BCS Level 3 IT Solutions Technician EPA Knowledge Unit Software

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

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This knowledge unit is regulated by the following United Kingdom Regulator – NSAR.

1   A company has a legacy system that is no longer supported by a 3rd party vendor.

Which of these represents the **MAIN** business problem?

A   The system has a large amount of data that needs migrating.
B   The company staff have limited knowledge of the system.
C   The system is unsupported and needs to be replaced.
D   The system is now vulnerable to security breaches.

2   What **SHOULD** be the **first** step when creating a solution?

A   Identify any constraints that may affect the solution.
B   Establish a clear definition of the business problem.
C   Implement the solution and communicate to stakeholders.
D   Design the structure and the behaviour of the solution.

3   Why is it important to test code?

A   To get the highest possible test coverage.
B   To help in the writing of unit tests.
C   To ensure it meets coding standards.
D   To find bugs as early as possible.

4   When might a software design pattern be used?

A   To make an application's code more symmetrical.
B   To layout a user interface for a better user experience.
C   To structure data in a database and reduce duplication.
D   To solve a commonly occurring coding problem.

5   Which of the following is an advantage of compiled languages?

A   Errors are picked up during compilation.
B   Editing compiled code is relatively easy.
C   Compiled code can be run on any platform.
D   Once compiled, code is easier to read.

6 Which of the following languages is interpreted?

A Java
B C#
C JavaScript
D Python

7 What is the **PRIMARY** purpose of XML?

A Creating user interfaces.
B Storing and transferring data.
C Writing computer programs.
D Creating databases to store data.

8 When developing code, which of the following describes the **MAIN** activity undertaken in the analysis phase?

A Problem solving.
B Verifying feasibility.
C Designing solutions.
D Gathering requirements.

9 Which of the following stages of coding **SHOULD** involve the **MOST** stakeholder interaction?

A Testing.
B Analysis.
C Deployment.
D Design.

10 What role is described as follows?

'Is involved in the quality assurance stage of software development and deployment. Conducts automated and manually checks to ensure the software is fit for purpose.'

A Software developer.
B Software release engineer.
C Software project manager.
D Software tester.

11   What is the purpose of a retrospective?

A   To apportion blame to the correct individuals.
B   To allow a team to take a break after completing a set of work.
C   To review successes, issues and decide upon changes.
D   To ensure that all parts of the agile process are being completed.

12   What is the following an example of?

['123.4', '824.0', '5186']

A   A list of strings.
B   An array of variables.
C   Floating numbers.
D   A list of numbers.

13   Which of the following describes a class in terms of computer code?

A   An object created from a template.
B   A variable that can be used to store a single value.
C   A special type of loop that can iterate.
D   A template that can be used to create objects.

14   Which statement below **BEST** describes the purpose of comments when writing software code?

A   Keeping a record of what has changed within the code.
B   Warning other developers of errors in the code.
C   Explaining logic for developers who read the code.
D   To document and improve the performance of the code.

15   Which of the following provides a measure against the performance of a system?

A   Release management.
B   Service level.
C   Business process management.
D   Training.

16 Which of the following would **MOST LIKELY** assist support staff in supporting a new solution?

A Email address.
B Service level agreement.
C Release management.
D Documentation.

17 What does CRUD represent in the context of data?

A The operations that can be carried out on data.
B Different ways of structuring the data being queried.
C Rules that dictate what data can be stored.
D The methods that enable data to be secured.

18 Why is data modelling an important factor in software development?

A It ensures the scalability and architectural integrity of the overall system.
B It indicates whether the software solution will be hosted on a local or cloud-based platform.
C It provides a process that can assist in understanding complex relationships.
D It determines the overall functional requirements for the software.

19 The following data model contains sales across a range of stores, showing the product and date it was sold.

	A	B	C
1	Store	Product	Sold Date
2	Nottingham	Phone	01/01/2020
3	London	Jelly	01/01/2019
4	Manchester	Thermometer	12/12/2018
5	Birmingham	Drill	02/02/2019
6	Chester	Car	03/03/2019
7	Nottingham	Thermometer	01/01/2020
8	London	Drill	12/12/2018
9	Manchester	Phone	03/03/2019
10	Birmingham	Jelly	01/01/2020
11	Chester	Car	01/01/2019
12	Nottingham	Phone	12/12/2018
13	London	Jelly	02/02/2019
14	Manchester	Thermometer	03/03/2019
15	Birmingham	Drill	01/01/2020
16	Chester	Drill	01/01/2019

After normalisation how **SHOULD** the data be **BEST** represented?

A The data should be held in two tables; stores and products.
B The data should be held in three tables; stores, products and sales.
C The data focuses around stores, as such a table should be created for each store.
D The data is already normalised and should not be split any further.

20 What are the common features of a relational database?

A Keys and values.
B Documents with optional sub-documents.
C Tables, columns and rows.
D Spreadsheets of data.

End of Paper