First/Second Semester B.E. Degree Examination, December 2012
Computer Concepts and C Programming

Time: 3 hrs.   Max. Marks:100

Note: 1. *Answer any FIVE full questions, choosing at least TWO from each part.*
     2. *Answer all objective type questions only on OMR sheet page 5 of the answer booklet.*
     3. *Answer to objective type questions on sheets other than OMR will not be valued.*

PART – A

1 a. Choose your answer for the following :   **(04 Marks)**
    i)   Which of these is a computer for individual user?
       A) Network Server   B) Minicomputer
       C) Note Book Computer   D) Mainframe Computer
    ii) In a multi-button mouse, one button must be designated as The _____ button
       A) First   B) Left   C) User   D) Primary
    iii) A monitor's _____ is measured in Hertz (H_2)
       A) Refresh Rate   B) Resolution   C) Size   D) Viewable Area
    iv) Which of these is a non-impact printer?
       A) Dotmatrix Printer   B) Inkjet Print
       C) Band Printer   D) Line Printer.
   b. Explain the essential computer hardware.   **(08 Marks)**
   c. Explain briefly the various groups of keys in the standard keyboard layout.   **(05 Marks)**
   d. Explain briefly the two main categories of printers. Give one example in each category.   **(03 Marks)**

2 a. Choose your answer for the following :   **(04 Marks)**
    A group of eight bits is called a _____
       A) Bit   B) Byte   C) Nibble   D) Wordlength
    i) _____ memory requires power to store data
       A) Flash Memory   B) ROM
       C) Volatile Memory   D) Non volatile Memory
    ii) The _____ standard promises to provide enough
       A) ASCII   B) RAM   C) EBCDIC   D) Unicode
    iii) _____ lets you store more data on a magnetic disk
       A) Extraction   B) Defragmentation   C) Compression   D) Scanning.
   b. List the commonly used ports, in modern computers.   **(04 Marks)**
   c. Explain the various factors affecting processing speed.   **(08 Marks)**
   d. How is data organized on magnetic disk? Explain.   **(04 Marks)**

3 a. Choose your answer for the following :   **(04 Marks)**
    i) The program that controls the system's hardware and interacts with user and application software is _____
       A) Complier   B) Assembler   C) Operating System D) Interpreter
    ii) The acronym DOS stands for
       A) Distributed Operating System   B) Disk Operating System
       C) Driver Operating System   D) Diskless Operating System
    iii) A _____ is an agreed – upon format for transmitting data between two devices.
       A) Topology   B) Protopology   C) Prototype   D) Protocol
    iv) A collection of related web pages is called a _____
       A) Web Book   B) Web Site   C) Web Directory   D) Web Engine.
   b. Write a note on windows XP operating system.   **(04 Marks)**
   c. Briefly explain the different network topologies.   **(08 Marks)**
   d. Define the terms "WWW" and "E-mail".   **(04 Marks)**

4 **a.** Choose your answer for the following :   **(04 Marks)**
   i) _____ is the graphical representation of an algorithm.
       A) Algorithm   B) Program   C) Flowchart   D) Diagram
   ii) _____ have fixed meaning that cannot be changed
       A) Variable   B) Constant   C) Identifier   D) Keyword
   iii) In C, which of the following is an invalid variable name?
       A) Const   B) Keyword   C) Row – total   D) Tax – 1
   iv) In flowchart, the symbol used to represent decision making is _____
       A) Rectangle   B) Rhombus   C) Circle   D) Parallelogram.

   b. Define algorithm. Draw a flow chart to find largest of three numbers.   **(05 Marks)**
   c. Define variable. List the rules to form a valid variable name. Give example. **(05 Marks)**
   d. Explain with examples :
       i) Assignment operators   ii) Evaluation of expressions.   **(06 Marks)**

PART – B

5 **a.** Choose your answer for the following :   **(04 Marks)**
   i) The output is left justified within the field with the use of _____ format flag
       A) # 0   B) –   C) 0   D) #e
   ii) What will be the value of z, when the following code segment is executed?
       int x = 37, y = 42; z = (x > y)? x – y : y – x ;
       A) – 5   B) 37   C) 5   D) 42
   iii) Multiway selection can be accomplished using _____ statement
       A) Switch   B) Continue   C) goto   D) if
   iv) The expression ! (x < = y) can be replaced by the expression _____
       A) x = = y   B) y < = x   C) y > = x   D) x > y.

   b. Explain formatted output statement with examples. Give its general syntax.   **(06 Marks)**
   c. Write the general form of ?: operator. Explain with example.   **(05 Marks)**
   d. Write a program to determine whether a given number is multiple of 7 and print the
        appropriate message.   **(05 Marks)**

6 **a.** Choose your answer for the following :   **(04 Marks)**
   i) What is the output of the following code segment
           int count = 5;
           while (count - - > 0)
               printf ("%d", count);
       A) 54321   B) Error   C) 4321   D) 43210
   ii) Which of the following looping construct implements infinite loop?
       A) for (i = 1 ; I < 10 ; i++)   B) for (; ;)
       C) for (i = 0, x = 0; x < 5; i++. x++)   D) for (I = 10 ; i > 0 ; i + = 2)
   iii) Determine the number of times, the following loop will be executed
           x = 5
           y = 50
           while (x < = y)
           {
               x = y/x ;
               =
           }
       A) Infinite   B) Continue   C) Break   D) None of these
   iv) An early exit from a loop can be accomplished by using ____ statement.
       A) Switch   B) Continue   C) Break   D) None of these.

   b. Differentiate between WHILE and DO-WHILE statements.   **(04 Marks)**
   c. Explain the general syntax of FOR statement. Give example.   **(06 Marks)**
   d. Write a program to compute the sum of digits of a given integer.   **(06 Marks)**

7   a.   Choose your answer for the following :   (04 Marks)
           i)   Which of the following declaration is illegal in 'C'?
                 A) Char city [5] = {'B'}   B) int num[5] = {10, 20}
                 C) float total = {0.5, 6.54, 2.5}   D) int size[3] = {10, 20, 30, 40}
           ii)   What is the output of the following code segment?
                      int m[ ] = {1, 2, 3, 4}
                      int x, y = 0;
                      for (x = 0; x < 4; x++)
                          y = y + m[x];
                      printf ("%d", y);
                 A) 10   B) 6   C) 9   D) None of these
           iii) What is the output of the following code?
                      int code [2][3] = {{10, 20}, {30, 40, 50}};
                      printf ("%d", code [0][2]};
                 A) Error   B) 0   C) 20   D) 40
           iv)   Usually, large arrays are initialized during _____
                 A) Compile time   B) Runtime
                 C) Both A and B   D) None of these
     b.   Write a program to find sum and average of N integers using single – dimensional array.
                                                                                   (05 Marks)
     c.   How do you declare and initialize a two – dimensional array. Explain with example.
                                                                                   (04 Marks)
     d.   Write a program to read two matrices A and B and print the following :
           i) A + B   ii) A – B.   (07 Marks)

8   a.   Choose your answer for the following :   (04 Marks)
           i)   By default, _____ is the return type of a C function
                 A) float   B) int
                 C) char   D) void
           ii)   The list of parameters in the function definition are called _____
                 A) Formal Parameters   B) Actual Parameters
                 C) Local Variables   D) None of these
           iii) If "int mul(int x, int y)", is a function declaration, which of the following function call
                 has an error?
                 A) int z = mul(5, 10);   B) P = mul(3, 2) * 4
                 C) mul(5, 2) = 10   D) int Q = mul(5, 6)/2
           iv)   A variable declared in a function is called _____
                 A) Actual Variable   B) Local Variable
                 C) Global Variable   D) Formal Variable
     b.   List the advantages of using user – defined functions :   (04 Marks)
     c.   Write a note on category of functions.   (05 Marks)
     d.   Write a function 'PRIME' that returns 1 if its argument is a prime number; otherwise it
           return 0. Write main( ) function to read an integer from the keyboard and calls the function
           PRIME passing the given integer as an argument. Print the appropriate message depending
           on the value returned by function PRIME.   (07 Marks)

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