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10CCP13/23

First/Second Semester B.E. Degree Examination, June/July 2014
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.***

PART – A

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

i) A computer converts data into this _____.
A) information B) charts C) software D) input or output

ii) A device that holds a disk is called
A) drive B) RAM C) ROM D) memory

iii) The terms dots per inch (dpi) refers to
A) printer resolution B) printer speed C) printer output D) printer size

iv) The earliest computer were _____ systems.
A) digital B) paper C) analog D) slide rule

b. Differentiate between system software and application software. **(06 Marks)**

c. Explain with example, different type of printers. **(10 Marks)**

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

i) A list of command choices in an OS is called
A) command line B) check box C) drop down list D) menu

ii) _____ is one of the benefits using network.
A) File security B) Peripheral sharing
C) Protection from virus D) Folder creation

iii) FTP sites are often called
A) channels B) archives C) groups D) domain

iv) DOS and Linux are examples of _____ interface.
A) old fashion B) GUI C) command line D) parallel

b. Explain in detail, various types of network topologies. **(10 Marks)**

c. Define the following:
i) Thrashing ii) Buffering iii) Spooling **(06 Marks)**

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

i) Which of the following is a character constant?
A) 'C' B) "c" C) "b" D) "?"

ii) Which field specification is used to refer short int?
A) %c B) %d C) %fd D) %hd

iii) A nibble is _____.
A) 4 bits B) 8 bits C) 16 bits D) 32 bits

iv) Identify formatted console input function.
A) getchar( ) B) gets( ) C) scanf( ) D) fgets( )

b. Explain the structure of a C program. **(06 Marks)**

c. What are the different types of input and output functions? **(10 Marks)**

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

i) A _____ is name given to the memory location where data can be stored, accessed or manipulated.

A) string B) keyword C) reserved word D) variable

ii) The _____ data type does not occupy any space in the memory.

A) long int B) float C) void D) double

iii) An operator which acts on 3 operands

A) Unary operator B) Key operator

C) Binary operator D) Ternary operator

iv) What is the output of the following code?

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

A) 65 B) A C) 65.0 D) Error

b. Evaluate the expressions where a = 8, b = 15, c = 4.

i) 2*((a%5)*(4+(b – 3)/(c + 2)))

ii) 100 / 20 < = 10 – 5 + 100 % 10 – 20 = = 5 > = 1! = 20 **(06 Marks)**

c. Write a C program to find and output all the roots of a quadratic equation for non zero coefficients. **(10 Marks)**

PART – B

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

i) The default return type of function is

A) int B) float C) char D) void

ii) Which is the user defined function?

A) main( ) B) sqrt( ) C) clrscr( ) D) gets( )

iii) A function that calls itself is known as _____.

A) recursive function B) iterative function

C) main function D) none of these

iv) Parameters passed as arguments to the function call are called as

A) actual parameters B) formal parameters

C) no parameters D) none of these

b. Design and develop a function rightrot (x, n) in C that returns the value of the integer x rotated to the right by n bit positions as an unsigned integer. Invoke the function from the main with different values for x and n and print the results with suitable headings. **(08 Marks)**

c. How are functions categorized based on the value returned by the function and parameter accepted? **(08 Marks)**

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

i) Each case statement in switch is separated by

A) break B) continue C) exit D) goto

ii) Several statements grouped together in braces is called

A) compound B) equivalent C) complex D) simple

iii) In C language, "x?y:z" is equivalent to

A) if (x = = 0)y; else z; B) if (x = = 1)z; else y;

C) if (x = =0)y; z; D) if (x = = 1)y; else z;

iv) How many times is the following loop executed

```
for (i = 0; i <= 5; i++)
{printf ("Hello");}
```

A) 1 B) 6 C) zero D) infinite

b. Write a C program to find the sum of N natural numbers. **(08 Marks)**

c. What is the purpose of a switch case statement? Explain with syntax. **(08 Marks)**

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

i) The number of elements in array A[3][4] is

A) 8 B) 12 C) 16 D) none of these

ii) If A[4] is declaration, then the first and last array index will be

A) 1, 4 B) 0, 3 C) 3, 0 D) none of these

iii) A function that is used to string copy is

A) strcopy( ) B) strcpy( ) C) copystring( ) D) concat( )

iv) Given A[3][2] = {1, 2, 3, 4, 5, 6}; The element in 3^{rd} row 2^{nd} col is

A) 3 B) 4 C) 6 D) 2

b. Explain initialization and declaration of 2D array. **(08 Marks)**

c. Write a C program to input N integers in a single dimensional array and sort them in ascending order using Bubble sort. **(08 Marks)**

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

i) _____ execution of an instruction in a computer system is referred as parallel computation.

A) Sequential B) Serial C) Accurate D) Simultaneous

ii) Open MP stands for

A) open multi parallelism B) organized multi programming

C) open multi programming D) organized multi parallelism

iii) An example of environment variable in open MP is

A) OMP_thread_limit B) OMP_init_lock

C) OMP_thread_ref D) OMP_get_byname

iv) Which of the following can be used as resource in parallel computing?

A) Single computer with multi process B) Network of computers

C) Combination of above D) None of these

b. What are threads? Give the advantages and disadvantages of multiple threads. **(08 Marks)**

c. Design and develop a parallel program in C to determine and print prime numbers which are less than 100 making use of the algorithm of Sieve of Eratosthenes. **(08 Marks)**

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