



Prifysgol Cymru  
Y Drindod Dewi Sant  
University of Wales  
Trinity Saint David

## Examination Answer Books

12 Pages

### Instructions to Candidates

- Please give the information requested in the boxes below.
- Enter your name in the space provided to the right, fold over and seal down (using the label provided) to hide your name.
- The answers must be legibly written. The Examiners can either ignore illegible script or have it typed and the expense of typing charged to the candidate.
- Write your answers in ink.
- Begin each answer on a fresh page. Do all rough work in the answer book and cross it through.
- No part of this book is to be torn out; it must be handed in complete.
- If more books than one are used, fasten them together using the tags available from the invigilator(s).
- Every book must be handed in. In no circumstances may answer books, used or unused, be taken out of the examination venue.

Complete, fold and seal  
(see note 2 below)

SURNAME:

Jones

FORENAME(S):

Joshua  
Morgan

|   |                                  |                      |
|---|----------------------------------|----------------------|
| 1 | Student Number                   | 55199744             |
| 2 | Title of Examination Paper       | Software development |
| 3 | Module Code                      | ACCN4017             |
| 4 | Date and Time of Examination     | 5:10 PM<br>9/11/19   |
| 5 | Examination Venue                | 6 Block              |
| 6 | Seat Number                      | -                    |
| 7 | Number of Answer Books handed in | 1                    |

| List the numbers of the questions you have attempted | Office Use |
|------------------------------------------------------|------------|
| 1a                                                   | 1          |
| 1b                                                   | 1          |
| 1c                                                   | 2          |
| 1d                                                   | 0+5        |
| 2a                                                   | 0          |
| 2b                                                   | 0          |
| 2c                                                   | 0          |
| 3a                                                   | 0          |
| 3b                                                   | 0          |
| 4a                                                   | 3          |
| 4b                                                   | 1          |
| 4c                                                   | 0          |
|                                                      |            |
|                                                      |            |
|                                                      |            |
| Total                                                | 13         |

✓  
✓  
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✓  
✓  
✓

195 ✓

14 ✓

Q1

- a) A Queue data structure ~~enters~~ <sup>enters</sup> of data being inputted, once the data is entered ~~enters~~ <sup>enters</sup> more data can follow, but the first bit of data <sup>to enter</sup> will be the first to exit. This could be a e-commerce tool for buying tickets online. 1 ✓
- b) Stack Data Structure is data being inputted and outputted from the same end following a first in last out process. This could be used in word for deleting text. 1 ✓
- c) Recursive Algorithms entail of breaking down small bits of data. Quicksort functions by selecting a pivot number in an array, then working your way in from each side and swapping the numbers round if the number on the left is larger to the right. Which would then meet in the middle and sort low to high. 1 ✓
- d) Object Oriented Programming consists of objects carrying data to be put through a process to adapt the initial object of data. 1 ✓

concluded →

Q2.

B) This displays as false as the term  
it is searching for has not been met

continued →

Q3)

Insert list of numbers  
Hit enter  
every 2" Removed

Q4) 1) White box testing is testing software for any bugs or abnormalities in the software's code they can include broken lines of code or unexpected outputs ✓

2) Black-box testing is looking for any bugs, defects or unpredicted outputs with no knowledge of the software's coding. ✓

3) Grey box is a combination of both white and black. Hence the name. Its intention is to find defects in the code. ✓

continued →

Q4

B) Unit Testing is where Single units or Lines of Code are looked at and interrogated in the code blocks to see if any faults lie within. White box testing is one method used in unit testing to tackle out any underlying errors. After this stage of testing is complete it goes on to integration testing so it is nearing the end of the development life cycle.

C) a incremental development model is a model of software development in which it is tested, developed bit by bit so that it can be a stable build.

Iterative development is where large amounts of the application is broken down into smaller amounts and will be worked on ~~bit by bit~~ like the incremental at a later point to be improved on after its first build. These both are used back to back.

This is an alternative to the waterfall method.