MODULE M PROGRAMMING · M9

Selection: CASE statements: mark scheme

21 marks · Cambridge 0478 syllabus (exams 2026-2028) 8.1.4(b) (understand and use the concept of selection, including CASE statements; syllabus section 4, CASE statements), with 7.8 (identify errors in given algorithms and suggest corrections) and 7.9 (write and amend algorithms)

How to use. One mark per bullet point up to the maximum shown. **/** separates alternative words; **//** separates alternative answers. Words in (brackets) are not needed for the mark. Credit any other valid answer that shows the same understanding. Pseudocode answers are marked for logic: ignore the case of keywords, minor spacing and indentation, and accept `<-` or `=` for ←. Program code in place of pseudocode is not credited for the write tasks (Q3, Q5).

QUESTION	ANSWER	MARKS	GUIDANCE
1 0478 8.1.4(b)	One mark for each correct row: Remaining cases not tested after a match: True Every CASE must include OTHERWISE: False OTHERWISE executed only when no earlier case applies: True	**3**	A row with more than one tick scores 0. The syllabus says an OTHERWISE clause *can* be the last case, so it is optional; if present it must be last.
2(a) 0478 8.1.4(b), 7.7	One mark for each correct row: `W`: Brightness is 100 `N`: Brightness is 10 `r`: Scene not found // Brightness is 50 (both outputs, in this order)	**3**	Ignore quotation marks and the prompt if written. The value alone (e.g. 100) with the message missing: penalise once, then FT. Row 3 needs both outputs: `'r'` is a different character from `'R'`, so OTHERWISE runs and Brightness keeps its value of 50. `N`: 50 − 40 = 10.
2(b) 0478 8.1.4(b)	Any two from: The value of `Scene` is compared with the cases in order // the first case, `'R'` (line 07), matches Brightness is set to 30 // the statement on line 07 is executed The CASE statement is then complete // the remaining cases (lines 08 to 10) are not tested // control passes to the statement after ENDCASE (line 12) `Brightness is 30` is output	**2**	Max 2. Do not credit "Scene not found" being output. "It goes to the end" alone is not enough for the third point; it must say the other cases are skipped / not tested or name line 12 / ENDCASE.

QUESTION	ANSWER	MARKS	GUIDANCE

3
0478 8.1.4(b), 7.9
	One mark per bullet point. Max 4:
	`CASE OF ServiceCode ... ENDCASE`
	`'B' : Cost ← 25`
	`'F' : Cost ← 60` and `'W' : Cost ← 15`
	`OTHERWISE OUTPUT "Unknown service"` as the last clause
	Example:
	`CASE OF ServiceCode`
	`  'B' : Cost ← 25`
	`  'F' : Cost ← 60`
	`  'W' : Cost ← 15`
	`  OTHERWISE OUTPUT "Unknown service"`
	`ENDCASE`
		4	Accept the case values without quotes, or in double quotes, if consistent (penalise once). Accept a colon after OTHERWISE. Accept `ENDCASE` written as `END CASE`. An answer that still uses IF statements scores 0. OTHERWISE not placed last loses the last mark.

4 0478 7.8, 8.1.4(b)	One mark for each error identified and corrected: Line 02: `DECLARE Message : STRING` Line 05: `CASE OF Button` Line 08 // line 09: OTHERWISE must be the last case // swap lines 08 and 09 // move `OTHERWISE Message ← "Button not in use"` to after the case for 2 Line 10: `ENDCASE`	**4**	The mark needs the line number and the correction. For the OTHERWISE error accept either line 08 or line 09 identified, with a correction that puts OTHERWISE last. Do not credit changes to lines 01, 03, 04, 06, 07 or 11.

5
0478 8.1.4(b), 7.9
	One mark per bullet point. Max 5:
	A prompt output and the cup size input into a variable
	`CASE OF` (the size variable) ... `ENDCASE`
	`'S' : Price ← 1.80`
	`'M' : Price ← 2.40` and `'L' : Price ← 2.90`
	`OTHERWISE Price ← 0.0` as the last clause // `Price ← 0.0` before the CASE statement
	Output of `Price` with a message, after `ENDCASE`
	Example:
	`OUTPUT "Enter cup size (S, M or L)"`
	`INPUT Size`
	`CASE OF Size`
	`  'S' : Price ← 1.80`
	`  'M' : Price ← 2.40`
	`  'L' : Price ← 2.90`
	`  OTHERWISE Price ← 0.0`
	`ENDCASE`
	`OUTPUT "Price is ", Price`
		5	Accept any sensible identifier for the size. Accept the case values without quotes or in double quotes, if consistent. Accept `0` for `0.0`. An answer using IF statements instead of CASE: max 2 (prompt/input mark and output mark). Allow the output inside each case branch if every branch outputs the price. Do not credit OUTPUT with the identifier inside the quotation marks (`"Price"` prints the word).

Total: 21 marks