THE OPEN UNIVERSITY OF SRI LANKA
B.Sc DEGREE PROGRAM: LEVEL 03
CLOSED BOOK TEST 1: 2009
CPU 1141: INTRODUCTION TO COMPUTER PROGRAMMING
DURATION: ONE AND HALF HOURS (1 ½ HOURS)

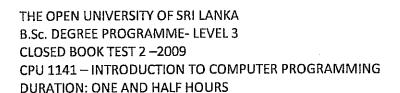| Date: 9th October, 2009	Time: 4.00 pm –5.30 pm

Answer ALL Questions

Q1). i. Discuss three good reasons for learning programming.

ii. Explain the difference between the Machine language and Assembly language.

iii. Discuss the major segments of a Pascal program and the rules to follow when naming Pascal programs.

Q2). i. State whether the following variable names are correct or incorrect. If incorrect give reasons for each.

    a.   student-mark   b.   3add   c.   for
    d.   program name   e.   input

ii. What are the values of the following variables after the execution of the respective assignments?

    a.   x:= chr(A div 3)   A= 95
    b.   x:=B/A + B mod C   A =58 B = 25 C =3
    c.   x:= A-B div (A-20)   A = 60 B = 30
    d.   x:= 5 * A – B + A / B   A = 70 B = 3
    e.   x:= A div 3 + B mod 2   A = 60 B = 5

iii. If a five-digit number is input through the keyboard, write a program in Pasacal to calculate the sum of its digits.
Hint: Use the modulus operator mod

Q3). i. Write syntaxes of all Conditional Statements in Pascal language.

ii. "A library charges a fine for every book returned late. For first 5 days the fine is 50 cents, for 6-10 days fine is one rupee and above 10 days fine is 5 rupees. If you return the book after 30 days your membership will be cancelled."
Write a program in Pascal to accept the number of days the member is late to return the book and display the fine or the appropriate message.

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THE OPEN UNIVERSITY OF SRI LANKA
B.Sc. DEGREE PROGRAMME- LEVEL 3
CLOSED BOOK TEST 2 –2009
CPU 1141 – INTRODUCTION TO COMPUTER PROGRAMMING
DURATION: ONE AND HALF HOURS

Date: 04th November, 2009	Time: 4.00 pm - 5.30 pm

Answer ALL Questions

Q1).

(i) Briefly explained the user defined data types in Pascal language.

(ii) A record contains the name of a cricketer, his age, number of test matches that he has played and his current test average. Write a Pascal program to read the information of three cricketers. Print the name of the cricketer who has the highest test average.

Q2).

(i) What are the advantages of using sub programs to develop a program?

(ii) What are the main differences between functions and procedures?

(iii) Write Pascal functions/procedures to carry out the following tasks:

(a) swap(a, b) -   this procedure receives two integer parameters, 'a' and 'b', and it interchanges these two integers.

(b) area(a, b, c) –   this function receives the lengths of the sides of a triangle 'a', 'b' and 'c', and it returns the area of the triangle.

Area of a triangle $= \sqrt{s(s-a)(s-b)(s-c)}$

where $s = (a + b + c)/2$

Q3).

    (i)   What are the basic data types in C language?

    (ii)   What is the output of the following C program?

```c
#include<stdio.h>
main()
{
    printf("%.2f \n", 12.3456);
    printf("%10.2f \n", 1234.567);

    printf("%d \n", 12);
    printf("%4d \n", 12);
    printf("%04d \n", 12);
    printf("%s \n", "1234");
    printf("%10s \n", "12345");
    getch();
}
```

    (iii)   Write a C program to print your name, reg.no and address (one under the other) on the screen. Include *"Personal Details"* as a comment in the program.

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