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10CCP13/23

First/Second Semester B.E. Degree Examination, June/July 2013

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 in OMR sheet page 5 of the answer booklet.*
3. *Answer to objective type questions on sheets other than OMR will not be valued.*

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.

PART – A

1 a. Choose the correct answers for the following : **(04 Marks)**

i) The term dots per inch (dpi) refers to printer's _____.
A) resolution B) speed C) output D) colours

ii) _____ is used to identify product and provide information such as price.
A) Price check B) Bar code reader
C) Numeric digit D) Light sensitive detector

iii) _____ is not a computer language.
A) Assembly language B) High level language
C) Natural language D) Machine level language

iv) Which operating system first appeared with IBM PC?
A) Windows B) Linux C) Mac OS D) DOS

b. What is information processing cycle? Explain four steps with flow chart. **(04 Marks)**

c. With a neat diagram, explain functions of each units of basic model of computer. **(06 Marks)**

d. Convert the following:
i) $(10101)_2 = (\ ?\ )_{10} = (\ ?\ )_{16}$ ii) $(50)_8 = (\ ?\ )_{10} = (\ ?\ )_2$ **(06 Marks)**

2 a. Choose the correct answers for the following : **(04 Marks)**

i) _____ is two or more LAN's connected together across large geographical area.
A) GAN B) LAN C) WAN D) MLAN

ii) Temporary storage in main memory is called as _____.
A) Buffer B) Secondary memory
C) Tirtary memory D) None of these

iii) Which of the following unit represents largest amount of data?
A) Kilobyte B) Terabyte C) Gigabyte D) Megabyte

iv) Identification number of every computer connected to internet is _____.
A) Sub net mask B) Gate way C) MAC address D) IP address

b. Explain basic components of a network. **(04 Marks)**

c. Define operating system. Discuss functions of operating system. **(06 Marks)**

d. Explain working of hard disk with a neat diagram. Give advantages and disadvantages. **(06 Marks)**

3 a. Choose the correct answers for the following : **(04 Marks)**

i) The number 0987 is _____ integer.
A) octal B) decimal C) hexadecimal D) invalid

ii) What kind of language is C?
A) Machine language B) Procedural language
C) Assembly language D) Object oriented language

3 a. iii) The result after evaluating the expression 1/2 * 4 is _____.
A) 0.25 B) 2 C) 0 D) 0.125

iv) What is the output if following program executed?

```
main ( )
{
  printf("%d", 'A');
}
```

A) 65 B) A C) "A" D) Error

b. Explain software development and life cycle. **(04 Marks)**

c. What are identifiers? Discuss the rules to be followed while naming identifiers. Give examples. **(06 Marks)**

d. Explain format specifiers used in scanf( ) function to read unt, float, char, double and longint data types. **(06 Marks)**

4 a. Choose the correct answers for the following : **(04 Marks)**

i) An operator which acts on two operands to produce result is _____ operator.
A) ternary B) binary C) unary D) complex

ii) The modulus operator (%) can be used only for _____ values.
A) floating B) integer
C) both integer and floating D) all data type

iii) In C, TRUE is represented by
A) true B) zero C) non-zero D) 1

iv) Which of the following is not valid assignment statement?
A) i + j = 23 B) j = 23 C) j + = 23 D) j = 23 + i

b. Write C program to swap values of two integers without using third variable and give flow chart for the same. **(06 Marks)**

c. Find the result of each of the following expressions with i = 4, j = 2, k = 6, a = 2.
i) k * = i + j ii) j = i/ = k iii) i% = i/3
iv) m = i + (j = 2 + k) v) a = i*(j/ = k/2) **(10 Marks)**

PART – B

5 a. Choose the correct answers for the following : **(04 Marks)**

i) In c, default return type of function is _____.
A) void B) int C) float D) char

ii) Parameters used in function call are _____ parameters.
A) formal B) local C) dummy D) actual

iii) Every C program must have _____.
A) user defined function B) standard function
C) main function D) library function

iv) Arguments of a function are separated with _____.
A) comma (,) B) semicolon (;) C) colon (:) D) blank space (b)

b. Write C program to print n fibbonacci numbers using function. **(08 Marks)**

c. Differentiate call by value and call by address parameter passing mechanisms. **(04 Marks)**

d. Explain the scope of local and global variables with simple example. **(04 Marks)**

6 a. Choose the correct answers for the following : **(04 Marks)**

i) break statement can be used in _____.
A) if B) if - else C) nested if D) while

6 a. ii) Which of the following is not comparator operator in C?
A) < B) > C) = D) !=

iii) What is the output if following loop is executed?
for (i = 1; i < 5; i++); printf ("VTU");
A) syntax error B) VTU
C) VTUVTUVTUVTU D) VTUVTUVTUVTUVTU

iv) while (0) {printf ("CCP")}, how many times this loop will execute?
A) 0 B) 1 C) error D) infinite times

b. Write C program to find roots of quadratic equation. Consider all possible cases of roots. **(06 Marks)**

c. Write C program to evaluate following expression:

answer = $1 + x + \frac{x^2}{2!} + \frac{x^3}{3!} + \frac{x^4}{4!} + \ldots\ldots$ using function. **(06 Marks)**

d. Differentiate pre-test and post-test loops. Illustrate your answer with a suitable example. **(04 Marks)**

7 a. Choose the correct answers for the following : **(04 Marks)**

i) The subscript of first item of an array in C is always _____.
A) 1 B) 0
C) depends in size of array D) not fixed and assigned at run-time.

ii) In a variable length string, the string ends with _____ delimiter.
A) \n B) \0 C) \b D) none of these

iii) Which of the following is correct declaration of array in C?
A) int marks [3 + a]; B) float marks [5.5];
C) int marks [2 – 2]; D) int marks [5];

iv) ASCII stands for
A) American Standard Code for International Information
B) American Standard Company for International Integration
C) American Standard Code for International Integration
D) American Standard Code for Information Interchange.

b. Write C program to search an element from unsorted list using binary search. **(12 Marks)**

c. What is the difference between a character and a string containing a single character? **(04 Marks)**

8 a. Choose the correct answers for the following : **(04 Marks)**

i) Parallel computing is _____ execution of instructions.
A) serial B) accurate C) complete D) sequential

ii) Single sequential flow of control within a program is _____.
A) thread B) instruction C) program D) none of these

iii) POSIX stands for
A) Preliminary Operating System Integration for extended system.
B) Portable Operating System Interface for Unix
C) Preliminary Operating System Interface for Unix
D) Portable Operating System Integration for Unix.

iv) API stands for
A) Application Programming Interface B) Application Parameter Interface
C) Application Processing Interface D)Application Programming Information

b. Explain motivating factors for parallelism. **(06 Marks)**

c. Explain advantages of threads. **(04 Marks)**

d. What are Open MP directives which help in synchronization of task? Explain. **(06 Marks)**

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