



CANDIDATE
NAME

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1 hour 45 minutes

No additional materials are needed.

- The total mark for this paper is 70.
- The number of marks for each question or part question is shown in brackets [].

<https://xtremepape.rs/>

- 1 A building company has a relational database. The database has two tables: CUSTOMERS and QUOTATIONS.

(a) The QUOTATIONS table has a foreign key.

Describe what is meant by the term foreign key.

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..... [2]

(b) (i) Define the term referential integrity.

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(ii) Explain why referential integrity is important.

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(c) Describe what is meant by the term relational database.

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..... [5]

2 Describe how supercomputers are used for weather forecasting.

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..... [6]

3 A government is concerned about the digital divide amongst its citizens.

Describe how the government could reduce the effects of the digital divide and improve access to its services.

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- 4 Data can be kept secure by using the Secure Socket Layer (SSL)/Transport Layer Security (TLS) protocols when it is transmitted over the internet.

Describe the use of SSL/TLS to ensure data is kept secure.

[8]

5 There are various methods of verification.

(a) Describe why checksum verification is used.

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(b) Describe a method of calculating a checksum.

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6 Describe these types of malware.

(a) Malicious bots

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(b) Rootkit
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(c) Virus
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7 Data can be collected by using a direct or an indirect data source.

Discuss the advantages and disadvantages of using direct data compared to indirect data.

[8]

8 Sound editing software has a number of features that can be used to edit audio files.

(a) State **two** reasons why an audio clip may need to be trimmed.

Reason 1

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Reason 2

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[2]

(b) State **one** reason why separate audio clips may need to be spliced together.

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..... [1]

(c) Describe the term equalisation when applied to audio clips.

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..... [3]

- 9 Discuss the advantages and disadvantages of using a dialogue interface rather than a gesture-based interface.

[8]

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