



BCS Foundation Certificate in Digital Solutions Development

Specimen Paper

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

Specimen paper only 20 multiple-choice questions – 1 mark awarded to each question. Mark only one answer to each question. There are no trick questions.

A number of possible answers are given for each question, indicated by either **A B C or D**. Your answers should be clearly indicated on the answer sheet.

Pass mark is 13/20
Time allowed 30 minutes.

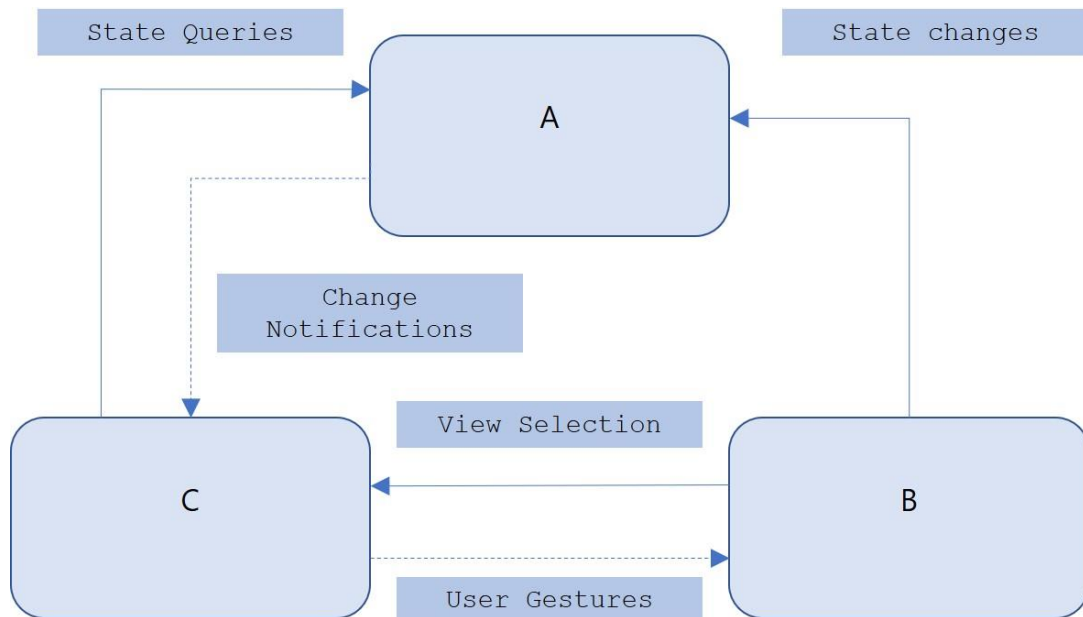
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- 1 Which of the following would **NORMALLY** be classified as enterprise application software?
- A Database Management System.
 - B Network Operating System.
 - C Game Controller System.
 - D Sales Order Processing System.
- 2 What is the uncertainty referred to by the 'cone of uncertainty' development model?
- A Uncertainty whether the project will get approval.
 - B Uncertainty whether there is a suitable technology solution.
 - C Uncertainty over time and cost estimates.
 - D Uncertainty about supplier quality.
- 3 Which of the following elements of the Requirements Engineering framework corresponds to the need to capture requirements from stakeholders?
- A Elicitation.
 - B Management.
 - C Validation.
 - D Analysis.
- 4 A business analyst working on an application has identified a requirement to record an email address when a new customer account is created.
- How would this requirement be classified?
- A Digital Service Non-Functional Requirement - Reliability.
 - B Digital Service Functional Requirement - Create.
 - C Digital Service Functional Requirement - Update.
 - D Digital Service Non-Functional Requirement - Recoverability.

- 5** How are requirements that are part of a Minimal Viable Product classified within the MoSCoW prioritisation method?
- A** Won't have this time.
 - B** Should have.
 - C** Must have.
 - D** Could have.
- 6** Which of the following terms is a reference to users' emotional engagement with the application interface?
- A** Style Guide.
 - B** UI.
 - C** Metaphor.
 - D** UX.
- 7** Which of the recognised principles of User Interface (UI) design includes the requirement to ensure all pages and screens have an obvious context?
- A** Navigation.
 - B** Affordance.
 - C** Consistency.
 - D** Tolerance.
- 8** Which of the following is a technique for representing the different potential user groups for a software application under development?
- A** Prototypes.
 - B** Site Map.
 - C** Data Verification.
 - D** Personas.

- 9 The image below is a representation of a famous application architecture pattern. Which part of this pattern is identified by the letter A?



- A Model.
- B Application.
- C View.
- D Controller.

- 10 Software applications sometimes need to make use of asynchronous processing.

Which of the following elements, commonly found in the composition of a contemporary enterprise application, would specifically facilitate this requirement?

- A Server.
- B Client.
- C Job Queue.
- D API.

- 11 Designers of distributed systems have to contend with the problem of latency.

Which of the following phrases **BEST** describes this problem?

- A Multiple users accessing the same database record.
- B Predicting and coping with variations in workload.
- C Incurring delays in passing information around the system.
- D Providing meaningful end-to-end testing.

- 12 Which of the following items would **NORMALLY** be classified as structured data in an information system?
- A A video clip.
 - B An address.
 - C An email.
 - D A voice recording.
- 13 Which of the following phrases is the **MOST** accurate description of the meaning of the term metadata, in the context of a data dictionary?
- A Data about data.
 - B Data about processes.
 - C Data about data models.
 - D Data about software.
- 14 Which of the following is **NOT** a recognised quality-oriented activity in relation to application software development?
- A Refactoring the working code.
 - B Product review with key stakeholders.
 - C User Acceptance Testing.
 - D Estimating project timelines.
- 15 The following phrase is part of the description of a recognised testing principle: *"if the same set of test cases is executed over and over again then eventually those tests will not be capable of identifying new defects in the system"*.
- Which of the following testing principles does this description apply to?
- A Exhaustive Testing.
 - B Pesticide Paradox.
 - C Absence-of-Errors Fallacy.
 - D Defect Clustering.

16 Complete the following sentence:

"The approach to enterprise package acquisition that is prepared to consider multi-vendor options is referred to as ____"

- A CRM.
- B ERP.
- C Best-of-Breed.
- D MOTS.

17 Select the sentence that **BEST** describes the concept of technical debt.

- A Money borrowed to pay for software development.
- B Shortcuts taken in the code writing process to deliver a solution quickly.
- C Borrowing code from another team on a quid pro quo basis.
- D Using code from legacy systems which haven't been paid for yet.

18 Concerning application deployment strategies, which of the following statements is TRUE?

- A Parallel running is a high risk strategy.
- B A Pilot approach is not an extension of testing.
- C Users are always made fully aware of a Canary launch.
- D A Phased approach is associated with releasing functionality in parts.

19 The need for security controls must be balanced against a combination of other factors.

Pick the **MOST** suitable combination from those listed below.

- A Time, cost and features.
- B Risk, cost and usability.
- C Frequency, impact and usability.
- D Assets, finance and reputation.

- 20** Which desirable information system quality is **MOST** compromised by a Threat Actor stealing credit card information?
- A** Confidentiality.
 - B** Integrity.
 - C** Availability.
 - D** Acceptability.

End of Paper

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Specimen Paper Answer Key and Rationale

Question	Answer	Explanation / Rationale	Syllabus Sections
1	D	All the other choices would be classified as systems software.	LO1.1.
2	C	The uncertainty is over the accuracy of time, cost and scope estimates.	LO1.3.
3	A	Elicitation is the process of 'drawing out' requirements from the stakeholders.	LO2.1.
4	B	The requirement expresses the need to record data. Create as it is a new customer.	LO2.2.
5	C	'Must have' requirements must be delivered in the solution at the end of the timebox that MoSCoW is applied to.	LO2.4.
6	D	UX refers to the 'user experience'.	LO3.1.
7	A	Having an obvious context allows the user to navigate successfully around the HCI.	LO3.2.
8	D	A Persona is a profile of a fictitious user, representing a group of users who may use the software application.	LO3.4.
9	A	A is the Model, a layer called Application is not part of this pattern, B is the Controller and C is the View.	LO4.1.
10	C	Applications place jobs and events onto Job Queues. This is detected by a monitor, or released by a queue handler, and triggers further processing.	LO4.2.
11	C	Latency refers to the inevitable problem of time delays in passing information around a distributed system.	LO4.4.
12	B	A postcode would usually be described as structured data, since it is data formatted in accordance with a pre-defined structure for a particular use.	LO5.1.
13	A	Metadata is a set of properties describing the attributes of the data-related concepts documented in a data dictionary.	LO5.3.
14	D	This is a quality assurance activity relating to the project, not the solution.	LO6.1.
15	B	If tests have been run on a piece of code, and defects were found, they will have been corrected. Running the same tests will verify this, but won't reveal any fresh defects.	LO6.3.
16	C	See Learning objective 7.1.5	LO7.1.
17	B	Technical debt is incurred when a coding shortcut is taken in order to speed up production. The 'debt' is incurred because that code will need to be refactored in the future. Refactoring 'pays back' the debt.	LO7.2.

Question	Answer	Explanation / Rationale	Syllabus Sections
18	D	Parallel running is a low risk strategy. A Pilot approach is an extension of testing into the live environment, usually on a small percentage of the user population. Normally users are unaware of a Canary launch. This is so developers can get useful unbiased feedback, based on normal user behaviour. A phased approach is consistent with deployment in planned stages.	LO7.4.
19	B	Security controls directed at a particular threat have to be proportional to the risks involved. Security analysts should balance the financial consequences of a breach in security against its mitigation costs. The control measures should not unreasonably impede users when performing their legitimate business tasks.	LO8.1.
20	A	This type of personal data should usually be held by the IS confidentially.	LO8.2.