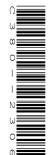# OCR
Oxford Cambridge and RSA

Monday 15 May 2023 – Morning

Level 3 Cambridge Technical in IT

05838/05839/05840/05841/05842/05877 Unit 1: Fundamentals of IT

Time allowed: 1 hour 30 minutes
C380/2306

You must have:
- a calculator

Please write clearly in black ink. **Do not write in the barcodes.**

Centre number						Candidate number				

First name(s) _____

Last name _____

Date of birth | D | D | M | M | Y | Y | Y | Y |

INSTRUCTIONS
- Use black ink.
- Write your answer to each question in the space provided. If you need extra space use the lined pages at the end of this booklet. The question numbers must be clearly shown.
- Answer **all** the questions.

INFORMATION
- The total mark for this paper is **80**.
- The marks for each question are shown in brackets **[ ]**.
- Quality of extended response will be assessed in questions marked with an asterisk (*).
- This document has **16** pages.

ADVICE
- Read each question carefully before you start your answer.

Section A

Put a tick (✓) in the box next to the **one** correct answer for each question.

1 SCSI stands for:

    A Serial Computer System Interface ☐

    B Serial Connection System Interface ☐

    C Small Computer System Interface ☐

    D Solid Connection System Interface ☐

[1]

2 Which type of computer does **not** use the standard binary system?

    A Hybrid ☐

    B Mainframe ☐

    C Quantum ☐

    D Smartphone ☐

[1]

3 Satellite connections usually have a **high latency**.

    High latency means:

    A the fast speed that signals travel at to reach their destination. ☐

    B the large delay in time it takes for signals to arrive at their destination. ☐

    C the slow speed that signals travel at to reach their destination. ☐

    D there is no delay in the time it takes for signals to arrive at their destination. ☐

[1]

4 Which of the following is **not** a characteristic of **freeware** software?

 A Can be downloaded and used without restrictions ☐

 B Cheaper than bespoke software ☐

 C Copyrighted by the developer ☐

 D Distributed with the source code accessible ☐

[1]

5 Which of the following is an example of **business** software?

 A CAD/CAM ☐

 B Debugger ☐

 C Email ☐

 D Word Processor ☐

[1]

6 One **advantage** of using messaging software is that:

 A it increases sales. ☐

 B it is cost effective compared to making a telephone call. ☐

 C not all users use the same system. ☐

 D voice quality is dependent on signal strength. ☐

[1]

Turn over

7 Which **protocol** is used to distribute data on the World Wide Web?

A FTP

B HTTP

C ICMP

D IP

[1]

8 Which servers' **role** is to respond to a client's request over the internet?

A Application

B Database

C Hypervisor

D Web

[1]

9 Which connectivity method is **not** used when using a Wide Area Network (WAN)?

A ADSL

B ISDN

C Leased line

D PSTN

[1]

10 Which type of **satellite** is used to transfer data between remote locations?

    A   Geostationary   ☐

    B   Global positioning   ☐

    C   Low-Earth orbiting   ☐

    D   Medium-Earth orbiting   ☐

[1]

11 An office worker needs to contact a customer.

Which type of **written communication** should they use to make sure that their boss knows they have contacted the customer?

    A   Email   ☐

    B   Letter   ☐

    C   Report   ☐

    D   Social networking   ☐

[1]

12 Which **technical** skill is required by a Web Designer?

    A   CSS coding   ☐

    B   LAN design   ☐

    C   Respect   ☐

    D   Router configuration   ☐

[1]

     Turn over

13 An employee reports that their boss has been claiming more travel expenses for meetings than they are entitled to.

This is an example of:

A   bias.

B   discrimination.

C   misuse of information.

D   whistle blowing.

[1]

14 Which type of **threat** appears to be a harmless program before it has a negative effect on a computer system?

A   Data theft

B   Phishing

C   Trojan

D   Virus

[1]

15 The **shredding** of a hard drive is an example of:

A   electromagnetic wiping.

B   encryption.

C   overwriting data.

D   physical destruction.

[1]

Section B

Lars Model Railways sell model railway sets and accessories. Currently the business has two shops, one in Manchester and the other in Leeds.

Each shop stocks different model railway sets. A shared stock database enables each shop to see what model railway sets are in stock at the other.

Each shop has a computer next to the till. This computer has access to the internet. The computer and the till are not linked so sales are manually updated on the shared stock database.

16 (a) The computers are used to check the stock database.

Describe the **purpose** of each of the components below.

Hard drive ....

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Motherboard ....

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[4]

(b) Identify and describe **one** connectivity method that can be used to **connect** the computers in each shop to each other and the internet.

Method ....

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Description ....

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[3]

Turn over

17 (a) While staff were working on the computer, the software they were using **froze**.

Explain **two** reasons why the software may have **frozen**.

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2 ....

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[4]

(b) The computer screen displayed an error code using the **hexadecimal** number system.

Explain how the **hexadecimal** number system works.

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.... **[2]**

(c) Using the **binary** system, calculate the number of bits in **1 mebi**.

Show your workings.

[2]

18 Lars Model Railways use a database to store records of stock in the shops.

Identify and describe **two benefits** of using a database to keep records of the stock.

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[4]

19 Lars Model Railways have employed an IT consultant to help them grow their business.

Describe **two** ways the IT consultant can demonstrate that they are **ready for work** at the first meeting.

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[4]

Turn over

20 (a)* The IT consultant has suggested that Lars Model Railways increase their online presence by launching an online store.

A **leased line** could be used to connect the shops to the Internet.

Discuss the **benefits** and **drawbacks** to Lars Model Railways of using a **leased line** connection.

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.... **[10]**

(b) When the shop computers communicate with each other different protocols are used.

Draw a line from each protocol to the correct layer of the TCP/IP protocol stack.

Each protocol is only used **once**.

IP		Application layer

UDP		Transport layer

ICMP		Internet layer

SNMP		Network layer

[4]

21 (a) Lars Model Railways have been advised to change their physical storage system to a virtual storage system.

Select the **advantages** and **disadvantages** of using virtual storage from the list below.

Write the number under the appropriate heading.

1 Reduces the amount of physical storage required
2 Increases the links to data access
3 Time taken for taking backups of the system reduced
4 Allows costs to be better predicted for the business
5 Correcting problems can be difficult
6 Easier to secure and encrypt.

Advantages of virtual storage	Disadvantages of virtual storage

[6]

Turn over

(b) Lars Model Railways have been advised to install an application server.

Identify and describe **one advantage** of using an application server.

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.... **[3]**

22 (a)* The IT consultant has explained to Lars Model Railways that the business will face increased **threats** from having an online store presence on the internet.

Discuss the **threats** that having an online store could cause and the digital security methods that could be used to **mitigate** them.

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.... **[10]**

Turn over

(b) Customers will need to register to use the online store. The customer details will be held by Lars Model Railways.

Explain **one** action that needs to be taken by Lars Model Railways to **conform** to the legislation that applies to the holding of customer data.

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.... **[3]**

(c) The introduction of the online store will allow Lars Model Railways to use different communication methods to connect with their customers.

Explain how **blogs** and **email** could be used to connect with their customers.

Blogs ....

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Email ....

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[6]

END OF QUESTION PAPER

ADDITIONAL ANSWER SPACE

If additional answer space is required, you should use the following lined pages. The question numbers must be clearly shown in the margins – for example, 16(a) or 17(b).

C380/2306