

# 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 20 questions in total across:

- 10 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.
- 2 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 13/20

Time allowed: 45 minutes

**NOTE:** This sample paper includes two scenarios that focus on the Business Context and Cyber Security topics in the syllabus. In the final assessment there will be a total of four scenarios, each focussing on different topics including Data, Networks systems and applications, Basic programming, and Working practices in a digital environment. Learners should therefore be expected to be tested in a similar manner on these topics.

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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 of the following mission statements best demonstrate an organisation who are customer focused?

Select **ALL** that apply.

- 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 **ALL** that apply.

- 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.

- 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 activity?

Select **ALL** that apply.

- A Privacy.
- B Human rights.
- C Cost.
- D Fraud.

- 5 Match the following components of a network to the CORRECT descriptor. You should list the number of the component next to the matching descriptor it relates to.

*Components:*

1. Hub
2. Firewall
3. Router
4. WAP

*Descriptor:*

- [ ] Used to monitor and filter traffic.
- [ ] Used to enable wireless devices to connect to a network.
- [ ] Used to connect a local network to the internet.
- [ ] Used to connect multiple computers or network devices together.

- 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 (1) \_\_\_\_\_ operations, leading to a poor customer experience and potential (2) \_\_\_\_\_ impact. Such activity could also generate other (3) \_\_\_\_\_ elsewhere on the network.*

**Blank options:**

- (1) interrupted, boosted, increased, poor
- (2) reputational, social, legal, ethical
- (3) 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.

- A** Data encryption.
- B** Firewall.
- C** Authentication.
- D** Virus protection.

8 Match the following primary elements of programming logic the CORRECT descriptor.

*Element:*

1. Variable
2. Loop
3. Function
4. Conditional

*Descriptor:*

- A module of code designed to accomplish a specific task.
- A container for different types of data.
- A sequence of instructions that are continually repeated.
- An expression used to make decisions based on true or false.

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 **ALL** that apply.

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

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

Select **ONE** of the following.

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

- A Data Controller.
- B Data Subject.
- C Data Processor.
- D Data Owner.

# 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.

- 11** 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 **ONE** of the following.

- 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 performance over the most recent financial year.

- 12** 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 **ONE** of the following.

- A** Have an open discussion to show that you're listening to their perspective, then 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 best practice and to hear their challenges.
- D** Invite them to formalise their complaints through the grievance procedure.

- 13 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.

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

- 14 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.

- 15 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 it's 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 **ALL** that apply.

- A A single expert who will use the software.
- B A clear understanding of what data is required.
- C A defined process for handling data.
- D Someone new to manage the website and social media.

## 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.

- 16 The organisation's servers are set to perform a full backup 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 **ONE** of the following.

- 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.

- 17 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 the line manager, the staff member reports their concern to you. Arrange the following response actions in the most suitable order, to contain the risk.

- [ ] 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.

- 18 The organisation is considering how to increase the robustness of it's cyber security. Which of the following is **NOT** a factor of a positive cyber security environment?

Select **ONE** of the following.

- A Planned maintenance.
- B A surplus of skilled employees.
- C Ongoing employee training.
- D Internal auditing.

- 19 Many of the organisation's employees are becoming increasingly vigilant following a recent cyber attack. Which of the following concerns would you investigate further?

Select **ALL** that apply.

- A Employees receiving prompts on a monthly basis to update 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.

- 20 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 is the likely impact of a delay in reporting a threat in this organisation?

Select **ALL** that apply.

- A Interrupted operations or loss of service.
- B SIRT being unable to respond.
- C Significant financial loss.
- D Possibility of additional vulnerabilities.

**End of Paper**



BCS Level 4 Module in Digital Core  
Answer Key and Rationale

Question	Answer	Explanation / Rationale	Syllabus Section
1	A and D	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.	1.2
2	A,C and D	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.	2.1
3	C	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.	2.2
4	A,B and D	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.	3.1
5	See explanation	<ol style="list-style-type: none"> <li>1. Hub = Used to connect multiple computers or network devices together.</li> <li>2. Firewall = Used to monitor and filter traffic.</li> <li>3. Router = Used to connect a local network to the internet.</li> <li>4. WAP = Used to enable wireless devices to connect to a network.</li> </ol>	4.4
6	See explanation	When incidents of non-compliance with security procedures occur, organisations may experience <b>interrupted</b> operations, leading to a poor customer experience and potential <b>reputational</b> impact. Such activity could also generate other <b>vulnerabilities</b> elsewhere on the network.	3.3

Question	Answer	Explanation / Rationale	Syllabus Section
7	C	Authentication is a feature used by an operating system to verify the identity of the individual attempting to access the device or application.	3.9
8	B	<ol style="list-style-type: none"> <li>1. Variable = A container for different types of data.</li> <li>2. Loop = A sequence of instructions that are continually repeated.</li> <li>3. Function = A module of code designed to accomplish a specific task.</li> <li>4. Conditional = An expression used to make decisions based on true or false.</li> </ol>	4.3
9	A and D	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 is quantitative.	5.1
10	A	Data Subject refers to the individual whom the data relates to. Data Processor is the person or organisation who processes data on behalf of the Data Controller. The Data Owner is the person or organisation who is accountable for a particular data asset.	6.4
11	B	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.	1.2
12	C	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.	7.3
13	B	A public limited company is legally allowed to sell shares of the company to the public. A private company on the other hand is not, and is used and owned by private investors.	1.1
14	See explanation	<ol style="list-style-type: none"> <li>1. Confirm the organisation's vision and what they require from the software.</li> <li>2. Consider the suitability and scalability of the existing software.</li> </ol>	2.2

Question	Answer	Explanation / Rationale	Syllabus Section
		<p>3. Review available options, considering their cost, functionality and scalability.</p> <p>4. Present a business case with your suggestions.</p>	
15	<b>B and C</b>	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.	1.5
16	<b>B</b>	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.	3.7
17	<b>See explanation</b>	<ol style="list-style-type: none"> <li>1. Inform the compliance team of a potential security breach.</li> <li>2. Interview the employee about the potential attack, to ascertain the timeline of events and what information has been shared.</li> <li>3. Inform any affected clients, internal stakeholders or other any other interested parties.</li> <li>4. Complete refresher training - including practise exercises - with all employees.</li> </ol>	3.1, 3.3
18	<b>B</b>	Although having a surplus of skills 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.	3.4
19	<b>B, C and D</b>	Each of these factors may indicate an ongoing cyber security threat, or that the organisation's system's have been breached.	3.5
20	<b>A and D</b>	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.	3.3, 3.6