

**Modified Enlarged 18pt**

**OXFORD CAMBRIDGE AND RSA EXAMINATIONS**

**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 plus your additional time allowance**

**You must have:  
a calculator**

**Please write clearly in black ink.**

**Centre  
number**

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**Candidate  
number**

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**First name(s)** \_\_\_\_\_

**Last name** \_\_\_\_\_

**Date of  
birth**

D	D	M	M	Y	Y	Y	Y
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**READ INSTRUCTIONS OVERLEAF**

## **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 (\*).**

## **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? [1]**

**A Hybrid**

☐

**B Mainframe**

☐

**C Quantum**

☐

**D Smartphone**

☐

**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? [1]**

- 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** ☐

**5 Which of the following is an example of BUSINESS software? [1]**

**A CAD/CAM**

☐

**B Debugger**

☐

**C Email**

☐

**D Word Processor**

☐

**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]**

**7 Which PROTOCOL is used to distribute data on the World Wide Web? [1]**

**A FTP**

☐

**B HTTP**

☐

**C ICMP**

☐

**D IP**

☐

**8 Which servers' ROLE is to respond to a client's request over the internet? [1]**

**A Application**

☐

**B Database**

☐

**C Hypervisor**

☐

**D Web**

☐

**9 Which connectivity method is NOT used when using a Wide Area Network (WAN)? [1]**

**A ADSL**

☐

**B ISDN**

☐

**C Leased line**

☐

**D PSTN**

☐

**10 Which type of SATELLITE is used to transfer data between remote locations? [1]**

**A Geostationary**

☐

**B Global positioning**

☐

**C Low-Earth orbiting**

☐

**D Medium-Earth orbiting**

☐

**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? [1]**

**A Email**

☐

**B Letter**

☐

**C Report**

☐

**D Social networking**

☐

**12 Which TECHNICAL skill is required by a Web Designer? [1]**

**A CSS coding**

☐

**B LAN design**

☐

**C Respect**

☐

**D Router configuration**

☐

**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? [1]**

**A Data theft**

☐

**B Phishing**

☐

**C Trojan**

☐

**D Virus**

☐

**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** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Motherboard** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- (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 \_\_\_\_\_

\_\_\_\_\_

Description \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

[3]

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

Explain TWO reasons why the software may have FROZEN.

1 \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2 \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

[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.**

**1**

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**2**

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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.**

**1** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**2** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**[4]**

**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. [10]**

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- (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. [4]

IP

Application layer

UDP

Transport layer

ICMP

Internet layer

SNMP

Network layer

- 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. [6]**

- 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.**

<b>Advantages of virtual storage</b>	<b>Disadvantages of virtual storage</b>



**(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. [10]**

[illegible]

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- (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).**

[illegible]







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**Version 2**