

OCR

Oxford Cambridge and RSA

Monday 11 June 2018 – Morning**A2 GCE****APPLIED INFORMATION AND COMMUNICATION TECHNOLOGY****G055/01** Networking Solutions

Candidates answer on the Question Paper.

OCR supplied materials:

- Instructions for Candidates G055/01/IC (inserted)

Other materials required:

- Candidate's pre-prepared materials

Duration: 1 hour 30 minutes

Candidate forename		Candidate surname	
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Centre number						Candidate number				
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INSTRUCTIONS TO CANDIDATES

- The Insert will be found inside this document.
- Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Answer **all** the questions.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Write your answer to each question in the space provided. Additional paper may be used if necessary but you must clearly show your candidate number, centre number and question number(s).
- Attach your pre-prepared materials for tasks 1–3.
- Do **not** write in the barcodes.

INFORMATION FOR CANDIDATES

- The number of marks is given in brackets [] at the end of each question or part question.
- The total number of marks for this paper is **100**.
- No marks will be given for using brand names of software packages or hardware.
- The quality of your written communication will be assessed through Q5 and Q8.
- This document consists of **12** pages. Any blank pages are indicated.

For Examiner's Use		Max
Task 2		21
Task 3		9
1		13
2		12
3		6
4		10
5		9
6		8
7		3
8		9
Total		100

Answer **all** the questions.

SECTION A

These questions refer to the Nine Lives case study.

1 The new Nine Lives network will include an intranet and extranet for the company to use. The whole network will add further benefits to the company and its staff.

(a) Describe **two** potential uses of an intranet and extranet for Nine Lives.

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[4]

(b) Explain **one** benefit to project managers, who travel between offices, of using the new network.

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[3]

(c) Explain **two** disadvantages to the software developers of using the new network.

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[6]

2 The three offices, in Glasgow, Birmingham and Cardiff, will need a fast, reliable connection for the transfer of files between them. A DSL connection has been proposed as a replacement for the ADSL connection.

(a) Explain **one** benefit to Nine Lives of using a DSL connection rather than ADSL.

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[3]

- (b) A software developer in Birmingham needs to transfer a compressed folder of code files to a server in the Glasgow office. The compressed folder size is 16MB.

How long will it take to transfer this compressed folder on a connection with a transfer speed of 32Mbps?

Show how you worked out your answer.

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..... [3]

- (c) Explain **two** advantages and **one** disadvantage of using fibre optic transmission as part of the connection between the offices.

Advantage 1

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Advantage 2

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Disadvantage 1

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[6]

3 Each office will have a Local Area Network (LAN) which will have one point of connection to the other offices.

(a) Describe **two** LAN technologies that will be used in the office networks.

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[4]

(b) Identify **one** hardware and **one** software component a project manager's laptop needs to enable it to access the network.

Hardware

Software

[2]

4 Any network design must include consideration of safety and security issues.

(a) Describe **one** way a network design for Nine Lives could consider the safety of office staff.

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..... [2]

(b) Explain **two** ways that the data within the Nine Lives network can be protected.

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[6]

(c) Describe how the software code will be protected from unauthorised use by freelance software developers or software developers who have left the company.

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..... [2]

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SECTION B

You do not need the case study or your tasks to answer these questions.

6 Some larger networks can be made more manageable and secure by implementing Virtual Local Area Networks (VLANs).

(a) Define a VLAN.

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..... [2]

(b) Network designs often follow a standard topology.

Draw diagrams to illustrate a:

(i) bus topology

[1]

(ii) ring topology

[1]

(c) Explain why it is difficult to implement VLANs on bus and ring networks.

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7 When a connection is set up from a computer to the internet it is usual to document the settings.

(a) Identify **one** setting that might be documented in this process.

..... [1]

(b) Explain why this setting is documented.

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..... [2]

8 A small supermarket is installing self-service EPOS terminals within its checkout area. For the terminals to function they must be connected to the supermarket's stock database.

Discuss the suitability of a client-server network for this purpose.

The quality of your written communication will be assessed in your answer to this question. [9]

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END OF QUESTION PAPER

PLEASE DO NOT WRITE ON THIS PAGE



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