



The Open University of Sri Lanka

Master of Arts in Teacher Education
Final Examination 2008

CSE1178: Programming in Pascal

Duration: 2 Hours

Date: 04.06.08

Time: 10.00 am – 12.00 noon

Answer **FOUR** questions **ONLY**

- (01) (i) Why do we need computer languages to communicate with computers?
Explain very briefly.
- (ii) What are the three main components of a modern computer?
- (iii) What are the two types of memory in a computer?
- (iv) Which of the following words are invalid variable names? Give reasons.

- a) \$amount
- b) OUTPUT
- c) 1stprogram
- d) Force 123
- e) Birthday

(02)

- (i) Evaluate the following Pascal expressions:

- a) 9 DIV 2
- b) 9 MOD 2
- c) ROUND (4.4)
- d) ROUND (4.5)
- e) TRUNC (4.4)
- f) TRUNC (4.5)

- (ii) Write arithmetic expressions for the following formulae:

- a) PV/RT
- b) $Ax^2 + Bx + C$
- c) $B^2 - 4AC$
- d) $-b + \sqrt{b^2 - 4ac}$

- (iii) Obtain answers when you evaluate the following expressions considering operator precedence in Pascal.

- a) $5 + 4 * 4 - 8 \text{ DIV } 2$
- b) $((5 + 4) * 4 - 8) \text{ DIV } 2$

03)

- (i) Write a program in Pascal to add the first 100 integers from 1 to 100 using the FOR loop.

Hint: $sum = 1+2+3+4+\dots\dots\dots+100$

- (ii) Modify the above program to do the same operation using the REPEAT-UNTIL loop.

- (iii) Modify the above program to do the same operation using the WHILE loop.

(04)

- (i) Give the general form of the *IF-THEN* statement in Pascal.

- (ii) By means of an example, explain how this statement would be executed.

- (iii) Write a program in Pascal to read in a number between 1 and 7. If the number is 1 then print "Monday". If it is 2 then print "Tuesday" and so on.

Hint: use CASE statement.

(05)

- (i) Write a program to calculate the addition of any given two numbers x and y.

- (ii) Write a Pascal program to calculate the circumference of a circle, when the radius is given. Circumference of a circle is given by $C = 2\pi R$, where C is the Circumference, R is the radius and $\pi = 3.141$

(06)

- (i) Total resistance R of three resistors R_1 , R_2 , and R_3 connected in parallel is given by the formula $\frac{1}{R} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}$

Write a Pascal program to calculate the total resistance R.

Your program should:

- Read values for R_1 , R_2 and R_3
- Calculate R
- Print the result

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