USN ☐☐☐☐☐☐☐☐☐☐ 10CCP13/23

First/Second Semester B.E. Degree Examination, June/July 2017
Computer Concepts and C Programming

Time: 3 hrs.   Max. Marks:100

Note: *Answer any FIVE full questions,*
choosing at least TWO from each part.

PART – A

1   a.   Choose the correct answers for the following :   (04 Marks)
    i)   Which of the following device stored instructions that help computer to start up?
         A) Joy stick   B) RAM   C) ROM   D) Monitor
    ii) Who is called the father of computer?
         A) Balise Pascal   B) Charles Babbage
         C) Joseph Jacquard   D) Dr. Hewrman Hollerith
    iii) A collection of 8-bits is called
         A) Byte   B) Word   C) Record   D) File
    iv) A computer resolution is determined by _____
         A) Monitor   B) Video   C) CPU   D) System unit.
    b.   With a neat diagram, explain the basic structure of a computer.   (08 Marks)
    c.   i)   Convert the decimal number 512_{10} to binary form
         ii) Convert the binary number 100011 to decimal form.   (04 Marks)
    d   Explain two type of monitors based on the technique used to display image and text.
                                                                                  (04 Marks)

2   a.   Choose the correct answers for the following :   (04 Marks)
    i)   The CPU uses a _____ to store and retrieve each piece of data in the memory
         A) Control unit   B) Cache   C) Post   D) Memory location
    ii) A magnetic Disk's tracks are divided into smaller parts called
         A) Clusters   B) Sectors   C) Bytes   D) Slices
    iii) A distributed network configuration in which all data information passes through center
         computer is
         A) BUS Network   B) Star Network
         C) Ring Network   D) Point-to-Network
    iv) If you want to execute more than one program at a time, the system software you must
         be capable of
         A) Word processing   B) Virtual Memory
         C) Compiling   D) Multi tasking.
    b.   What is an operating system? List and explain different types of operating system based on
         usage and requirement.   (08 Marks)
    c.   What is OSI model? Explain principle used to develop seven layers of OSI model.
                                                                                  (04 Marks)
    d.   Briefly explain the following processors :
         i) AMD   ii) IBM.   (04 Marks)

3   a.   Choose the correct answers for the following :   (04 Marks)
        i)   The flowcharting symbol diamond shaped box indicates
             A) Start   B) Process Step   C) Decision   D) End
        ii) Which of the following are not valid identifiers
             A) Student-Name   B) Total   C) Znames   D) int
        iii) DOS stands for
             A) Distributed operating systems   B) Disk operating systems
             C) Driver operating systems   D) Diskless operating systems
        iv) Which of the following is an I/P function?
             A) Scanf   B) printf   C) puts( )   D) putchar( ).
    b.   Briefly explain the different functions performed by the operating systems.   (04 Marks)
    c.   What is the need of network topology? Explain the following different networking
         topologies :
         i) Bus Topology ii) Star Topology iii) Ring Topology iv) Mesh Topology.   (08 Marks)
    d.   What is variable? Explain variable initialization.   (04 Marks)

4   a.   Choose the correct answers for the following :   (04 Marks)
        i)   The step by step procedure to solve a particular problem is called
             A) Flowchart   B) Program   C) Instruction   D) Algorithms
        ii) Which of the following is not a valid assignment expression?
             A) $X = 23$ B) $4X = 8 = 3$ C) $Y\% = 5$ D) $x = r = 5$
        iii) An infinite loop in a program sequences, causes no output but creates crror, what type
             error is it?
             A) Syntax Error   B) Logical Error   C) Run-Time Error   D) None of these
        iv) Which of the following has highest precedence?
             A) Pre fix increment B) Multiply   C) Modulus   D) Assignment.
    b.   Explain the following operators, with example :
         i) Relational operator ii) Increment operator iii) Conditional operator iv) Special operators.
                                                                                     (08 Marks)
    c.   Write a flowchart to generate prime numbers between the limit N_1 and N_2.   (06 Marks)
    d.   What is the value of x? If a = 100, b = 150 and x = (a > b)? a : b;.   (02 Marks)

PART – B

5   a.   Choose the correct answers for the following :   (04 Marks)
        i)   To read a single character, which of the following equation is used
             A) putchar( )   B) getchar( )   C) getch( )   D) putch( )
        ii) A function that calls itself for its processing is known as
             A) Inline Function   B) Nested Function
             C) Over loaded Function   D) Recursive Function
        iii) Arguments of a function are separated with
             A) comma (,)   B) semicolon(;)   C) colon(:)   D) None of these
        iv) Which operator has the highest procedures
             A) +   B) *   C) ++   D) >>
    b.   What is difference between IF-ELSE and Switch statement?   (04 Marks)
    c.   Explain with an example the different ways of passing parameter to function. (08 Marks)
    d.   Write a C program to find the largest of their integers with appropriate message. (04 Marks)

6 a. Choose the correct answers for the following : (04 Marks)
   i) Determine how many times the body of the loop is executed in the given program segment
   int x = 5, y = 50 ;
   while (x < = y)
   {
       X = y|x ;
   }
      A) 0   B) 1   C) Infinite   D) Error
   ii) Which of the following is not a relational operator?
      A) <   B) < =   C) =   D) > =
   iii) Given a for loop as :
      for (i = 1; j < = 32; y)
      printf ("%d", i)
      if this for loop must produce an o/p of 1, 2, 4, 8, 16, 32, which of the following must replace y?
      A) i = i + 2   B) i = i × 2   C) i = i/2   D) None of these
   iv) Which statement is called as an bypasses?
      A) goto   B) continue   C) break   D) switch.
   b. Explain the logical operators used in C. (06 Marks)
   c. Write a recursive function to find the factorial of a number. (04 Marks)
   d. Using flowchart and syntax, explain pretest and posttest loops. (06 Marks)

7 a. Choose the correct answers for the following : (04 Marks)
   i) Array is which data type?
      A) built-in   B) user defined   C) primary data type   D) derived datatype
   ii) _____ is an integral value used to access element of an array
      A) constant   B) element   C) variable   D) index
   iii) The statement int m[3][5] = {{0}, {0}, {0}}; is used and the value of statement m[2][2] will be
      A) 1   B) 3   C) 2   D) 0
   iv) The process through which data are arranged according to their values is known as
      A) Arranging   B) Searching   C) Listing   D) Sorting
   b. Write a C program to sort the elements of an array using bubble sort. (08 Marks)
   What is an array? How do you declare and initialize ONE and TWO dimension array?
   c. Explain with example. (08 Marks)

8 a. Choose the correct answers for the following : (04 Marks)
   i) Parallel computing is _____ execution of instructions in a computer system
      A) Simultaneous   B) Serial   C) Accurate   D) Complete
   ii) The process of splitting a lengthy and complete program into a number of smaller programs is called
      A) Unit program   B) Modular program   C) Build-In program   D) Logical program
   iii) Identify mathematical function in the following :
      A) clrscr( )   B) printf( )   C) fabs( )   D) main( )
   iv) A variable declared inside a function is called _____ variable
      A) personal   B) public   C) global   D) Local.
   b. What are threads? Highlight the need of threads. (08 Marks)
   c. What are open mp directives which help in synchronization of task? Explain in detail. (08 Marks)

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