level of achievement for each question. For example, if a student attempts only THREE questions, but completes everything to the level indicated by the category of EXCELLENT, their mark will not reach the level associated with this category but with a lower a category.

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EXPLORE Rubric

EXPLORE KEY CHARACTERISTICS OF ACHIEVEMENT LEVELS			
EXCELLENT	SATISFACTORY	BASIC	UNSATISFACTORY
<ul style="list-style-type: none"> • Demonstrates correct understanding of a sample and its use for the purposes of a statistical analysis. • Inspection of relevant variables and associated data demonstrates correct understanding of statistical measures and how to describe them appropriately. • Uses appropriate statistics and visualizations generated using the dataset provided to illustrate both understanding and application of understanding. 	<ul style="list-style-type: none"> • Demonstrates correct understanding of a sample and its use for the purposes of a statistical analysis. • Inspection of relevant variables and associated data demonstrates correct understanding of statistical measures and how to describe them appropriately with some minor errors. • Uses appropriate statistics and visualizations generated using the dataset provided to illustrate both understanding and application of understanding with some minor errors. 	<ul style="list-style-type: none"> • Demonstrates correct understanding of a sample and its use for the purposes of a statistical analysis • Inspection of relevant variables and associated data demonstrates correct understanding of statistical measures and how to describe them appropriately with some errors/omissions. • Uses some statistics and visualizations, generated using the dataset, with some errors or omissions. 	<ul style="list-style-type: none"> • Fails to address issues related to using the sample for the purposes of a statistical analysis. • No significant effort made to conduct a coherent inspection of relevant variables and associated. • No/incorrect statistics and visualizations included.

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ANALYSE Rubric

ANALYSE			
KEY CHARACTERISTICS OF ACHIEVEMENT LEVELS			
EXCELLENT	SATISFACTORY	BASIC	UNSATISFACTORY
<ul style="list-style-type: none"> • Correctly states hypotheses for each question. • Selects appropriate tests to test hypotheses and justifies selection correctly using evidence collected during the exploration tasks. • Conducts appropriate statistical tests to test hypotheses. • Correctly interprets test findings and draws appropriate conclusions for the proposed statistical analysis. • Correctly reports reasons for test selection, test findings and conclusions using appropriate statistics and language. 	<ul style="list-style-type: none"> • States hypotheses related to the research question(s) with some minor errors, but which are still suitable for testing using statistical tests. • Selects appropriate tests to test hypotheses with minor omissions in justification/misalignment of justification with work completed during exploration tasks. • Conducts appropriate statistical tests to test hypotheses. • Correctly interprets test findings and draws appropriate conclusions for the proposed statistical analysis with minor errors/omissions. • Correctly reports reasons for test selection, test findings and conclusions using appropriate statistics and language with minor errors/omissions. 	<ul style="list-style-type: none"> • States hypotheses which are suitable for testing using statistical test with some minor errors/lacking refinement. • Selects appropriate tests to test some hypotheses with some errors in selection/justification in particular misalignment of justification with work completed during exploration tasks. • Conducts statistical tests chosen to test hypotheses appropriately (these may not be the most appropriate tests for the hypotheses based on the outcomes of exploration). • Attempts to report test findings and conclusions using appropriate statistics and language with some errors/omissions. 	<ul style="list-style-type: none"> • Hypotheses are either not included or contain significant errors which render them useless. • Major errors in choice of tests included based on exploration or omits some tests for some questions. • Incorrect/failure to conduct tests, interpret and report tests findings using appropriate statistics and language.

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USING R Rubric

USING R KEY CHARACTERISTICS OF ACHIEVEMENT LEVELS			
EXCELLENT	SATISFACTORY	BASIC	UNSATISFACTORY
<ul style="list-style-type: none"> The format and presentation of the R Code is clear and easy to follow. Illustrative comments included are helpful and included either to demonstrate the student's understanding or offer helpful direction to the reviewer. The code to support each section of the analysis/report is easy to find. Code can be downloaded and executed without adaptation. 	<ul style="list-style-type: none"> The format and presentation of the R Code is clear and easy to follow. Illustrative comments included for major components of work which offer helpful direction to the reviewer. The code to support each section of the analysis/report can be located with little effort. Code can be downloaded and executed without adaptation. 	<ul style="list-style-type: none"> The format and presentation of the R Code is not clear or easy to follow. Minimal comments included. The reviewer has difficulty locating and/or accessing code associated with a small number of elements the analysis/report. Code can be downloaded and executed with minor adaptation. 	<ul style="list-style-type: none"> The format and presentation of the R Code is not clear or easy to follow. No comments included/copies comments included in instruction material. The reviewer has difficulty locating and/or accessing code. Code requires extensive adaptation to download and execute (and mostly fails to execute).

DOCUMENTATION Rubric

DOCUMENTATION KEY CHARACTERISTICS OF ACHIEVEMENT LEVELS			
EXCELLENT	SATISFACTORY	BASIC	UNSATISFACTORY
<ul style="list-style-type: none"> Clearly organized, thorough, and free of grammatical and spelling errors. 	<ul style="list-style-type: none"> Organized, clear with minimal spelling and grammatical errors. 	<ul style="list-style-type: none"> Somewhat disorganized with some grammatical and spelling errors. 	<ul style="list-style-type: none"> Very disorganized, several grammatical and spelling errors.