

Enterprise Computing Trial Examination

Marking rubric, sample answers and mapping grid

DoE Enterprise Computing Trial Exam 2025

Marking Guidelines

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Question 1 1 mark

Answer:

To visually track the schedule and progress of tasks over time

Question 2 1 mark

Answer:

Direct access storage

Question 3 1 mark

Answer:

Telling a story

Question 4 1 mark

Answer:

Including a leading question during a survey

Question 5 1 mark

Answer:

The process of identifying and understanding trends or regularities in data to solve problems and make decisions.

Question 6 1 mark

Answer:

- | |
|---|
| ☒ To store data from different sources in one place. |
| ☒ To support business intelligence and data mining. |
| ☒ To enable better decision-making by providing a unified, historical view of data. |
| ☐ To allow organisations to sell data to other people. |

Question 7 1 mark

Answer:

Interpretation and relevance to the audience

Question 8 1 mark

Answer:

Implement user authentication and access controls

Question 9 1 mark

Answer:

A method for organising information into categories based on shared characteristics and relationships.

Question 10 1 mark

Answer:

To ensure the system functions in a way that suits their real-world tasks and expectations

Question 11 1 mark

Answer:

an outlier

Question 12 2 marks

Criteria	Marks
Correctly classifies all the components	2
Correctly classifies TWO of the components	1

Answer:

	Quantitative	Qualitative
Podcasts	☐	☒
Revenue in dollars	☒	☐
Temperature in degrees Celsius	☒	☐
Age in years	☒	☐

Question 13 3 marks

Criteria	Marks
Correctly provides ALL of the required formulas	3
Correctly provides at least THREE of the required formulas	2
Correctly provides at least one of the required formulas	1

Answer:

Formula	Result
=B5-A5	✓ \$0
=SUM(A2:A6)	✓ \$2,700
=MAX(C2:C6)	✓ \$200
=B6*4	✓ \$1,200
=IF(B2>A2,"Profit","Loss")	✓ Profit
=IF(C2<=C4,"Expected","Unexpected")	✓ Unexpected

Question 14 4 marks

Criteria	Marks
Correctly identifies all the advantages, disadvantages and effects on project management	4
Correctly provides at least THREE advantages, disadvantages and effects on project management	3
Correctly provides at least TWO advantages, disadvantages and effects on project management	2
Correctly provides at least ONE advantage and disadvantage and effect on project management	1

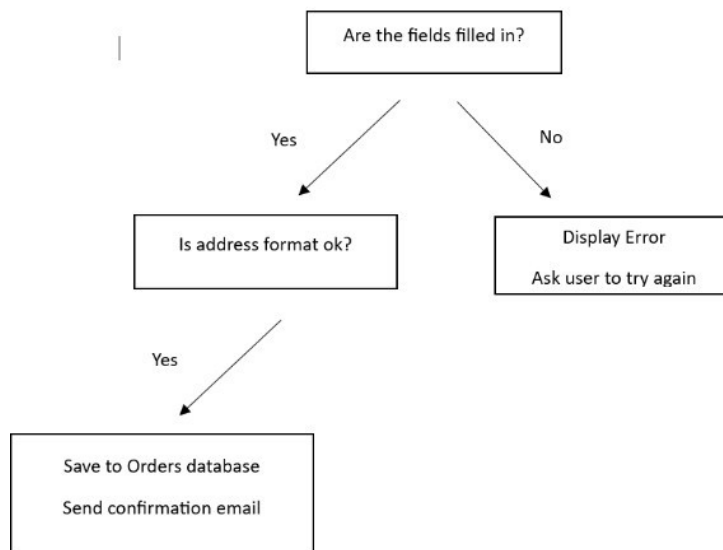
Answer:

Enterprise Trend	Advantage	Disadvantage	Effects on Project Management
Offshore Development	✓ Reduces costs and accesses global talent	✓ Time zone and communication challenges	✓ Requires communication planning across time zones
Working Remotely	✓ Allows flexible scheduling	✓ Difficult team coordination	✓ Needs strong tools for coordination
Freelance work	✓ Hires specialised talent on demand	✓ Availability and accountability issues	✓ Flexible but needs tight deadlines and briefings
Start-up	✓ Drives innovation and fast development	✓ Can lack resources and planning	✓ Encourages rapid iteration with risk

Question 15 (a) 3 marks

Criteria	Marks
• Draws an appropriate decision tree that includes all the rules	3
• Draws a decision tree with some of the rules	2
• Shows some understanding of the requirement	1

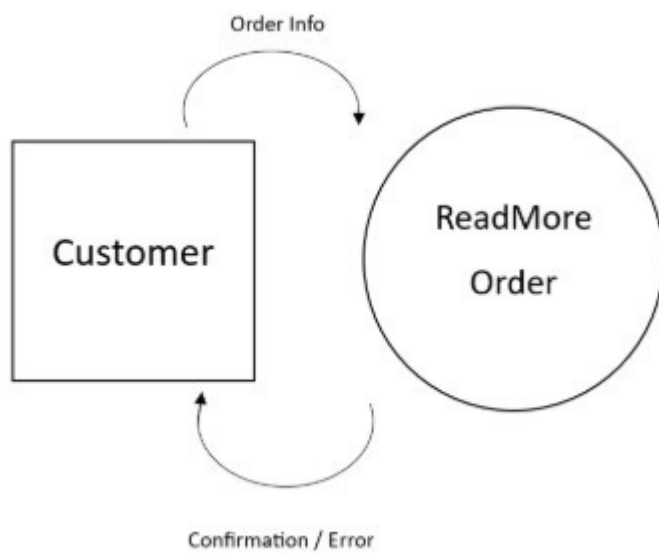
Sample answer:



Question 15 (b) 3 marks

Criteria	Marks
• Draws an appropriate data flow diagram that includes all the rules	3
• Draws a data flow diagram with some of the rules	2
• Shows some understanding of the requirement	1

Sample answer:



Question 16 3 marks

Criteria	Marks
Correctly identifies all entries in the data dictionary	3
Correctly identifies at least 6 missing elements from each field	2
Correctly identifies at least 3 missing elements from each field	1

Answer:

Field Name	Data Type	Field Size	Data Format	Description
LoanID	✓ Text	✓ 8	XX####XX	Unique identifier for each loan
MemberID	✓ Text	✓ 6	X#####	Unique code for each member
BookID	✓ Text	✓ 6	XX####	Unique identifier for each book
LoanDate	✓ Date/Time	✓ 10	dd/mm/yyyy	Date the book was borrowed
DueDate	✓ Date/Time	✓ 10	dd/mm/yyyy	Date the book must be returned by
ReturnedStatus	✓ Boolean	✓ 1	X	Indicates if the book has been returned or not
OverdueFee	✓ Currency	✓ 6	###.##	Fee charged if book returned late
StaffInitials	✓ Text	✓ 2	XX	Initials of staff who processed the loan

Question 17 (a) 2 marks

Criteria	Marks
• Correctly identifies a system implementation method and outlines its benefit with relation to the given scenario	2
• Provides some relevant information	1

Sample answer:

The business could use a phased implementation method, whereby they gradually shift different areas of operation one by one to the new system, allowing for a smooth transition between the old spreadsheets and invoices and the new cloud-based system. This is highly suitable since each spreadsheet is likely to represent a different area or sector of the business, and hence, by moving in stages, the business as a whole has time to adopt to the new system without being overwhelmed.

Correct answers:

Identifies either Phased, Parallel, Pilot or Direct as their method.

Question 17 (b) 2 marks

Criteria	Marks
• Correctly identifies TWO features of cloud storage and outlines its benefit with relation to the given scenario	2
• Provides some relevant information	1

Sample answer:

Centralised access: Cloud storage allows all staff at different retail locations to access the same up-to-date customer and stock information from any authorised device, reducing the risk of duplicated or inconsistent records.

Data backup and recovery: Cloud providers typically offer automatic data backups, which helps protect the business from data loss due to device failure or accidental deletion, ensuring important customer and payment data is securely saved.

Question 17 (c) 3 marks

Criteria	Marks
Correctly identifies THREE suitable requirements for combating privacy and security issues with relation to the given scenario	3
Correctly identifies some suitable requirements for combating privacy and security issues with relation to the given scenario	2
Provides some relevant information	1

Sample answer:

Multi-factor authentication: Require staff to log in with unique usernames and strong passwords, with a secondary login via a personal device to prevent unauthorised access to customer data.

Data encryption: Ensure that sensitive data such as customer details and payment information are encrypted both during transmission and when stored in the cloud to protect against data breaches.

Access controls: Limit access to sensitive information based on employee roles, so employees only see the data necessary for their job, reducing the risk of misuse or accidental exposure.

Question 18 (a) 1 mark

Criteria	Marks
Identifies a relevant social or ethical issue related to intelligent systems.	1

Sample answer:

Bias in decision-making

Could also include: job losses, increased surveillance, reduced human interaction, unequal access to intelligent systems (digital divide), disruption to traditional industries, invasion of privacy, lack of transparency, misuse of personal data, consent in data collection

Question 18 (b) 3 marks

Criteria	Marks
Provides a thorough discussion of the selected issue, clearly explaining its impact on individuals or society with relevant detail	3
Provides a general discussion of the issue, with some explanation of its impact on individuals or society.	2
Provides basic or limited statement about the issue's impact with minimal explanation	1

Sample answer:

Bias in intelligent systems can lead to unfair or discriminatory outcomes, especially if the system has been trained on biased data. For example, in recruitment software, biased algorithms might favour certain genders or ethnic backgrounds over others, reducing equal opportunity. This can negatively affect individuals' employment prospects and contribute to systemic inequality within society. It also damages public trust in automated systems and raises concerns about transparency and accountability in digital decision-making.

Question 19 (a) 4 marks

Criteria	Marks
• Demonstrates excellent understanding; correctly selects most or all valid options.	4
• Shows sound understanding with minor misconceptions or 1 incorrect selection.	3
• Displays basic understanding; multiple incorrect selections but attempts all rows.	2
• Shows limited understanding; mostly incorrect or missing answers.	1

Answer:

Approach	Application Example	Advantage	Disadvantage
Waterfall	✓ Step-by-step design and testing	✓ Clear structure and documentation	✓ Inflexible to changes
Agile	✓ Iterative sprint with feedback	✓ Quick adaptation to user needs	✓ Requires frequent collaboration
Prototyping	✓ Build early mock-ups for feedback	✓ Early user involvement	✓ May lead to scope creep
End-User	✓ Staff create forms using templates	✓ Empowers users	✓ Limited technical capabilities
Outsourcing	✓ Hire external developers	✓ Access to expertise	✓ Less control over development

Question 19 (b) 3 marks

Criteria	Marks
Clearly recommends a suitable development approach (e.g., Agile) with strong justification. Effectively compares at least two other approaches (e.g., Waterfall, Outsourcing), highlighting why the chosen method is better suited to the scenario (e.g., flexibility, feedback, control). Demonstrates clear understanding of the scenario's constraints (limited time, budget, adaptability, user-friendliness).	3
Provides a recommendation with some justification. Compares at least one other approach, though the comparison may be brief or lack depth. Addresses some scenario constraints but may miss one or more key aspects.	2
Gives a recommendation with minimal or vague justification. May mention other approaches but without meaningful comparison. Limited reference to the scenario's needs.	1

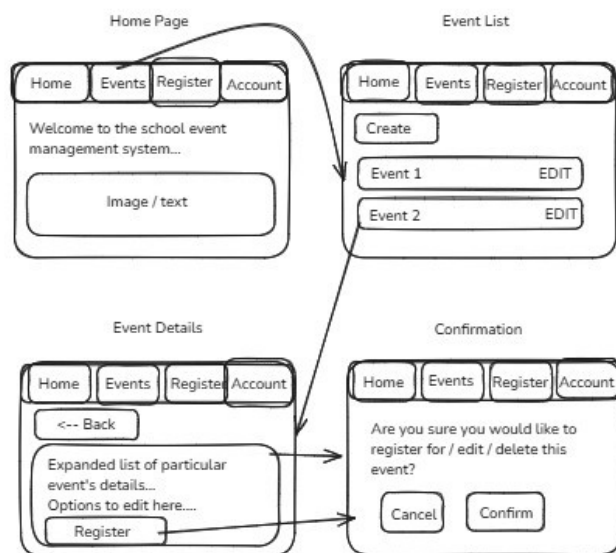
Sample answer:

The most suitable approach would be agile, as it allows for the team to work in a flexible manner, gaining feedback at all the stages to inform its development, ensuring it meets the requirements and expectations of the school, including being user-friendly. This is especially helpful for small teams and works well as they likely need to adapt to changes rapidly. Waterfall would not be suitable as it is inflexible to change, hindering the feedback process that would be required at later stages. End-user would not be suitable since it may limit technical capabilities, hindering the system's ability to be adaptable to any future needs.

Question 19 (c) 3 marks

Criteria	Marks
Storyboard includes 4 or more clearly labeled frames. Each frame has a brief, relevant description and shows appropriate interface elements (e.g., buttons, menus, forms). The sequence is logical and clearly shows the registration process.	3
Storyboard includes 3–4 frames, most of which are labeled and described. Some interface elements may be missing or unclear. The sequence mostly makes sense but may have minor gaps.	2
Storyboard includes 1–2 frames or lacks clear labels/descriptions. Interface elements are minimal or unclear. The sequence is hard to follow or incomplete.	1

Sample answer:



Question 20 (a) 2 marks

Criteria	Marks
Identifies the 3 main impacts on hardware and software with a brief explanation	2
Names one or more impact but with no explanation	1

Sample answer:

They use improvements in processing power of hardware, increased access to storage/memory and use increased use of communications such as the Internet, has impacted analytics as it enables more data to be processed and displayed in Data Visualisations.

Question 20 (b) 3 marks

Criteria	Marks
Describes and gives a thorough example with how the multidimensional features works with an example	3
Describes an OLAP but doesn't not give an example	2
Attempts to give an example that is not correct	1

Sample answer:

An OLAP is a method of enabling data to be manipulated in a multidimensional form so that the impacts of 3 features can be compared. An example is where a company or enterprise wishes to compare the sales for a particular product over a time period and by area that it has been sold in. For example, the sales data for a soft drink company may want to find out how many products were sold in June in New South Wales. Using an OLAP connected to the data base, the data would be mined to extract these features required and then displayed visually to physically see the sales made in that time period.

Question 21 (a) 1 mark*Sample answer:*`classID`**Question 21 (b)** 3 marks

Criteria	Marks
Provides a correct SQL statement	3
Provides a partially correct SQL statement	2
Shows some understanding of SQL	1

Sample answer:

```
SELECT Customers.firstName, Customers.lastName, Class.classSkill,  
Class.className, Class.classCost  
FROM Customers, Class  
WHERE Customers.classID = Class.classID  
AND Customers.age > 21  
AND Class.classSkill = 'Both'  
ORDER BY Customers.lastName ASC;
```

Question 22 (a) 3 marks

Criteria	Marks
• Correctly distinguishes between the two terms with a clear example of each	3
• Describes a difference between qualitative and quantitative data OR • Uses an example of each data type without descriptions	2
• Provides some relevant information	1

Sample answer:

Qualitative data is data, or information, that is descriptive in nature, where mathematical techniques cannot be applied to it. An example is someone's favourite fruit like an apple.

Quantitative data is the opposite, and is instead numerical in nature, allowing for measurements to be made with mathematical techniques. An example is someone's wage, like \$200.

Question 22 (b) 3 marks

Criteria	Marks
Clearly explains the reasons behind reducing bias in data visualisations and methods of how it can be achieved	3
Gives a general overview without using the appropriate terminology	2
Provides some relevant information	1

Sample answer:

Eliminating data bias involves considering the audience, accuracy, and unconscious bias. Firstly, in relation to audience, the business must ensure that the sample of data fairly represents the population, not discriminating for or against a particular group. Sampling and selection bias must be minimised by ensuring fair measures are taken, such as not using leading questions and allow users to respond in the way they wish. Furthermore, in terms of storage and analysis, all data should be cleaned and validated, ensuring no data from the dataset is excluded, except for outliers. This is important since it shapes the decision making process and resulting outcomes displayed within the visualisation.

Question 23 3 marks

Criteria	Marks
Clearly and thoroughly explains the security methods used with data that has been collected	3
Outlines security methods that could be used.	2
Gives an example of data security	1

Sample answer:

The importance of maintaining security of data that has been collected needs to base itself around the features of cybersecurity and data backup. If we looked at an enterprise where these factors were important to create a high level of security for the data.

Implementing:

Ensuring that hardware and software have appropriate security measures such as antivirus software and firewalls. Making sure that staff are trained to ensure that data is kept secure through avoiding phishing emails and taking USB drives out of the office. Establishing protocols for security of data as well as ensuring that the backing up of data is managed and maintained.

Investigating:

Ensuring that everyone know the processes involved in securing the data as well as any signs of trying to hack the data.

Measures that were put in place for the Enterprise Project were: ensuring back up of data, making sure that the data is clean of viruses etc.

Question 24 4 marks

Criteria	Marks
• Designs correct formulae for cells E6, B8 and B12 and designs correct formula for B12 to lookup the correct value.	4
• Provides substantially correct formulae for cells E6, B8 and B12.	3
• Shows some understanding of formulae design using IF and/or LOOKUP	2
• Provides some relevant information	1

Sample answer:

E6: =B8+B12+B24

B8: =IF(B7<B20,B21,0)

B12: =VLOOKUP(B11,B15:C18,2,TRUE)

Question 25 8 marks

Criteria	Marks
• Makes an informed assessment of the dashboard's effectiveness and gives a detailed explanation of how intelligent systems could enhance decision-making; integrates both aspects fluently	8
• Makes a judgement about the dashboard and clearly explains how intelligent systems could support or improve decision-making	6-7
• Describes features of the dashboard and provides some explanation of intelligent systems, though integration may be limited	4-5
• Identifies either dashboard features or intelligent systems application with basic or undeveloped explanation	2-3
• Provides some general information	1

Mapping Grid

Question	Marks	Content	Syllabus outcomes	Targeted performance bands
1	1	Enterprise project – Identifying and Defining	EC-12-08	2–4
2	1	Enterprise project – Producing and Implementing	EC-12-11	2–4
3	1	Data visualisation – Using data to tell a story	EC-12-02	2–3
4	1	Data science – Data quality	EC-12-04	2–3
5	1	Intelligent systems – Systems and their applications	EC-12-04	3–4
6	2	Data science – Collecting storing and analysing data	EC-12-06	3–4
7	1	Data visualisation – Designing for UX	EC-12-06	3–4
8	1	Data visualisation – Interpreting data visualisations	EC-12-03	3–4
9	1	Intelligent systems – Systems and their applications	EC-12-06	3–5

Question	Marks	Content	Syllabus outcomes	Targeted performance bands
10	1	Enterprise project – Testing and evaluating	EC-12-03	2–4
11	1	Data visualisation – Interpreting data visualisations	EC-12-04	2–4
12	2	Data science – Collecting, storing and analysing data	EC-12-04	2–4
13	3	Data science – Processing and presenting data	EC-12-08	2–4
14	4	Enterprise project – Producing and implementing	EC-12-05	3–6
Extra Q	2	Data science – Data quality	EC-12-03	2–4
15 (a)	3	Enterprise project – Researching and planning	EC-12-03	3–4
15 (b)	4	Enterprise project – Researching and planning	EC-12-03 EC-12-04	2–3
16	3	Data science – Processing and presenting data	EC-12-08	2–4

Question	Marks	Content	Syllabus outcomes	Targeted performance bands
17 (a)	2	Enterprise project – Producing and Implementing	EC-12-09	2–4
17 (b)	2	Data science – Collecting, storing and analysing data	EC-12-02	3-4
17 (c)	3	Data science – Data quality	EC-12-03	4-5
18 (a)	1	Intelligent systems – Systems and their applications	EC-12-07	2 - 3
18 (b)	3	Intelligent systems – Systems and their applications	EC-12-07	3 - 4
19 (a)	4	Enterprise project – Producing and implementing	EC-12-05	3-6
19 (b)	3	Enterprise project – Producing and implementing	EC-12-09	4-5
19 (c)	3	Enterprise project – Researching and planning	EC-12-09	3–5
20 (a)	2	Data visualisation – Using data to tell a story	EC-12-06	2–4
20 (b)	3	Data visualisation – Using data to tell a story	EC-12-04	3–5

Question	Marks	Content	Syllabus outcomes	Targeted performance bands
21 (a)	1	Data science – Presenting and processing data	EC-12-05	2–4
21 (b)	3	Data science – Presenting and processing data	EC-12-05	2–5
22 (a)	3	Data science – Collecting, storing and analysing data	EC-12-02	3–5
22 (b)	3	Data visualisation – Using data to tell a story	EC-12-07	3–5
23	3	Data visualisation – Creating data visualisations	EC-12-07	2–4
24	3	Data science – Processing and presenting data	EC-12-05	3–5
25	4	Option 1 Intelligent systems	EC-12-10	2–6
25	8	Option 2 Data visualisation	EC-12-10	2–6

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