

THE OPEN UNIVERSITY OF SRI LANKA
B.Sc DEGREE PROGRAMME: LEVEL 03
CLOSED BOOK TEST - 1: 2011/2012
CPU1141: INTRODUCTION TO COMPUTER PROGRAMMING



DURATION: ONE AND HALF HOURS (1 ½ HOURS)

Date: 30th September, 2011

Time: 4.00 pm – 5.30 pm

Answer ALL questions.

Q1.

- a) A Pascal program can be divided into several major segments. Briefly explain them in your own words.
- b) What is meant by *keywords* in Pascal? Write down three (03) of them.
- c) The following identifiers are written in Pascal and some of them are syntactically incorrect. Find these identifiers and precisely write down each error.
 - i. #Address
 - ii. record of student
 - iii. _noOfStudents
 - iv. until
 - v. identity-number
- d) Write a program in Pascal to read x and y values and print the Z value of the following equation.

$$Z = 2x^2 + y$$

Q2.

- a) Briefly explain the following Pascal operators.
 - i. Arithmetic operators
 - ii. Logical operators
 - iii. Relational operators
- b) Write suitable Pascal constants and variables to represent the following statements.
 - i. A variable to hold the number of patients in a ward
 - ii. A constant to hold the number of students in a class
 - iii. A variable to hold the gross salary of a person in a company
 - iv. A constant to hold the gravity constant
 - v. A variable to hold the average marks hold of a student in an examination

c) Write Pascal assignment statements to evaluate the following expressions.

i. $\text{Average} = \frac{x+y+z}{3}$

ii. $\text{Area} = \pi r^2$

iii. $\text{sqrValue} = a + \sqrt{x + y}$

Q3.

a) Differentiate between *repeat - until loop* and *while loop*.

b) What are the advantages using *subprograms*?

c) Write a Pascal function/procedure to find the value of the following equation when the user enters 10 numbers.

$$\text{Value} = 2x_1 + 2x_2 + 2x_3 + \dots + 2x_n = \sum_{i=1}^n 2x_n$$

d) Write Pascal functions/procedures to do the following,

i. Read the age of a person into a pointer variable

ii. Print the age of the person

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