

Revision Sheet

A-Level Computer Science · Unit 12 Software Development

10 vocabulary items · 35 marks of exam questions (6 questions)

Part 1 · Vocabulary review answer key. Section A wants the exact English spelling.

Question	Answer	Marks
1	development life cycle	1
2	maintenance	1
3	structure chart	1
4	state-transition diagram	1
5	states	1
6	integration testing	1
7	alpha testing	1
8	beta testing	1
9	acceptance testing	1
10	adaptive maintenance	1

11(a)	Max 3 marks Additional Information: MP1 The (program/source) code/specification MP2 test plan // inputs/test data <u>and</u> expected outputs Explanation: MP3 The structure / design / algorithm of the program of the program needs to be known MP4 so that all paths through the program can be tested
11(b)	Perfective

12(a)	Test string should contain: <ul style="list-style-type: none"> At least one leading space (before the first word) at least one trailing space (after the last word) at least one instance of multiple spaces between words At least one upper case character Mark as follows: One mark for one correct Two marks for three correct Three marks for all correct
12(b)	One mark for each: <ul style="list-style-type: none"> Dry run / produce a trace table / walk through the code Add output statements to allow the code to be tracked Insert a Breakpoint into the program // use single-stepping to execute instructions // monitor variables using a watch window Try different test values to see which ones fail Note: Max 2 marks

13(a)	One mark for each underlined part IF <u>DAYINDEX(MyDOB)</u> = <u>5</u> THEN
13(b)(i)	MP1 Value for <u>month</u> is between 1 and 12 (inclusive) MP2 Value of <u>year</u> is <= 2002
13(b)(ii)	MP1 Reference to <u>month</u> and <u>day</u> MP2 Clear description for a <u>check</u> that the day number matches with a relevant month (Either day matches with month // month matches with day)

14(a)	<p>One mark for:</p> <ol style="list-style-type: none"> (at least) three intermediate shapes with at least one valid stage names Up and Down arrows between each pair of shapes Design – Coding – Testing labels in correct sequence
14(b)	<p>Downward arrows: result from one stage is input / passed to the next</p> <p>Upward arrows: more work is required at a previous stage to complete the current stage</p>
14(c)	<p>For example:</p> <p>Iterative / Rapid Application Development (RAD)</p>

15(a)	One mark per row															
15(b)	<div>One mark per row</div> <div>Example answer</div> <table><thead><tr><th>Input</th><th>Output</th><th>Next state</th></tr></thead><tbody><tr><td>Button-Y</td><td>none</td><td>S3</td></tr><tr><td>Button-Y</td><td>none</td><td>S4</td></tr><tr><td>Button-Z</td><td>Output-B</td><td>S2</td></tr><tr><td>Button-Z</td><td>none</td><td>S1</td></tr></tbody></table> <div>Note: Accept other valid answers</div>	Input	Output	Next state	Button-Y	none	S3	Button-Y	none	S4	Button-Z	Output-B	S2	Button-Z	none	S1
Input	Output	Next state														
Button-Y	none	S3														
Button-Y	none	S4														
Button-Z	Output-B	S2														
Button-Z	none	S1														

16(a)	<p>One mark per point to show:</p> <ul style="list-style-type: none"> module relationships / hierarchy / selection / repetition // how a problem is broken down the parameters that are passed between the sub-tasks / modules // whether a module is a function or a procedure
16(b)	<p>One mark for each:</p> <ol style="list-style-type: none"> Four boxes linked as shown correctly labelled (Order of lower 3 not important) Parameters to Sub1_A Parameter to Sub1_B and return value Parameters to Sub1_C Selection diamond