

J276 NEA Mark Scheme

Programming Techniques (0-12 Marks Available)

Marks			
Marking Criteria	1 - 4	5 - 8	9 - 12
A03 – 12	<ul style="list-style-type: none"> - There is an attempt to program solution to solve component parts of the task using few of the techniques identified. - Code may be minimal, disorganised or hard to follow. - Component parts of the task may be trivial, incomplete or not attempted. 	<ul style="list-style-type: none"> - There is an attempt to program a solution to most component parts of the task using several techniques. - The code is mostly correct. - The task is clearly broken into its component parts and there are links to the design. - A good range of techniques are used appropriately, giving a working solution to most component parts of the task. - Some sections of the solution may be inefficiently coded, although basic functionality is mostly successful. - The task is mostly complete, but it may be limited in its scope. 	<ul style="list-style-type: none"> - There is an attempt to program a solution to solve all of the task using most of the techniques listed. - The task is clearly broken down into its component parts, with reasons given, and there is a clear correspondence of the design with the final code. - The techniques are used appropriately in all cases giving an efficient, working solution to all parts of the problems. - There may be additional programming techniques used to produce an efficient and elegant solution to the task. - The solution is sufficiently challenging and makes good use of a range of techniques.

0 Marks = No response or no response worthy of credit.

Analysis (0-6 Marks Available)

Marking Criteria	Marks		
	1 - 2	3 - 4	5 - 6
A02 – 2 A03 – 4	<ul style="list-style-type: none"> - There is limited analysis, with some comments on what the task involves. - There may be little decomposition of the task into its component parts. - There are brief comments on how testing might take place, but with no mention of success criteria. 	<ul style="list-style-type: none"> - There is some analysis indicating what is required for each of the component parts. - The problems have been decomposed into clearly defined component parts. - There is some discussion of how testing will take place. - The link between testing and success criteria is evident. - In the solution to the task, the objectives are clear. - The solution to the task shows awareness of real-world utility value but may be limited in scope. 	<ul style="list-style-type: none"> - There is a detailed analysis of what is required for solving the problems. - There is clear and logical decomposition of larger tasks into component parts. - There is a clear requirements specification which covers all the functionality of the task. - Approaches are justified. - There is detailed discussion of testing and success criteria. - The importance of validation in order to produce a robust program is taken into account. - In the solution to the task, objectives are clear and show awareness of the need for real-world utility and robustness.

0 Marks = No response or responses not worthy of credit.

Design (0-8 Marks Available)

Marks			
Marking Criteria	1 - 4	5 - 8	9 - 12
A01 – 1 A02 – 2 A03 – 5	<ul style="list-style-type: none"> - There are basic plans to solve some of the component parts of the task. - There may be a limited outline describing the intended approach to some parts of the task. - Testing is not planned or only briefly mentioned. - The solution may be outlined but not in sufficient detail to produce a workable solution. 	<ul style="list-style-type: none"> - Most component parts of the task are planned. - The user interface is described. - There is a set of basic algorithms outlining a solution to most parts of the problems. - There is some discussion of how testing will take place. - The link between testing and success criteria is evident. - There is some discussion of the variables to be used. - There is awareness of the need for validation. - The solution to the task shows awareness of real-world utility value, but may be limited in scope. 	<ul style="list-style-type: none"> - All the component parts of the task are clearly planned. - There is discussion and planning of the user interface. - There is a full set of detailed algorithms representing a solution to each part of the problem. - The design is complete enough for it to be used as the basis for coding. - There is detailed discussion of testing and success criteria. - There is awareness of why testing should be destructive. - Variables and data structures are identified. - The solution to the task shows consideration about how to build in robustness. - The solution to the task is clearly design in a modular way.

0 Marks = No response or no response worthy of credit.

Development (0-8 Marks Available)

Marks			
Marking Criteria	1 - 2	3 - 5	6 - 8
A01 – 1 A02 – 2 A03 – 5	<ul style="list-style-type: none"> - There is limited evidence to show a solution to component parts of the task. - There is some evidence to show that the solution works. - Code is presented with little or no annotation. - Variable names may not reflect their purpose. - The code shows little organisation or structure. - There is a limited record of resources used. - Quality of extended response – The report is presented in an unstructured format. Information may be supported by limited evidence and the relationship to the evidence may not be clear. 	<ul style="list-style-type: none"> - There is evidence to show how the solutions were developed. - There is some evidence of testing during development. - Testing shows that many parts of the solution work. - The code is organised with sensible variable names and with some annotation indicating the purpose of each part of the code. - There is a record of resources used. - Quality of extended response – The report, for the most part, is presented in a structured format. The information presented is, in the most part, relevant and supported by some evidence. 	<ul style="list-style-type: none"> - There is detailed evidence showing development of the solution. - There is detailed evidence of systematic testing and refinement during development to show that all parts work as required. - The code is well organised with meaningful variable names and detailed annotation indicating the function of each section. - There is a detailed record of resources used. - Quality of extended response – The report is presented in a coherent and structured format. The information presented is relevant and substantiated.

0 Marks = No response or no response worthy of credit.

Testing and Evaluation and Conclusions (0-6 Marks Available)

Marking Criteria	Marks		
	1 - 2	3 - 4	5 - 6
A02 – 2 A03 – 4	<ul style="list-style-type: none"> - There is evidence to show that the system has been tested for basic functionality but the test plan is limited in scope with little structure. - There is limited evidence to show how the result matches the original criteria. - Quality of extended response – The report may be ambiguous or disorganised, with little or no use of specialist terms. 	<ul style="list-style-type: none"> - There is a test plan covering many parts of the problem with some suggested test data. - There is evidence that the system has been tested using this data. - There is some evidence to show how the results of testing have been compared to the original criteria. - There is a brief evaluation of how successful or otherwise the solution is. - Quality of extended response – The report, for the most part, is presented in a structured format with use of some specialist terms. 	<ul style="list-style-type: none"> - The detailed test plan covers major success criteria for the original problem. - The testing demonstrates how the solution relates to the success criteria. - Unresolved issues are highlighted together with comments on how the issues might be resolved. - Testing is clearly more than just a demonstration of success – it is used destructively to uncover errors. - There is a full evaluation of the final solution against the success criteria. - Quality of extended response – The report is presented in a coherent and structured format, and specialist terms are used accurately and confidently.

0 Marks = No response or no response worthy of credit.