

0478

COMPUTER SCIENCE

TOPIC QUESTION PAPER-2 SET- 9

SMART EXAM RESOURCES

Unit 7 Algorithm Design and Problem Solving

1. Describe the use of a subroutine in a program.

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.....[2]

2. Draw **four** different flowchart symbols and describe how they are used in a program flowchart

Flowchart symbol	Description of use

[4]

3. An algorithm has been written in pseudocode to input some numbers and print out any numbers that are greater than or equal to 100. The number 999 stops the algorithm.

```

INPUT Number
WHILE NUMBERS <> 999 DO
    IF Number > 100 THEN PRINT Number ENDIF
ENDWHILE
PRINT Number

```

- (a) Find the **four** errors in the pseudocode and suggest corrections.

Error 1

Correction

.....

Error 2

Correction

.....

Error 3

Correction

.....

Error 4

Correction

.....

[4]

- (b) Show, using pseudocode, how you would change the corrected algorithm to print out any numbers between 100 and 200 inclusive.

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.....[2]

4. A program checks if the weight of a baby is at least 2 kilograms.

Give, with reasons, **two** different values of test data that could be used for the baby's weight. Each reason must be different.

Value 1

.....

Reason

.....

.....

Value 2

.....

Reason

.....

.....[4]

5. (a) Write an algorithm to input 1000 numbers. Count how many numbers are positive and how many numbers are zero. Then output the results. Use **either** pseudocode **or** a flowchart.

..... [6]

- (b)** Give one change you could make to your algorithm to ensure initial testing is more manageable.

..... [1]

6. A programmer has written a routine to check that prices are below \$10.00. These values are used as test data.

10.00 9.99 ten

Explain why each value was chosen.

10.00

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.....

.....

9.99

.....

.....

.....

ten

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.....[3]