BCS Level 4 Module in Digital Core

Sample Paper A

Record your surname / last / family name and initials on the answer sheet.

Sample paper only consisting of 40 questions in total across:

- 20 knowledge questions that include a range of question types such as multiple choice, multiple response, fill in the blanks and ordering question types – 1 mark awarded for each question.
- 4 scenario-driven situational judgement assessments each with 5 questions designed to test knowledge, skills and behaviours that include a range of question types such as multiple choice, multiple response, fill in the blanks and ordering question types – 1 mark awarded for each question.

A number of possible answers are given for each multiple choice or multiple response question, indicated by either A B C or D. A number of other questions will require you to re-order a list or fill in the blanks. Your answers should be clearly indicated on your answer sheet.

Pass mark is 26/40
Time allowed: 90 minutes

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This is a United Kingdom government regulated qualification which is administered and approved by one or more of the following: Ofqual, Qualifications Wales, CCEA Regulation or SQA.
1 Which TWO of the following mission statements best demonstrate an organisation who are customer focused?

A To create more opportunities for the community.
B To prevent competitors from entering the market.
C To make the most profit for the organisation's shareholders.
D To deliver a quality service to our staff.

2 Which of the following factors are influenced by an organisation's culture?

Select THREE of the following options.

A Competitor performance.
B Employee behaviour.
C Risk approach.
D Systems and processes.

3 A small retail company plans to double in size over the next 18 months. They are considering the option to invest in an "off the shelf" e-commerce platform as a means to grow their customer base online. Which of the following elements should be considered FIRST to determine whether to invest in this solution?

Select ONE of the following options.

A The cost of the platform.
B Other competitor offerings.
C Who their potential customers are.
D Capability of staff to use the platform.

4 Cyber security may involve monitoring - covert or overt - of a user’s activity, including browsing history and communications. Which of the following are likely to be societal concerns relating to this activity?

Select THREE of the following options.

A Privacy.
B Human rights.
C Cost.
D Fraud.
5 Which **ONE** of the following devices would be used to connect multiple computers or network devices together.

A Firewall.
B Hub.
C Router.
D WAP.

6 Complete the following statement by filling in the blanks, using the blank options provided below.

When incidents of non-compliance with security procedures occur, organisations may experience (A) ________ operations, leading to a poor customer experience and potential (B) ________ impact. Such activity could also generate other (C) ________ elsewhere on the network.

**Blank options:**
A. interrupted, boosted, increased, poor
B. reputational, social, legal, ethical
C. vulnerabilities, users, costs, applications

7 Which of the following security features used by an Operating System would help to prevent an unknown person from logging into a device?

Select **ONE** of the following options.

A Data encryption.
B Firewall.
C Authentication.
D Virus protection.
8 Match the following primary elements of programming logic to the CORRECT descriptor.

<table>
<thead>
<tr>
<th>Element:</th>
<th>Description:</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Variable</td>
<td>[ ] A module of code designed to accomplish a specific task.</td>
</tr>
<tr>
<td>B. Loop</td>
<td>[ ] A container for different types of data.</td>
</tr>
<tr>
<td>C. Function</td>
<td>[ ] A sequence of instructions that are continually repeated.</td>
</tr>
<tr>
<td>D. Conditional</td>
<td>[ ] An expression used to make decisions based on true or false.</td>
</tr>
</tbody>
</table>

9 An organisation has a body of big data, which is yet to be processed. This data is a by-product of the interactions between users and the organisation's social media account, and largely consists of comments. How would you best categorise this type of data?

Select TWO of the following options.

A Unstructured.
B Structured.
C Quantitative.
D Qualitative.

10 In data protection, which role is responsible for the following activities?

- Determining which data shall be processed.
- Determining the reasons and justification for processing data.

Select ONE of the following options.

A Data Controller.
B Data Subject.
C Data Processor.
D Data Owner.
11 You have been tasked to put together the specification for a standard set of IT equipment to be used by remote workers. Which TWO of the following should you prioritise first when considering the user requirements?

A How much budget the department will have available to spend.
B How the user's information will remain secure when using the device.
C How the user will access the device if their home Wi-Fi connection fails.
D How the user will use the device and for what purposes.

12 An organisation is considering implementing a new AI technology that will automate parts of its customer services function. In terms of the organisation's culture, which TWO of the following internal factors will MOST LIKELY influence the success of the project?

A The organisation's competitors and their reputation.
B The organisation's appetite for risk.
C The willingness of its staff to adopt new ways of working.
D The requirements of legislation that must be adhered to.

13 In order to support in delivering the transformation plans for an organisation, the senior team have planned to set up a number of projects. This will require the creation of project teams that will include members from different functional areas across the business who will report into a project manager, whilst still continuing their day-to-day work.

Which ONE of the following structures will best support this type of working?

A Flat structure.
B Hierarchical structure.
C Matrix structure.
D Functional structure.

14 A manager of a product development team is looking for ways to improve the performance of their team in order to increase the number of products produced each month. Which TWO of the following should they do first?

A Set new KPIs for each individual in the team.
B Review the current performance of each team member.
C Review the current status of each of their competitors.
D Review the organisation's strategy with the team.
15 Match each of the following programming languages to the **CORRECT** description. Use the empty boxes next to each description to provide your answers as A, B or C.

*Type of programming language:*

A Functional  
B Object-oriented  
C Procedural

*Description:*

[ ] Makes use of classes to structure the code into organised and reusable elements.  
[ ] Used to run a set of functions that run in a pre-defined order.  
[ ] Used when you wish to avoid any side effects such as changing the data structure or variables.

16 Which TWO of the following programming languages are **MOST COMMONLY** used in data analysis?

A Python  
B PHP  
C R  
D JavaScript

17 Which TWO of the following statements align to the principles of an agile working environment?

A Once a phase is completed it cannot be returned to.  
B Smaller outputs are delivered more frequently.  
C Changing requirements are welcome later on in the project.  
D Outputs are only made live once the project is complete.
18 You have been asked to provide an update to senior management on a project that you are currently involved in to deliver a bespoke software application for the business. Due to additional stakeholder requirements being identified late on in the project, there is a need to invest in further resource to deliver the outputs that has not been originally budgeted for.

Which **TWO** of the following should you prioritise when preparing to deliver your update?

A You should prepare to a set of written answers to all the possible questions that may be asked during the meeting.
B You should prepare a copy of your financial appraisal of the additional work required.
C You should prepare a list of the names of the people who have requested the additional requirements.
D You should check to see who is attending the meeting and their involvement in the project.

19 When following the Systems Development Lifecycle, what should be carried out first before the developed solution is implemented into the business?

Select **ONE** of the following options.

A An appraisal should be carried out to assess the feasibility of the solution.
B The solution should be fully tested to ensure it is fit for purpose.
C Maintenance should be carried out to perform any required updates.
D A concept design should be signed off by all stakeholders.

20 An organisation has decided to invest in cloud infrastructure. Which **TWO** of the following are potential benefits of implementing this technology?

A Enhanced security through finger print recognition.
B Increased collaboration between different teams.
C Greater level of loss prevention of files.
D Improved security through local storage.
Scenario 1: Understanding the business

You are employed by a large web development company, who have recently acquired a small, family run marketing business which they intend to rebrand and operate as an extension to their current offering. The structure and culture of the two organisations are very different.

21 As part of the acquisition, employees of the marketing business have been invited to attend a onboarding session, to help familiarise them with the culture and values of the organisation they're joining.

Which of the following items would be most helpful to demonstrate the strategic direction of the organisation?

Select TWO of the following options.

A The organisation's company handbook.
B The organisation's mission and vision statement.
C A summary of recent press coverage.
D Details of the organisation's financial performance to date.
E A copy of the organisation’s five year plan.

22 The transition from being a small business owner to being part of a larger organisation is proving challenging for the owner of the marketing business and they are struggling to adapt to the level of reporting and compliance required. They have expressed that they feel the systems in place are overly complicated and unnecessary.

How could you best support and influence this colleague to be successful?

Select TWO of the following options.

A Contact them directly to sign post them to the relevant procedures.
B Have an open discussion to remind them of the penalties of non-compliance.
C Invite them to a collaboration session to share their challenges.
D Invite them to formalise their complaints through the grievance procedure.
E Contact them directly to sign post them to relevant support materials.
23 The long-term vision of the organisation is to sell their shares on the open stock market. What is this organisational structure known as?

Select ONE of the following options.

A Private limited company.
B Public limited company.
C Sole trader.
D For profit organisation.
E Matrix organisation.

24 As the business plans to expand in the coming years, the software being used must be considered. Select the most appropriate order to complete these activities in.

Use the text boxes provided to number each activity.

[ ] Review available options, considering their cost, functionality and scalability.
[ ] Present a business case with your suggestions.
[ ] Confirm the organisation’s vision and what they require from the software.
[ ] Consider the suitability and scalability of the existing software.

25 The organisation has identified an opportunity to invest in software which uses machine learning algorithms that could enable a greater level of insight to be gained about its customers and their activities from the data generated via the website and social media. This technology has the potential to support the business to create more accurate and effective targeted marketing campaigns.

Which of the following MUST the organisation have in place should they invest in the software.

Select TWO of the following options.

A A single expert who will use the software.
B A clear understanding of what data is required.
C A defined process for handling the data.
D Someone new to manage the website and social media.
E An understanding of the short-term cost of the investment.
Scenario 2: Cyber Security

You are employed within a government body. Due to the nature of the work undertaken, there is considerable risk of cyber threats and attacks, and therefore, extensive security processes and procedures are in place.

26 The organisation's servers are set to perform a full back up every evening. Each time this operation is performed, this costs £68 in overhead costs. Select your justification for suggesting to continue or cease this operation.

Select TWO of the following options.

A Ceasing daily backups and performing this operation weekly would be sufficient to protect the data.
B Continuing this operation ensures a high level of protection from loss of data.
C Continuing this operation shows commitment to customer service.
D Ceasing this operation would generate a saving which far outweighs the risks of data loss.
E Continuing this operation will encourage a greater level of stakeholder trust in the organisation.

27 Despite completing the required training, a member of staff fears they may have fallen victim to a social engineering attack, sharing confidential information with a third party. As their line manager, the staff member reports their concern to you. Arrange the following response actions in the most suitable order, to contain the risk.

Use the text boxes provided to number each activity.

[ ] Inform any affected clients, internal stakeholders or other any other interested parties.
[ ] Interview the employee about the potential attack, to ascertain the timeline of events and what information has been shared.
[ ] Complete refresher training - including practice exercises - with all employees.
[ ] Inform the compliance team of a potential security breach.
The organisation has begun to encourage its staff to work more flexibly in terms of where they work as part of a new initiative to improve working conditions and enhance productivity.

Which of the following THREE activities would MOST LIKELY ensure a robust approach towards information security is maintained.

A. Regular system maintenance is being carried out.
B. There are a surplus of skilled employees.
C. Ongoing employee training is being provided.
D. Internal audit of all processes is being carried out.
E. External access to the network is being prevented.

Many of the organisation's employees are becoming increasingly vigilant following a recent cyber attack. Which of the following THREE concerns should you investigate further as a priority?

A. Employees receiving scheduled prompts to update their login credentials.
B. A sudden increase in incoming emails from external parties.
C. Slower than usual network activity.
D. Unrecorded changes to files or file structures.
E. Employees accessing the network from their external IP address.

The following passage exists in the organisation's IT Incident Response procedure.

"Any suspected or confirmed threat must be escalated to the Security Incident Response Team (SIRT) without delay. This contact must be made via telephone using the contact details provided. SIRT will alert the necessary teams and seek to secure the network and restore any loss of service as soon as possible. Where incidents cannot be resolved internally or pertain to criminal activity, these shall be reported to the relevant authorities by SIRT. Any immediate risk of physical harm or threat to employees, premises or property should be reported to emergency services immediately."

Considering this, what are the MOST LIKELY impacts of a delay in reporting a threat in this organisation?

Select TWO of the following options.

A. Interrupted operations or loss of service.
B. SIRT being unable to respond.
C. Significant financial loss.
D. Possibility of additional vulnerabilities.
E. Less contact with the relevant authorities.
Scenario 3: Networks, systems and applications

You have been contracted to set up a new computer network for a dental company that has two practices (main site and branch site). In terms of electronic communication, the company currently relies on email, including for the sharing of patient data and organisational documents between sites. The two branches do not share a computer system.

The owners would like you to set up a server to store all documents and help them to select and implement various types of business support software.

31 Each site has three surgeries and staff must ensure that these are always fully stocked in order to maintain safe and effective operation. How could the introduction of a stock control software application benefit the business? Typical functionality of such applications include the ability to store data in relation to stock levels, cost of materials and order history.

Select THREE of the following options.

A Improves demand forecasting.
B Improves client retention.
C Prevents wasted product.
D Helps set treatment charges.
E Improves the marketing strategy.

32 You are in the process of deciding on the type of server to be set up for the main site. Which of the following is BEST suited for storing patient records?

Select ONE of the following options.

A File server.
B Application server.
C Web server.
D Proxy server.
E Print server.
33 You have suggested that all client and appointment data be stored in a cloud platform to allow access by both sites. You have been asked to explain the business benefits of storing data in this manner. What are the main reasons to justify this choice?

Select **TWO** of the following options.

A Reduces material costs.
B Prevents having to duplicate data across the two sites.
C Increases workflow efficiency.
D Allows access to files and data without an internet connection.
E Ensures compliance with data protection laws.

34 After setting up the new network a number of staff have logged IT helpdesk tickets due to the fact that they are unable to access the organisation’s HR portal. Which component of the network would you **MOST LIKELY** check first?

Select **ONE** of the following options.

A Switch.
B Firewall.
C Router.
D Hub.
E WAP.

35 You performed a stakeholder analysis to identify the people who would be affected by the change in IT infrastructure and need to explain to the owners how to prioritise stakeholders depending on where they fall on the Power/Interest Matrix.

Which factor do you **NOT** need to take into consideration when prioritising stakeholders and determining their position on the matrix?

Select **ONE** of the following options.

A Their ability to influence outcomes of the project.
B The extent to which they are impacted by the change.
C Their level of interest in the project.
D Their level of support of the project.
E Their level of engagement with clients.
Scenario 4: Data

A local animal shelter is overwhelmed by the number of animals in their care. They want to create a ‘dating’ app to connect animals with prospective new pet parents. They wish to be able to match the animals’ characteristics with the needs of the new pet parents e.g., child friendly Y/N, breed, species, activity level etc.

Some adopters are concerned about how their data will be stored and used.

36 Your team are working with the controller to determine which data should be collected and processed to ensure that the app complies with the Data Protection Act. What would be the MOST appropriate way to create data on potential adopters?

Select ONE of the following options.

A Volunteers can research potential adopters on social media and input their data into the app.
B Potential adopters can input their preferences e.g., what breed they would prefer, if they have a garden, any children or other animals when creating an account.
C Acquisition data from a similar animal shelter including the preferences of the adopters including preferred breed, any other children or animals.
D Devices from a larger organisation can be used to capture data on previous adoptions and adopters and transfer it in the cloud.
E Data on people who had previously completed the adoption process can be reused.

37 You have collected the following data. Sort each item of data by whether it is an example of structured (S) or unstructured data (U). Use the empty boxes to provide your answers a S or U.

[ ] Species
[ ] Social media tag.
[ ] Age.
[ ] Image.
[ ] Breed.
38 The shelter has plans to scale up and integrate their app with other systems e.g., add a social chat/chat box function, integrate their social media. What would be good practice to ensure that this would be possible when developing the app?

Select THREE of the following options.

A Standard naming conventions.
B Commenting on code.
C Using detailed code.
D Making code reusable.
E Using original code.

39 One of the stakeholders in the shelter who has provided large donations in the past has asked you to justify the resources spent gathering the data from potential adopters.

Select THREE of the following options that provide the best response to their request.

A It will allow you identify useful patterns in the data.
B Collecting this data will enable targeted marketing to increase the pool of adopters.
C Collecting this data will make the code reusable.
D It will make it easier to apply consistent naming conventions.
E It will inform strategic decision making and planning.

40 The app is now in build and you have been asked to mentor the new apprentice who has been assigned to the project. They initially appeared to understand the primary elements of programming, but it has become apparent that they are not confident how they will be applied in practice when developing the app. You decide to test the apprentice.

Which ONE of the following is an example of conditional logic in the application?

A The app can be used to check how many of each breed of animal there are in the shelter.
B Data on the animals' characteristics can be inputted by the volunteers.
C The app uses filters to display certain species, breeds or characteristics.
D There are currently 13 rabbits at the same shelter.
E Volunteers can upload images and videos of animals.

End of Paper
<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
<th>Explanation / Rationale</th>
<th>Syllabus Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A and D</td>
<td>An organisation’s staff can also be considered to be its customers. Although making a profit is important for a business to sustain itself, having this as its mission does not show a want to focus on the needs of the customer.</td>
<td>1.2</td>
</tr>
<tr>
<td>2</td>
<td>B, C and D</td>
<td>Culture is something that influences all aspects of an organisation, from the values upheld by the organisation, the service it provides to its customer, the way in which its employees feel and act, to its processes and its ways of working.</td>
<td>2.1</td>
</tr>
<tr>
<td>3</td>
<td>C</td>
<td>Before investing in a solution such as this, the organisation should have a clear understanding of their market, who their potential customers are and their buying habits. Without this information they will not be able to make an informed decision.</td>
<td>2.2</td>
</tr>
<tr>
<td>4</td>
<td>A, B and D</td>
<td>With greater levels of security being implemented online to monitor user activity (with the intention to protect others) there are growing concerns over the freedoms, privacy and rights of individuals. Equally there are growing concerns about how these methods may be employed for unethical and fraudulent purposes.</td>
<td>3.1</td>
</tr>
<tr>
<td>5</td>
<td>B</td>
<td>Hub = Used to connect multiple computers or network devices together. Firewall = Used to monitor and filter traffic. Router = Used to connect a local network to the internet. WAP = Used to enable wireless devices to connect to a network.</td>
<td>4.4</td>
</tr>
<tr>
<td>6</td>
<td>See rationale</td>
<td>When incidents of non-compliance with security procedures occur, organisations may experience interrupted operations, leading to a poor customer experience and potential reputational impact. Such activity could also generate other vulnerabilities elsewhere on the network.</td>
<td>3.3</td>
</tr>
<tr>
<td>7</td>
<td>C</td>
<td>Authentication is a feature used by an operating system to verify the identity of the individual attempting to access the device or application.</td>
<td>4.2</td>
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<td>8</td>
<td>See rationale</td>
<td><strong>Variable</strong> = A container for different types of data. <strong>Loop</strong> = A sequence of instructions that are continually repeated. <strong>Function</strong> = A module of code designed to accomplish a specific task. <strong>Conditional</strong> = An expression used to make decisions based on true or false.</td>
<td>6.4</td>
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<td>9</td>
<td>A and D</td>
<td>Data produced through the interactions of users online and through social media is typically unstructured and therefore needs to be processed before it can be used. Any descriptive data such as comments is qualitative data, rather than numeric data which quantitative.</td>
<td>5.1</td>
</tr>
<tr>
<td>10</td>
<td>A</td>
<td><strong>Data Subject</strong> refers to the individual whom the data relates to. <strong>Data Processor</strong> is the person or organisation who processes data on behalf of the Data Controller. <strong>The Data Owner</strong> is the person or organisation who is accountable for a particular data asset.</td>
<td>5.4</td>
</tr>
<tr>
<td>11</td>
<td>B and D</td>
<td>Although the budget should be considered when proposing a solution, the needs of the user should be considered first. This relates to how they will use the device, as well as any security and accessibility requirements to ensure safe working practices.</td>
<td>1.4, 7.1</td>
</tr>
<tr>
<td>12</td>
<td>B and C</td>
<td>A higher risk appetite is often required by an organisation in order to make significant changes, such as automating parts of the business. Staff will also need to be supported and encouraged to adopt new ways of working in order to ensure the new technology is accepted so that it can form part of business as usual. Legislation and competitor offering may have an indirect effect on the organisation's culture, however would not be considered as internal factors.</td>
<td>2.1</td>
</tr>
<tr>
<td>13</td>
<td>C</td>
<td><strong>Matrix structures</strong> are commonly used within project environments to establish temporary</td>
<td>1.1</td>
</tr>
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<td>reporting lines whilst the project is being undertaken. This ensures that there are clear roles and responsibilities as well as commitment from each area of the business required for the project. It also ensures there is a clear reporting line to the project manager, with individuals still reporting into their line manager for their day-to-day duties.</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>B and D</td>
<td>In order to understand how best to improve performance, it is important to have an understanding of how each team member is currently performing in order to identify improvements.</td>
<td>1.3</td>
</tr>
</tbody>
</table>
| 15       | See rationale | Functional = Used when you wish to avoid any side effects such as changing the data structure or variables.  
Object-oriented = Makes use of classes to structure the code into organised and reusable elements.  
Procedural = Used to run a set of functions that run in a pre-defined order. | 6.1            |
<p>| 16       | A and C| Although PHP and JavaScript can be used for data analysis, they are more commonly used in the development of web applications. | 6.1            |
| 17       | B and C| A. relates more to a Waterfall project environment in which phases are delivered in a linear fashion where a phase can only begin once the previous phase has been fully completed. In an agile environment, the next phase may begin whilst the previous phase is still being completed. For example, the project may move to a deploy stage to release outputs whilst still being in the development phase. | 7.4            |
| 18       | B and D| Before delivering any type of communication you should first consider who your audience includes | 7.2, 7.3       |</p>
<table>
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<tr>
<td>19</td>
<td>A</td>
<td>The first stage in the Software Development Lifecycle is to carry out an appraisal to identify the feasibility of developing the solution. Unless this has been carried out it will be difficult to understand what will be required and whether the solution can actually be designed, built, tested and implemented.</td>
<td>1.2</td>
</tr>
<tr>
<td>20</td>
<td>B and C</td>
<td>Cloud technology can enable individuals and teams to more easily share and work together on files due to a centralised storage approach. This also reduces the risk of files being lost when stored locally on single devices that may be damaged, lost or stolen. Finger print technology is an example of an AI technology but may be used with cloud technology.</td>
<td>7.5</td>
</tr>
<tr>
<td>21</td>
<td>B and E</td>
<td>An organisation's mission and vision should clearly set out what the purpose and intention of the organisation and often forms the basis of an organisation's business plan. Its five year plan would also provide in-depth detail relating to the strategy it is taking in order to achieve its objectives.</td>
<td>1.2</td>
</tr>
<tr>
<td>22</td>
<td>C and E</td>
<td>It is important to appreciate the challenges felt by others in time of organisational change and where they are having to adapt to new procedures. By giving them the opportunity to share feedback constructively in the right environment it can help to gain their buy-in and also allow other approaches and improvement to be identified through collaborative thinking. Directing them to relevant support resources will also encourage them to find the answers they need when they get stuck.</td>
<td>7.3</td>
</tr>
<tr>
<td>23</td>
<td>B</td>
<td>A public limited company is legally allowed to sell shares of the company to the public. A private</td>
<td>1.1</td>
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| 24       | See explanation | 1. Confirm the organisation’s vision and what they require from the software.  
2. Consider the suitability and scalability of the existing software.  
3. Review available options, considering their cost, functionality and scalability.  
4. Present a business case with your suggestions. | 2.2 |
| 25       | B and C | Before implementing any Machine Learning solutions, it is essential that an organisation understands specifically what data is needed for their purposes (i.e. which data sources, what data is actually relevant) to ensure that the output given by the software delivers the insight needed. All organisations should have clearly defined processes in place for generating/gathering, storing, using, archiving and deleting data. They should not be reliant on having one expert to use the software, they should ensure the expertise is shared among multiple staff. They should also understand the long-term costs associated with investing in any new solution. | 1.5 |
| 26       | B and E | Loss of data can severely disrupt an organisation and impact its customers. The majority of organisations are constantly generating lots of data types of data essential to its daily operations. It is critical a robust process in place for backing up data so data can be restored in the event of cyber attack or server failure. This will also encourage a greater level of trust in the organisation and its activities from both internal and external customers. | 3.7 |
| 27       | See rationale | 1. Inform the compliance team of a potential security breach.  
2. Interview the employee about the potential attack, to ascertain the timeline of events and what information has been shared.  
3. Inform any affected clients, internal stakeholders or other any other interested parties. | 3.1, 3.3 |
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<th>Question</th>
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<th>Explanation / Rationale</th>
<th>Syllabus Section</th>
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<tr>
<td>4.</td>
<td></td>
<td>Complete refresher training - including practise exercises - with all employees.</td>
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<tr>
<td>28</td>
<td>A, C and D</td>
<td>Although having a surplus of skilled employees may be considered beneficial to an organisation, it may actually be more detrimental from a security risk perspective should the organisation have more employees than is needed. External access to the network should be limited based on the security requirements of the business rather than being completely prevented to ensure employees are able to access remotely when required.</td>
<td>3.4</td>
</tr>
<tr>
<td>29</td>
<td>B, C and D</td>
<td>Each of these factors may indicate an ongoing cyber security threat, or that the organisation’s systems have been breached.</td>
<td>3.5</td>
</tr>
<tr>
<td>30</td>
<td>A and D</td>
<td>As per the organisation’s IT Incident Response procedure, interruptions to operations should be expected. Although a threat may have financial consequences for an organisation (depending on its severity) it is not to say a delay in reporting the threat would ensure significant financial loss – although all staff should be encouraged to report a suspected threat as soon as possible to reduce the possibility of any harm being caused.</td>
<td>3.3, 3.6</td>
</tr>
<tr>
<td>31</td>
<td>A, C and D</td>
<td>Stock control software enables demand forecasting by showing historical data relating to the records amount of materials purchased which can be reconciled with the number of treatments carried out. Ordering the appropriate amount of material helps ensure stock does not run out and is not stored in excessive amounts which can lead to it not being used before it expires. Cost of materials helps determine the cost of service.</td>
<td>4.8</td>
</tr>
<tr>
<td>32</td>
<td>A</td>
<td>File server - enables connected clients to access the server’s storage capacities. Application server - delivers content and assets for a client application. Web server - stores, processes, and delivers web pages to clients. Proxy server - translates traffic between networks or protocols.</td>
<td>4.3</td>
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<tr>
<td>33</td>
<td>B and C</td>
<td>Clients can use the services of either branch without having to create a separate client profile at each site or having to share client data via email or other communication methods. This increases efficiency. Cloud storage has no bearings on material costs and access to files is dependent on having an internet connection. Data protection has several aspects (such as keeping passwords secure and allowing access of authorised people only) and although cloud storage has additional layers of security, it does not guarantee that protection of data is maintained.</td>
<td>4.6</td>
</tr>
<tr>
<td>34</td>
<td>B</td>
<td>A firewall is a device used to monitor and prevent unauthorised data traffic, and can prevent or limit access to certain websites based on rules set by an administrator. In this situation it is most likely that it is the firewall blocking the HR portal website as the issues logged relate specifically to the access of this website rather than to a wider network issue i.e. it is only this website that appears to be blocked.</td>
<td>4.4</td>
</tr>
<tr>
<td>35</td>
<td>E</td>
<td>The stakeholder matrix can be used to categorise stakeholders by their level of interest and influence on the project.</td>
<td>7.1</td>
</tr>
<tr>
<td>36</td>
<td>B</td>
<td>The correct answer not only offers the most practical way of creating data by asking the adopters to input their own preferences, it is also the most ethical as the users can be asked for their permission for the shelter to use/store their data as required. The other options are not as ethical - especially A - as the potential adopters have not been asked for permission for their data to be collected. Option A would also be the least accurate as it involves a lot of guesswork/inference on behalf of the volunteer.</td>
<td>5.2, 5.4</td>
</tr>
<tr>
<td>37</td>
<td>See rationale</td>
<td>Specied, Age, and Breed= Structured – This is data that can be easily be identified using fields</td>
<td>5.1</td>
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<tr>
<td>38</td>
<td>A, B and D</td>
<td>Keeping to standard naming conventions, making code reusable and commenting on code (so that it is easier for other developers to understand your process) are all examples of good practice. Using original and detailed code may make the process unnecessarily difficult for other developers.</td>
<td>6.2, 6.3</td>
</tr>
<tr>
<td>39</td>
<td>A, B and E</td>
<td>Collecting data on potential pet parents could be used to spot emerging patterns and trends which will help to match the best animal with the best person and will in turn inform future targeted marketing decisions to increase the pool of future pet parents. It will also help the strategic planning of the business and help them understand and address challenges e.g., if the data reveals that most potential adopters are searching for animals that are child friendly, then the shelter will need to target more child free adopters.</td>
<td>5.3</td>
</tr>
<tr>
<td>40</td>
<td>C</td>
<td>Conditionals are used in creating filters. If the user searches for a specific breed e.g., Labradors, then only Labradors should be shown. The other answers are incorrect as data would be inputted by volunteers in the CMS/front end. This is an example of inputting data. The app checking how many there are of a specific species/breed etc is an example of a loop. (The app checks through the number of dogs e.g., 35 until it finds the number of Staffies = 12). The number of rabbits is an example of a variable data value. Volunteers uploading images/videos is an example of a function.</td>
<td>6.4</td>
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