T-LEVELS | IfATE Institute for Apprenticeships and Technical Education

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| Candidate surname | Other names |
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Centre Number | Candidate Number

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**T Level Technical Qualification in Digital Production, Design and Development (Level 3)**

# Thursday 5 December 2024

Morning (Time: 2 hours 30 minutes)

**Paper reference** **19537**

# Core: Examination

## PAPER 2: The Business Environment

**You do not need any other materials.**

Total Marks

## Instructions

- Use **black** ink or a ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and Pearson learner ID.
- There are two sections in this question paper. Answer **all** questions in Section A and Section B.
- Answer the questions in the spaces provided
  – *there may be more space than you need.*

## Information

- The total mark for this paper is 100.
- The marks for each question are shown in brackets
  – *use this as a guide as to how much time to spend on each question.*

## Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers if you have time at the end.

*Turn over* ▶

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## SECTION A

**Answer ALL questions. Write your answers in the spaces provided.**

**1** (a) State **two** layers of the seven-layer OSI model.

**(2)**

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(b) State **two** biometric user authentication techniques that can be used to control access to a device.

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(c) Describe how data is transformed into information.

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**(Total for Question 1 = 6 marks)**

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**2** Describe how digital systems can be made accessible to users with additional needs.

**(Total for Question 2 = 3 marks)**

**3** (a) Describe how a college cafeteria manager can use sales data to improve the management of the cafeteria.

**(3)**

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(b) Explain why the cafeteria management wants to use new technology that allows customers to order food using their smartphones.

**(3)**

**(Total for Question 3 = 6 marks)**

**4** A software developer is designing a program to store car details. One item of data stored is the fuel type of the car, such as **P** for petrol or **E** for electric.

Explain why a character data type would be used to store the fuel type.

**(Total for Question 4 = 3 marks)**

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**5** Explain why a company would want to keep information about salaries private.

**(Total for Question 5 = 3 marks)**

**6** (a) One way digital technologies are used to meet user needs is by addressing accessibility considerations.

Explain **two other** ways digital technologies are used to meet user needs.

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(b) Describe how distributed denial-of-service (DDoS) attacks are used to disrupt digital systems.

**(3)**

**(Total for Question 6 = 7 marks)**

**7** Explain why file access rights are used in in multi-user systems.

**(Total for Question 7 = 3 marks)**

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**8** Validation and verification are data assurance techniques.

Evaluate how the use of data assurance techniques improves data reliability.

**(9)**

**(Total for Question 8 = 9 marks)**

**TOTAL FOR SECTION A = 40 MARKS**

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## SECTION B

**Answer ALL questions. Write your answers in the spaces provided.**

**9** *Rodian Medical Centre* is installing a new digital system to store patient information.

(a) Describe **two** ways that the system can maintain the confidentiality of patient records.

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(b) Explain **two** ways that system users could be targeted by social engineering attacks.

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(c) Discuss how anti-virus software can improve the security of data held on the system.

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**(Total for Question 9 = 14 marks)**

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**10** *Etoncir* is a company that manufactures cars. It plans to update its manufacturing process by making more use of automation such as robots.

(a) Explain **two** constraints that could determine the feasibility of this new project.

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(b) Explain **two** reasons why *Etoncir* would choose to use a direct changeover method to implement this new system.

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(c) Describe how *Etoncir* could measure the value added by the new system.

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(d) Evaluate the benefits and drawbacks of technical change to *Etoncir*.

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**(Total for Question 10 = 19 marks)**

**11** Operators in an emergency call centre use a digital system to receive calls, record details and manage ambulance responses.

(a) Explain **two** input devices that operators in the call centre should be provided with.

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(b) Explain why a real time operating system would be needed for the computer used by the operator.

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(c) All ambulances have an onboard computer to create a Wide Area Network (WAN).

Explain **two** factors that will affect the performance of this Wide Area Network.

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(d) Explain why the new system would be a Wide Area Network.

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(e) Describe how Dynamic Host Configuration Protocol (DHCP) is used to connect the ambulances to this Wide Area Network.

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(f) The digital system must be available at all times.

Evaluate whether a hot or cold site should be used to improve the resilience of the digital system.

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**(Total for Question 11 = 27 marks)**

**TOTAL FOR SECTION B = 60 MARKS**
**TOTAL FOR PAPER = 100 MARKS**

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