



T Level Technical Qualification in Digital Business Services (603/6901/2)

Route Core and Pathway (Paper B)

Paper number: **P001867**
Assessment date: **Tuesday 20 June 2023**

Time allowed: **2 hours**
Time: **1:00pm – 3:00pm**

Student instructions

- Use black or blue ink.
- Fill in the boxes at the bottom of this page.
- Answer **all** questions.
- Read each question carefully.
- You **must** write your responses in the spaces provided. There may be more space than you need.
- You may do rough work in this answer book. Cross through any work you do not wish to be marked.
- If you use a supplementary answer booklet, you must add your student name, student number and provider number to the front cover of the booklet. Insert your supplementary answer booklet inside this question paper at the end of your exam.

Student information

- The marks available for each question are shown in brackets. This is to help you decide how long to spend on each question.
- The maximum mark for this paper is 106 (including 6 for the quality of written communication and use of specialist terminology).
- In questions 17 and 28, you will be assessed on the quality of your written communication (QWC) and use of specialist terminology.
- You may use a calculator.

Do not turn over until the invigilator tells you to do so.

Please complete / check your details below

Student Name:

Provider Name:

Student Number:

Provider Number:



01P00186728



P001867



For the multiple-choice questions, write **A, B, C** or **D** in the answer space. Do **not** circle **A, B, C** or **D** in the question.

For example:

Answer **C**

If you change your mind about an answer, you must put a cross through your original answer and then write your new answer next to it.

For example:

Answer ~~A~~ **B**

Section A: Tools and testing

This section is worth 23 marks.

Answer **all** questions in the spaces provided.

1 Define the term 'concept testing'.

[1 mark]

2 Give **one** possible use of budget sheets.

[1 mark]

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

- 3** Elle Sar is a fashion brand that produces custom clothes based on designs created on a website. The business is launching a new version of its website, but it is currently going through a process of black box testing.

A range of users are inputting designs with different parameters into the site. This is being done from a range of devices and web browsers. The number of users logged in at the same time is being steadily increased. This has put a lot of strain on the server hosting the site.

- (a)** Describe what black box testing is.

[1 mark]

- (b)** Explain **one** way Elle Sar might use black box testing.

[2 marks]

Please turn over for next question



4 Coronado Cross is a popular tourist attraction. The IT manager has recently discovered that the online booking system for the business is not working correctly.

Upon closer inspection alongside a developer, they have noticed that queries to the database containing existing bookings are not showing on the customer-facing web portal, making it appear that dates and times are available when they are already booked.

(a) Identify **two** processes of root cause analysis that could be used by Coronado Cross.

[2 marks]

(b) Explain how **one** of the identified processes could be used to solve the problems with the booking system.

[2 marks]

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



DO NOT WRITE IN THIS AREA

5 T.A.W. is a logistics company that operates in the furniture market. The company has expanded from working nationally in the UK to working with manufacturers and retailers in 40 countries. The expansion means that new evaluation tools are needed to measure the success of the business.

The business has a website which provides information to customers from around the world. T.A.W. has a database of market intelligence, which holds over 50 million records and contains a large amount of unstructured data. The business has a management information system which contains financial data relating to different business activities.

(a) Identify **two** evaluation tools.

[2 marks]

(b) Explain how **one** of the identified evaluation tools would be appropriate for the needs of T.A.W.

[2 marks]

Please turn over for next question



6 C Doktor is a business that offers customers an online app that provides health services.

The business currently has a high wage bill. Many staff complain that meetings are unnecessary and repetitive. Currently, only around 25% of server capacity is needed from day to day.

Explain **two** ways that the lean project management framework could be used by managers of C Doktor to improve the business.

[4 marks]

7 W.Donovan is an antiques business, selling rare objects online. The business is planning to launch a new app which will help people find out the value of items that they are thinking about selling.

Assess ways that W.Donovan could utilise usability testing to identify and resolve issues before the app is launched.

[3 marks]

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



DO NOT WRITE IN THIS AREA

8 Sparden Comms is a community group that has recently opened a community space which offers a café, space for meetings and rooms for community groups. Sparden Comms has a very community-focused approach to running the space and they want to ensure that as many local residents as possible are able to contribute their opinions on how the space is being used. Sparden Comms are considering using discussion threads to enable them to collect the opinions of the local residents.

Discuss to what extent discussion threads will be the best collaborative tool for Sparden Comms to use in collecting local opinions.

- Your response must include reasoned judgements.

[3 marks]

Please turn over for next section



Section B: Legislation and security

This section is worth 37 marks, plus 3 marks for QWC and use of specialist terminology. Answer **all** questions in the spaces provided.

9 Identify **two** technical threats to a business.

[2 marks]

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



DO NOT WRITE IN THIS AREA

10 Henry Jones and Partners is a law firm. The business has had a number of complaints from staff about violations of their rights under the Human Rights Act 1998. Managers at the business often ask unnecessary questions about the personal lives of staff. Staff who work from home must have their webcams on as they work and be visible to managers at all times.

(a) Identify **two** key features of the Human Rights Act (1998). **[2 marks]**

(b) Explain how **one** of these key features protects the staff of Henry Jones and Partners. **[2 marks]**

Please turn over for next question



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

11 Vinnick is a consultancy firm that specialises in advising small firms on data visualisation and processing. The company accepts payments via a web portal. They work with companies in the telecoms industry and with electrical engineers. The company works within several relevant industry standards.

(a) State **two** industry standards. **[2 marks]**

(b) Explain how **one** identified industry standard might affect the operations of Vinnick. **[2 marks]**



DO NOT WRITE IN THIS AREA

12 D-Moss Marketing produces marketing campaigns for cosmetics companies. An apprentice at the company broke a confidentiality agreement by sharing details of a new product range on their personal social media account. This has led to competitors gaining an advantage in the market and has reduced the impact of a planned promotional campaign.

Explain **one** reputational consequence for D-Moss Marketing of breaking a confidentiality agreement.

[2 marks]

13 Star Nights is a manufacturing business that produces telescopes. The telescopes are sold online through an e-commerce website. The company has a strict no refund policy. If customers are not happy with their order, they must pay to return goods to the business for a replacement. Products are generally high quality but can be expensive.

There is currently a lack of competition in the market. The company has been advised to work within the codes of conduct for e-commerce companies in the UK.

Explain **two** ways that customers will be protected by Star Nights operating within a code of conduct.

[4 marks]



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

14 SantMac is an accounting firm that works with clients in the oil industry. The business provides a range of services to its clients, including storage of data and completion of reports. Staff regularly handle commercially sensitive data on behalf of their clients. This is stored on secure online servers.

Assess the potential risks to SantMac of using commercially sensitive information. **[3 marks]**

15 Apree-Cat is a sportswear manufacturer that focuses on clothing for professional tennis players. Many clients are famous, which puts Apree-Cat at greater risk of cyber attacks. Client data needs to be protected carefully from both internal and external users who might want to use the information for inappropriate purposes. A number of staff members recently discovered that their passwords had been compromised as a result of a malware attack.

Assess how useful multi-factor authentication would be to prevent unauthorised access to Apree-Cat's client data. **[3 marks]**



DO NOT WRITE IN THIS AREA

16 Safia has recently started a new job as the IT director for a large legal services company. Part of Safia’s role is to ensure that client information is kept securely and that data breaches are kept to a minimum. Safia has found a number of vulnerabilities in the system:

- out-of-date encryption and software
- no authentication and authorisation for accessing data in place
- employees having poor cyber hygiene.

Safia is deciding which threat to work on first.

Assess which of the vulnerabilities presents the biggest threat to the client data.

[3 marks]

Please turn over for next question



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



Section C: Digital analysis and data

This section is worth 40 marks, plus 3 marks for QWC and use of specialist terminology. Answer **all** questions in the spaces provided.

18 What does ABAC stand for as a type of data access management? **[1 mark]**

- A** Application-based access control
- B** Attribute-based access control
- C** Authentication-based access control
- D** Automation-based access control

Answer _____

19 Define the term 'finiteness'. **[1 mark]**

20 Identify **one** source of external data. **[1 mark]**

Please turn over for next question

DO NOT WRITE IN THIS AREA



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

21 A college is carrying out research to understand the flow of traffic outside its gates. They are monitoring traffic at all times and will use the data to inform any traffic-calming actions they may need to take.

Explain **one** way that the college could use pattern recognition to inform their actions.

[2 marks]

22 Seaborn Transit is a company that transports raw materials on ships. Currently, around a third of the space on each ship is empty. Some competitors have much less empty space on each voyage. The company has asked its operations team to develop an algorithm to help plan the loading of ships. The aim is to use space efficiently to maximise profits. The new algorithm is being developed using pseudo code. It will be presented to the board of directors, who are a largely non-technical audience.

Explain **one** advantage of using pseudo code in the presentation to the board of directors.

[2 marks]



DO NOT WRITE IN THIS AREA

23 HoneyH is a software development agency. They use flowcharts as a design tool. They have recently taken on a new apprentice who has very limited experience of designing algorithms.

(a) Identify **two** features of a flowchart.

[2 marks]

(b) Explain **one** reason why a flowchart would be a suitable tool for helping the apprentice to learn how to design algorithms.

[2 marks]

Please turn over for next question



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

24 A school is introducing a new timetabling package that uses databases based on the entity relationship model. The school currently has a number of office staff who are relatively inexperienced in the use of databases. The office staff will attend training on how to set up the back-end system.

(a) Identify **two** components of an entity relationship model.

[2 marks]

(b) Explain **two** ways that the school could use the entity relationship model to benefit its timetabling process.

[4 marks]



DO NOT WRITE IN THIS AREA

25 AL Analytics is a data analysis business that collects and analyses data on behalf of clients. The specialism of the business is handling large data sets, but they currently take a long time to process the complex information contained in these. The business makes little profit.

In order to automate certain tasks, managers are planning to train a machine learning algorithm to autonomously complete tasks such as gathering data from the internet and cleaning data. The business currently wants to gain a unique selling point (USP) for complex analysis.

Assess the impact of machine learning algorithms supporting data analysis tasks carried out by AL Analytics.

[3 marks]

Please turn over for next question



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

26

Count-Base offers accountancy and other business services to small businesses. Part of this service is providing data entry and digitising records for small businesses. Count-Base have recently expanded the services they offer to include creating algorithm solutions to help the small businesses to automate their financial transactions.

Assess how the algorithm solutions that Count-Base offer could affect their clients. **[3 marks]**



DO NOT WRITE IN THIS AREA

27 G-Tex Consulting stores a large amount of financial client data. A recent security audit revealed that a weakness in their systems is a lack of user permissions on the shared computer network. Staff can frequently access data that is not related to their day-to-day work and can access files created by other staff members. Staff often collaborate with each other and sometimes need to share files. Some projects require access to very sensitive data that should only be available to managers.

(a) Explain **one** type of user permissions that could be set by the system administrator at G-Tex Consulting. **[2 marks]**

(b) Discuss to what extent setting user permissions would support G-Tex Consulting to make the client data more secure.

- Your response must include reasoned judgements. **[3 marks]**

Please turn over for next question



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

This page is intentionally left blank.



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

This page is intentionally left blank.



Document information

All materials in this publication is © NCFE.

'T-LEVELS' is a registered trade mark of the Department for Education.

'T Level' is a registered trade mark of the Institute for Apprenticeships and Technical Education.

'Institute for Apprenticeships & Technical Education' and logo are registered trade marks of the Institute for Apprenticeships and Technical Education.

Owner: Head of Assessment Design

To be completed by the examiner			
Question	Mark	Question	Mark
1		15	
2		16	
3a		17	
3b		18	
4a		19	
4b		20	
5a		21	
5b		22	
6		23a	
7		23b	
8		24a	
9		24b	
10a		25	
10b		26	
11a		27a	
11b		27b	
12		28	
13			
14			
		TOTAL MARK	

All the material in this publication is © NCFE.

