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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 :
- Hexadecimal equivalent for decimal 16 is  
A) A                      B) F                      C) 10                      D) 11
  - The term A.L.U. refers to  
A) Addition logical unit                      B) Arithmetic logical unit  
C) Algorithm logical unit                      D) Analysis logical unit
  - \_\_\_\_\_ cannot be used to represent character in computer  
A) Pseudocode                      B) ASCII Code                      C) UNICODE                      D) EBCDIC Code
  - 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 :
- \_\_\_\_\_ is an optical storage device  
A) Magnetic tape                      B) PROM                      C) CD-ROM                      D) Hard disc
  - G.U.I. stands for \_\_\_\_\_  
A) General User Interface                      B) Google User Interface  
C) Graphical User Interface                      D) None of these
  - \_\_\_\_\_ is not a network topology  
A) BUS                      B) Bridge                      C) Mesh                      D) Star
  - \_\_\_\_\_ 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 :
- Graphical representation of algorithm is called  
A) Bar chart                      B) Fine chart  
C) Flow chart                      D) Data chart.
  - \_\_\_\_\_ is not an valid variable name.  
A) total                      B) & avg                      C) -SUM                      D) sum\_of\_value
  - \_\_\_\_\_ is an invalid declaration.  
A) #define A 1                      B) #define P1 3.142  
C) #define PI = 22/7                      D) #define A 3.142
  - \_\_\_\_\_ is an example of backlash constant.  
A) '\X'                      B) '% '                      C) '\0'                      D) '\N'  
(04 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and/or equations written eg, 42+8 = 50, will be treated as malpractice.

- 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 ( $\theta$ ) write a user defined function to calculate the value of  $\cot \theta$  ( $\cot$  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 concatenate 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)