Unit 3: Problem Solving

Candidate: **Assessor:** **Date:**

AO	Pass	Merit	Distinction
AO1 Define a statistical problem to be investigated	Candidates will describe the background to the problem. They will set a simple hypothesis and list some criteria to be used to test it. They will identify some of the data that needs to be collected and briefly explain how it will be processed. They will demonstrate an understanding of Data Protection legislation and give a brief explanation of how they will comply with this.	Candidates will clearly describe the background to the problem. They will set a complex hypothesis and clearly describe criteria that will be used to test it. They will identify the data that needs to be collected and explain how it will be processed. They will demonstrate an understanding of Data Protection legislation and explain how they will comply with this.	Candidates will explain thoroughly the background to the problem. They will set a complex hypothesis and clearly describe and justify the criteria that will be used to test it. They will identify the data that needs to be collected and explain clearly how it will be processed. They will demonstrate an understanding of Data Protection legislation and explain how they will comply with this.
AO1 NOTES			P M D
AO2 Design and carry out a data collection activity	Candidates will plan and carry out a data collection activity to gather some suitable data for their investigation. The plan will include a suitable sampling method. Candidates will list some of the constraints that could affect the reliability of their study. They will collect some useful data.	Candidates will plan and carry out a data collection activity to gather a range of suitable data for their investigation. The plan will include a suitable sampling method and size. Candidates will describe most of the constraints that could affect the reliability of their study and identify some areas of potential error in their sampling regime. They will collect the data identified.	Candidates will plan and carry out a data collection activity to gather the data that is necessary for their investigation. They will make appropriate use of research and data collection methods. The plan will include a suitable sampling method and size, and frequency/interval if appropriate, with justification of choices. Candidates will describe the constraints that could affect the reliability of their study and identify areas of potential error in their sampling regime. They will explain the steps they have taken to eliminate bias from their study. They will collect the data identified.
AO2 NOTES			P M D
AO3 Collect data and store it using a spreadsheet	Candidates will create a simple interface for entering data into a spreadsheet. They will include at least one suitable validation routine to limit data entry errors. They will store some useful data.	Candidates will create an effective interface for entering data relevant to their research into a spreadsheet. They will include suitable validation routines to limit data entry errors for most items of data where this is appropriate. They will store the data collected and take at least one measure to ensure its security. They will demonstrate an understanding of the need for security measures.	Candidates will create an effective and easy-to-use interface for entering data relevant to their research into a spreadsheet. . They will use a range of effective validation methods to minimise data entry errors wherever possible. They will store the data collected and protect it from unauthorised access and from accidental and deliberate change and loss. They will demonstrate a thorough understanding of the need for security and the range of measures that are needed.
AO3 NOTES			P M D

Candidate: **Assessor:** **Date:**

AO	Pass	Merit	Distinction
AO4 Create a suitable spreadsheet to analyse the data	Candidates create a structure to analyse and present the results of their study. They will apply appropriate titles, labels and formatting to display most information clearly. They will use appropriate functions to analyse some of the data, providing some useful data relevant to the hypothesis. They will carry out at least one test of their spreadsheet and use the results to make changes, if appropriate.	Candidates create an effective structure to analyse and present the results of their study. They will apply appropriate titles, labels and formatting to display most information clearly. They will use appropriate functions to analyse the data, providing a range of useful data relevant to the hypothesis. They will devise a test plan and use it to ensure that the spreadsheet works effectively.	Candidates create an effective and efficient structure to analyse and present the results of their study. They will apply appropriate titles, labels and formatting to display all information clearly. They will use appropriate functions to carry out a thorough analysis of the data, providing a range of useful data relevant to the hypothesis. They will devise a comprehensive test plan and use it to ensure that the spreadsheet works effectively.
AO4 NOTES			P M D
AO5 Create suitable graphs/charts	Candidates will create at least one graph/chart that is relevant to their hypothesis and appropriate for the data being presented. They will use some formatting and labelling features to improve the presentation of their chart(s).	Candidates will create at least two different types of graphs/charts that are relevant to their hypothesis and appropriate for the data being presented. The choice of chart types is briefly explained. They will use appropriate formatting and labelling features to improve the presentation of their charts.	Candidates will create at least three different types of graphs/charts that are significant to their hypothesis. The choice of chart types will be appropriate and fully explained. They will use appropriate formatting and labelling features to display the data effectively.
AO5 NOTES			P M D
AO6 Present findings to an audience	Candidates will create a straightforward presentation about the findings of their data analysis. This will address their hypothesis and include at least one table of data and at least one graph/chart. They will state, with at least one reason, whether the analysis has supported or disproved the hypothesis.	Candidates will create a detailed presentation about the findings of their data analysis. This will address their hypothesis and include a range of tables and graphs/charts, formatted and presented effectively. They will explain whether the analysis has supported or disproved the hypothesis.	Candidates will create a comprehensive presentation about the findings of their data analysis. This will address their hypothesis and include a range of tables and graphs/charts, formatted and presented effectively. The presentation will be of near-professional standard. Candidates will explain the extent to which the analysis has supported or disproved the hypothesis. They will evaluate the effectiveness of the spreadsheet model.
AO6 NOTES			P M D

AO1	AO2	AO3	AO4	AO5	AO6