This marking scheme has been prepared as a *guide only* to markers. This is not a set of model answers, or the exclusive answers to the questions, and there will frequently be alternative responses which will provide a valid answer. Markers are advised that, unless a question specifies that an answer be provided in a particular form, then an answer that is correct (factually or in practical terms) **must** be given the available marks.

If there is doubt as to the correctness of an answer, the relevant NCC Education materials should be the first authority.

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**Throughout the marking, please credit any valid alternative point.**

**Where markers award half marks in any part of a question, they should ensure that the total mark recorded for the question is rounded up to a whole mark.**

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**Marker’s comments:**

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**Moderator’s comments:**

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**Mark:**

**Moderated mark:**

**Final mark:**

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**Penalties applied for academic malpractice:**
Question 1

a) Identify FOUR (4) features of database software that can facilitate the way that an organization manages its information.

Award 1 mark for each bullet point up to a maximum of 4 marks:

- It enables the storage of data
- Queries can be used for data retrieval/enables quick data retrieval
- Data can be filtered
- Sorting of data
- Various types of reports can be produced from the data

b) Explain briefly what is meant by the term data warehouse.

Award 1 mark for each bullet point up to a maximum of 2 marks:

- It is a system that can be used for analysing data
- It is a system that can be used for reporting data
- A data warehouse can store data from many sources
- The data stored may be current or historical data

c) Recommend FOUR (4) business processes that project management software can support.

Award 1 mark for each bullet point up to a maximum of 4 marks:

- Decision making
- Planning resources
- Organising resources
- Managing resources
- Allocating resources
- Scheduling events/timescales
- Managing budgets
- Estimating costs

Total: 10 Marks
Question 2

a) Suggest THREE (3) business processes that can benefit from the use of simulation software.

*Award 1 mark for each bullet point up to a maximum of 3 marks:*

- Financial forecasting/estimation
- Cost reduction
- Business modelling/task modelling
- Waste reduction
- Inefficiency reduction

b) Identify THREE (3) functions of spreadsheet software that can be used to aid financial analysis.

*Award 1 mark for each bullet point up to a maximum of 3 marks:*

- Max
- Min
- Average
- Median
- Mode
- Count
- Count If

c) Recommend TWO (2) types of multimedia software that would be advantageous for using in a marketing department.

*Award 1 mark for each bullet point up to a maximum of 2 marks:*

- Graphics
- Image editing
- Presentation
- Video editing
- Sound editing

d) Outline TWO (2) measures of quality of bespoke software.

*Award 1 mark for each bullet point up to a maximum of 2 marks:*

- Does it meet the business requirements of an organisation
- Does it meet the needs of an organisation’s end users

Total 10 Marks
Question 3

a) Suggest FOUR (4) criteria that can measure the effectiveness of software which has been developed by an end user.

Award 1 mark for each bullet point up to a maximum of 4 marks:

- Is it user friendly
- Is it functional
- Is it reliable
- Is it secure
- It is maintainable
- Is it accessible

b) Identify THREE (3) processes in an advertising department that can be done more efficiently using software developed by end users.

Award 1 mark for each bullet point up to a maximum of 3 marks:

- Data retrieval
- Input of data
- Output of data
- Formatting of materials
- Production of tables/graphs (trends/comparisons)

c) Identify THREE (3) disadvantages of end user software development.

Award 1 mark for each bullet point up to a maximum of 3 marks:

- Development time may be slow
- End users may lack appropriate expertise/training
- Testing may not take place or be insufficient
- There may be inaccuracies in the finished product
- The work may not be planned efficiently
- Documentation may not be produced or is not produced to a required standard

Total: 10 Marks
Question 4

a) Outline the purpose of a form field in word processing software.

*Award 1 mark for each bullet point up to a maximum of 2 marks:*

- It is used in a word processed form as a field in which data is entered.
- It is can be tied to a custom field.
- It can be tied to a default field.
- Types include checkboxes/text fields/drop down lists.

b) Explain THREE (3) reasons to attach a digital signature to a word processed document.

*Award 1 mark for each bullet point up to a maximum of 3 marks:*

- To confirm the identity of the person who has produced the document.
- To verify/reassure that the contents of a document are secure.
- To confirm/assure that the contents of a document have not been changed.
- To ensure the authenticity of a document.

c) Identify THREE (3) review tools in word processing software.

*Award 1 mark for each bullet point up to a maximum of 3 marks.*

- Spelling and grammar check
- Thesaurus
- Word count
- Research
- Translate
- Language
- Track changes

d) Explain the purpose of applying a watermark to a word processed document.

*Award 1 mark for each bullet point up to a maximum of 2 marks:*

- It is used to specify information about a document, e.g. it is a confidential document/it must be read urgently
- It makes it more difficult to copy an image/text

Total: 10 Marks
Question 5

a) Identify THREE (3) reasons to use conditional formatting when using spreadsheet software.

Award 1 mark for each bullet point up to a maximum of 3 marks:

- Allows rules/conditions to be set for formatting a cell/a range of cells
- When the rules/conditions are met formatting is then applied to the cell/cells
- Different formatting options can be applied to a cell/cells, e.g. background colour
- When a condition is met in a cell/cells the colour will be applied
- It makes it easier to find specific data
- It makes it easier to keep track of data as it changes

b) Explain the purpose of using a Pivot Table in a spreadsheet.

Award 1 mark for each bullet point up to a maximum of 3 marks:

- Used with large, detailed sets of data
- Enables data to be sorted quickly
- Enables data to be summarized
- Enables data to be totalled
- Enables the average of data to be calculated

c) Suggest TWO (2) business processes that could be helped by the use of graphs.

Award 1 mark for each bullet point up to a maximum of 2 marks:

- Comparisons of information
- Trends of various data
- Costs

d) Identify TWO (2) methods of data validation in spreadsheet software.

Award 1 mark for each bullet point up to a maximum of 2 marks:

- Drop down lists
- Error alerts/message alerts
- Date restrictions
- Time restrictions
- Number restrictions
- Text restrictions

Total: 10 Marks
Question 6

a) Recommend FOUR (4) validation methods that database users must know about when developing a database.  

**Award 1 mark for each bullet point up to a maximum of 4 marks:**

- Range check  
- Type check  
- Length check  
- Format check  
- Presence check  
- Check digits  
- Lookup

b) Identify THREE (3) functions of a database management system.  

**Award 1 mark for each bullet point up to a maximum of 3 marks:**

- Manage the storage of data  
- Manage the access to data by many users  
- Manage the integrity of data  
- Manage the consistency of data  
- Manage the security of data  
- Manage backup and recovery of data

c) Explain briefly THREE (3) purposes of an input mask when using a database.  

**Award 1 mark for each bullet point up to a maximum of 3 marks:**

- It controls data entry  
- It helps to maintain consistency  
- It helps to make a database easier to manage  
- It provides a set format for data entry

Total: 10 Marks
Question 7

a) Identify FOUR (4) advantages to users of application software if macros have been applied to features and functions of the software.

Award 1 mark for each bullet point up to a maximum of 4 marks:

- Data is more efficient
- Data output is more efficient
- Formatting is more efficient
- Sorting of data is more efficient
- Formatting is more efficient
- Navigation is more efficient
- Time is saved
- Effort is saved

b) Recommend FOUR (4) features of spreadsheet software that can benefit from the use of macros.

Award 1 mark for each bullet point up to a maximum of 4 marks:

- Data input
- Data output
- Import of data from other software
- Export of data to other software
- Sorting of data
- Production of graphs
- Formatting of cells/text/numbers
- Lookup tables
- Pivot tables/charts
- Conditional formatting

c) State TWO (2) disadvantages of using a macro recorder to construct a macro.

Award 1 mark for each bullet point up to a maximum of 2 marks:

- The code generated is not efficient
- More code is generated than when writing a macro in VBA
- Almost all actions are recorded and this contained in the code/code less efficient
- It is a slower method of developing a macro

Total: 10 Marks
Question 8

a) Recommend THREE (3) factors to consider for accessibility of application software.

Award 1 mark for each bullet point up to a maximum of 3 marks:

- Choice of colours
- Size of the text
- Navigation

b) Identify THREE (3) methods of customising an application software interface.

Award 1 mark for each bullet point up to a maximum of 3 marks:

- Preference settings/displays can be changed
- Elements/items on the screen can be rearranged
- Menus can be modified
- Menu bars can be added/removed
- Ruler bars can be added/removed
- Macros can be applied
- Keys can be reassigned
- Page displays can be changed

c) Distinguish between reliability of application software and functionality of application software.

Award 1 mark for each bullet point up to a maximum of 4 marks:

- It controls data entry
- It helps to maintain consistency
- It helps to make a database easier to manage
- It provides a set format for data entry

Total: 10 Marks
Question 9

a) Differentiate between black box and acceptance testing.  

Award 1 mark for each bullet point up to a maximum of 4 marks:

- Black box testing tests that the features and operations of the software function correctly/functional testing/validation testing
- Black box testing is performed by testers
- Acceptance testing is performed by users/customers to help them decide whether to accept the software as it is or whether enhancements or improvements need to be made
- Acceptance testing marks the boundary between software being developed for use to the software being used.

b) Outline THREE (3) advantages of black box testing.

Award 1 mark for each bullet point up to a maximum of 3 marks:

- The tester does not need to have access to the program code
- The tester is not required to have a deep technical knowledge
- The tester does not need to know how the software works

c) Identify THREE (3) additional testing methods to those referred to in question 9 (a).

Award 1 mark for each bullet point up to a maximum of 3 marks:

- White box testing
- Graphical User Interface (GUI) testing
- Usability testing

Total: 10 Marks
Question 10

a) Identify THREE (3) application software evaluation methods.  

Award 1 mark for each bullet point up to a maximum of 3 marks:

- Opinion based evaluation
- Observation based evaluation/a user is observed using software
- Usability testing/a combination of opinion based and observation based evaluation

b) Outline FOUR (4) aspects of usability of application software that should be evaluated.

Award 1 mark for each bullet point up to a maximum of 4 marks:

- How easy the software is to navigate
- How easy the software is to learn
- How easy the software is to interact with
- How quickly it is for an experienced user to complete tasks
- How quickly users can recover when making errors/assistance that users receive from the software

c) Suggest THREE (3) ways of assessing users’ opinions of application software.

Award 1 mark for each bullet point up to a maximum of 3 marks:

- Questionnaires
- Interviews
- Observations

Total: 10 Marks

End of Examination Paper
### Learning Outcomes matrix

<table>
<thead>
<tr>
<th>Question</th>
<th>Learning Outcomes assessed</th>
<th>Marker can differentiate between varying levels of achievement</th>
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<tr>
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### Grade descriptors

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<tr>
<th>Learning Outcome</th>
<th>Pass</th>
<th>Merit</th>
<th>Distinction</th>
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<tbody>
<tr>
<td>Understand how application software can support business processes</td>
<td>Demonstrate adequate level of understanding</td>
<td>Demonstrate robust level of understanding</td>
<td>Demonstrate highly comprehensive level of understanding</td>
</tr>
<tr>
<td>Be able to design and implement office solutions</td>
<td>Provide adequate design to address the specification</td>
<td>Provide detailed and appropriate design to address the specification</td>
<td>Provide wholly appropriate and innovative design that meets the specification</td>
</tr>
<tr>
<td>Be able to demonstrate that business processes have been enhanced/improved</td>
<td>Demonstrate ability to perform the task</td>
<td>Demonstrate ability to perform the task consistently well</td>
<td>Demonstrate ability to perform the task to the highest standard</td>
</tr>
</tbody>
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