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10CCP13/23

First/Second Semester B.E. Degree Examination, June/July 2018
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 :
   i) Hexadecimal equivalent for decimal 16 is
       A) A   B) F   C) 10   D) 11
   ii) The term A.L.U. refers to
       A) Addition logical unit   B) Arithmetic logical unit
       C) Algorithm logical unit   D) Analysis logical unit
   iii) _____ cannot be used to represent character in computer
       A) Pseudocode   B) ASCII Code   C) UNICODE   D) EBCDIC Code
   iv) If the input is photograph _____ is used as input device
       A) Printer   B) Microphone   C) Scanner   D) Keyboard
                                                                 (04 Marks)
   b. Draw the basic structure of computer and explain each unit briefly. **(06 Marks)**
   c. Convert the following decimal value to Hexadecimal and BCD.
      i) 34   ii) 19   iii) 129.   **(06 Marks)**
   d. Explain the information processing life cycle.   **(04 Marks)**

2 a. Choose the correct answers for the following :
   i) _____ is an optical storage device
       A) Magnetic tape   B) PROM   C) CD-ROM   D) Hard disc
   ii) G.U.I. stands for _____
       A) General User Interface   B) Google User Interface
       C) Graphical User Interface   D) None of these
   iii) _____ is not a network topology
       A) BUS   B) Bridge   C) Mesh   D) Star
   iv) _____ is not an example of operating system
       A) Microsoft office   B) Unix   C) Linux   D) DOS.
                                                                 (04 Marks)
   b. Explain briefly important functions of an operating system.   **(08 Marks)**
   c. Explain the different advantages of computer network.   **(08 Marks)**

3 a. Choose the correct answers for the following :
   i) Graphical representation of algorithm is called
       A) Bar chart   B) Fine chart
       C) Flow chart   D) Data chart.
   ii) _____ is not an valid variable name.
       A) total   B) & avg   C) -SUM   D) sum_of_value
   iii) _____ is an invalid declaration.
       A) #define A 1   B) #define P1 3.142
       C) #define PI = 22/7   D) #define A 3.142
   iv) _____ is an example of backlash constant.
       A) '\X'   B) '\%'   C) '\0'   D) '\N'
                                                                 (04 Marks)

b. Briefly explain the structure of a 'C' program with example. (06 Marks)
c. Write a 'C' program to find the simple interest given the value of P, R, T. (06 Marks)
d. Explain the different data types supported by 'C' language. (04 Marks)

4 a. Choose the correct answers for the following :
   i) The result of the operation 3 % 4 will be
      A) 0.75   B) 0   C) 3   D) 1
   ii) The output of prints ("%X", 10); will be
      A) 16   B) A   C) 12   D) None of these
   iii) Given i = 3, j = 2 the result of the expression j + = - - i + 3 will be
      A) 6   B) 5   C) 7   D) 8
   iv) (0 > 1)? Printf ("False") : printf ("true"); the output of this C statement will be
      A) error   B) false   C) true   D) None of these
                                                                      (04 Marks)
   b. Write a 'C' program to find sum of the digits in a given decimal number.
      (For example 123 = 1 + 2 + 3 = 6). (08 Marks)
   c. Explain the following operators with examples: i) Relational   ii) Logical   iii) Bitwise
      iv) Short hand assignment. (08 Marks)

PART – B

5 a. Choose the correct answers for the following :
   i) _____ is default storage class of local variables
      A) extern   B) static   C) auto   D) None of these
   ii) while (2) printf ("welcome"); will print text "welcome" _____ times
      A) two times   B) one time   C) infinite times D) error
   iii) Function which calls itself are called _____ function
      A) Iterative   B) Call back   C) reversive   D) recursive
   iv) _____ is not a method of passing parameter to function
      A) call by reference   B) call by definition   C) call by value   D) call by address.
                                                                      (04 Marks)
   b. Write a 'C' program to determine weather the given integer is prime or not using a suitable
      user defined function. (06 Marks)
   c. Explain the different types of parameter passing technique. (06 Marks)
   d. Given a value of theta (θ) write a user defined function to calculate the value of cot 0 (cot
      theta). (04 Marks)

6 a. Choose the correct answers for the following :
   i) for (i = 0; i < 5 ; i++) printf ("%d", i); will print _____ as output
      A) 0 1 2 3 4 5   B) 1 2 3 4 5   C) 0 1 2 3 4   D) 0 1 2 3
   ii) if (0) a = 1; the initial value of a is 3. What will be the value after executing this
       statement_____
      A) a = 0   B) a = 1   C) a = -1   D) a = 3
   iii) _____ statement will print all odd numbers between 1 and 100
      A) for (i = 0; i < 100; i++) printf("%d", i);
      B) for (i = 2; i < 100; i = i + 2) printf("%d", i)
      C) for (i = 1; i < = 100; i = i + 2) printf("%d", i);
      D) for (i = 0; i < 100; i + = 2) printf("%d", i)
   iv) _____ is a multiway selection statement in 'C'
      A) while   B) is   C) switch   D) for   (04 Marks)

b. Write a 'C' program to print a multiplication table as given below from 1 to 5 using for loop. **(08 Marks)**

1	2	3	4	5	6	7	8	9	10
2	4	6	8	10	12	14	16	18	20
3	6	9	12	15	18	21	24	27	30
4	8	12	16	20	24	28	32	36	40
5	10	15	20	25	30	35	40	45	50

c. Compare while and do while loop statement. **(04 Marks)**

d. Explain switch-case statement of 'C'. **(04 Marks)**

7 a. Choose correct answers for the following :
   i) int a[5] = {0, 1, 2, 3, 4}; printf("%d", a[2]); will print
      A) 0   B) 1   C) 3   D) 2
   ii) Total elements in a integer array declared as int a[5][6] will be
      A) 11   B) 25   C) 36   D) 30
   iii) The string in 'C' will terminate with _____ character
      A) '\t'   B) '\n'   C) '\0'   D) '\s'
   iv) _____ is not a valid array declaration
      A) int x[10 + 2]   B) float x [10/3]   C) int x[10]   D) char x[10].

   (04 Marks)

   b. Write a 'C' program to find the transpose of given matrix. **(05 Marks)**

   c. Write a 'C' program to concatinate 2 given string s1, s2. **(06 Marks)**

   d. Write a 'C' program to search a key using a linear search. **(05 Marks)**

8 a. Choose the correct answers for the following :
   i) Parallel computing executes the tasks _____ member
      A) pipe lined   B) linear   C) simultaneous   D) stepwise
   ii) In parallel computing threads cannot be used for _____ purpose
      A) Enhance performance   B) Reduce processor idle time
      C) Reduce programming errors   D) Parallel execution of tasks
   iii) #pragma omp parallel shared (a) will make the variable a to be available as ____
      A) Each thread has its own copy of a   B) Each thread defines value of a
      C) Each thread shares value of a   D) None of these.
   iv) _____ is not a synchronization clause in parallel computing
      A) single   B) section   C) master   D) critical.

   (04 Marks)

   b. Write a parallel program using Open MP environment to add two single dimensional array of size 10. **(08 Marks)**

   c. Explain the key factors motivating parallel programming. **(04 Marks)**

   d. Explain the need of threads in parallel programming. **(04 Marks)**

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