

MARKING SCHEME: PDLC & PROGRAMMING

Year 9 Computer Science | IGCSE Foundation Level

1 (a) Identify and describe the first two stages of the PDLC.

4 Marks

- 1. Analysis:** Understanding the problem, gathering requirements using interviews/questionnaires. (2 marks)
- 2. Design:** Planning the solution using flowcharts, pseudocode, or structure diagrams. (2 marks)

1 (b) Define the term *Abstraction*.

2 Marks

Removing unnecessary details (1 mark) to focus only on the essential parts of a problem. (1 mark)

2 (a) Decompose the Late-Comer Tracker into three smaller sub-tasks.

3 Marks

1. Input student name/minutes late.
2. Validate the input (check if between 1 and 60).
3. Calculate/update the total weekly late time.

Accept any logical sub-task related to the scenario.

2 (b) Identify one piece of Extreme test data for 'Minutes Late' (1-60).

1 Mark

1 OR 60

2 (c) Cambridge Pseudocode Algorithm for Range Check.

5 Marks

```
INPUT Minutes
IF Minutes < 1 OR Minutes > 60 THEN
    OUTPUT "Invalid"
ELSE
    OUTPUT "Valid" (Optional based on Q)
ENDIF
```

Marks: 1 for INPUT, 1 for correct IF condition, 1 for THEN, 1 for correct OUTPUT, 1 for ENDIF.

3 (a) Identify standard algorithm and output.

3 Marks

Algorithm: Finding the Maximum (or Max). (1 mark)

Output: 45 (2 marks)

3 (b) Python code to print grade of first student from 2D array.

2 Marks

```
print(class_data[0][1])
```

1 mark for correct index [0], 1 mark for correct index [1].

4. Multiple Choice Questions.

2 Marks

i. **C** (Presence Check)

ii. **B** (Design)

TOTAL: 30 MARKS