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10CCP13/23

First/Second Semester B.E. Degree Examination, June/July 2011
Computer Concepts and C Programming

Time: 3 hrs. Max. Marks:100

Note: 1. Answer 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. Select the correct answer :
i) Which of the following device stored instructions that help computer to start up?
A) Joystick B) RAM C) ROM D) Monitor
ii) A collection of 8-bits is called
A) Byte B) Word C) Record D) File
iii) Which of the following is not an output device?
A) Printer B) Keyboard C) VDU op D) CRT Screen
iv) Which of the following is not a type of keyboard connector?
A) 5-pin connector B) 6-pin connector C) 8-pin connector D) USB connector. **(04 Marks)**

b. With a neat diagram, explain the basic structure of a computer.**(08 Marks)**

c. Explain two types of monitors based on the technique used to display image and text. **(04 Marks)**

d. i) Convert the decimal number 3710 to binary form.
ii)Convert the binary number 0011110 to decimal. **(04 Marks)**

2 a. Select the correct answer :
i) Unlike a transistor, a magnetic disk can store data without a continual source of
A) electricity B) RPMs C) polarity D) light s I
ii) A magnetic disk's tracks are divided into smaller parts called
A) clusters B) sectors C) bytes D) slices
iii) A translator which reads an entire program written in high level language and converts itinto machine language code is
A) Assembler B) Translator C) Compiler D) System software
iv) A distributed network configuration in which all data/information pass through center computer is
A) Bus network B) Star network C) Ring network D) Point-to-point network **(04 Marks)**

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 the principle used to develop seven layers of OSI model. **(04 Marks)**

d. List the basic components of a network. **(04 Marks)**

3 a. Select the correct answer :
i) Which of the following are not valid identifiers?
A) student name B) _total C) 2names D) int

ii)" Which of the following are not character constants?
A) 'C' B) "C" C) `bb' D) '?'
iii) Which field specification is used to read or write short integer?
A) %c B) %d C) %f D) %hd
iv) Which function reads data from the keyboard?
A) display B) read C) printf D) scanf **(04 Marks)**
b. List and explain coding constants. **(06 Marks)**
c. What is variable? Explain variable initialization. **(04 Marks)**
d. Explain the structure of 'C' program. **(06 Marks)**

4. a Select the correct answer
i) _____ is used to determine the order in which different operations in an expression are evaluated.
A) Associativity B) precedence C) evaluation D) format
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) Which of the following is not an expression format?
A) assignmentB)conditional C) binary D) primary
iv) Which of the following has highest precedence?
A) prefixB) MultiplyC) incrementD) Assignment **(04 Marks)**
b. If a = 2, b = 8, c = 4, d = 10, what is the value of each of the following ? **(04 Marks)**
i) a+b/c.d–c/a ii) (b / a) % c iii) a++ + b– – +iv) ++a + b– – + ++d
c. Write a program to convert temperature from Fahrenheit to Celsius using the following formula. **(08 Marks)**
d. Convert the following mathematical expressions into 'C' expressions: **(04 Marks)**
i)a+bxc ii) a+b iii)√ s(s – a) x (s – b) x (s- c) iv) $x^2 + y^2 + 2xy$

PART – B

5 a. Select the correct answer :
i) A function that calls itself for its processing is known as
A) Inline function B) Nested function C) Overloaded function D) Recursive function
ii) We declare a function with if it does not have any return type.
A) long B) double C) void D) int
iii) Variables inside parenthesis of a function declaration have_____ level access.
A) local B) global C) module D) universal
iv) Arguments of a function are separated with
A) comma(,) B) semicolon (;) C) colon (:) D) None of these. **(04 Marks)**
b. Explain the different ways of passing parameters to function. **(08 Marks)**
C. Write a program to accept two numbers from the user and **to** add and subtract these two numbers using functions and display the result on the console. **(08 Marks)**

6 a. Select the correct answer :
i) Operator used in logical and is
A) & B) ! C) && D) ||
ii) Two-way selection is implemented with the statement.
A) case B) switch C) else if D) if.else
iii) Which of the following is not a relational operator?
A) < B) <= C) = D)
iv) The ____ logical operator is true when both the operands are true.
A) and (&&) B) or ((1) C) less than (<) D) > **(04 Marks)**

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 flow-chart and syntax, explain pretest and post-test loops. **(06 Marks)**

7 a. Select the correct answer :
i) The process through which data are arranged according to their values is known as
A) arranging B) searching C) listing D) sorting
ii) The search locates the target item by starting at the beginning and moving towards end of the list.
A) selection B) binary C) sequential D) ascending
iii) Which of the following statements assigns the value stored in x to the first element on an arrayary?
A) ary = x B) ary = x[0] C) ary = x[1] D) ary[0] = x
iv) is an integral value used to access elements of an array.
A) Constant B) Element C) variable D) index. **(04 Marks)**
b. Write a program to sort the elements of an array using bubble sort. **(08 Marks)**
c. What is two dimensional array? Explain initialization of two dimensional array. **(04 Marks)**
d. What is string? Explain about the string delimiter. **(04 Marks)**

8 a. Select the correct answer :
i) Parallel computing is execution of instructions in a computer system.
A) Simultaneous B) Serial C) Accurate D) Complete
ii) Which of the following is not an example of parallel computing in the field of science and research?
A) Bio-informatics B) Quantum research C) Solved grid problem D) Distributed processing
iii) The individual sectors inside a section directives are specified with the help of which of the following directive?
A) sections B) region C) segment D) None of these
iv) The use of threads reduces time of the processor.
A) idle time B) Memory access time C) latency time D) None of these. **(04 Marks)**
b. What are the motivating factors which drives us towards parallel computing? **(08 Marks)**
c. What are threads? Highlight the need of threads. **(08 Marks)**

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10CCP13

First Semester B.E. Degree Examination, January 2011

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 on 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 your answers for the following: (04 Marks)

i) Which of these are also known as PDA s?

A) workstations B) mainframes C) handheld PC s D) super computer

ii) Which is the most powerful type of computers?

A) microcomputer B) minicomputer C) mainframe computer D) super computer

iii) Which of the software is used for creating slide show?

A) web design software B) word processing software

C) Presentation software D) spread sheet software

iv) Which of the following is not a type of mouse?

A) infra-red mouse B) opto-mechanical mouse C) optical mouse D) wireless mouse

b. Draw the basic structure of computer and explain in brief. (06 Marks)

c. Explain thedifferent types of printers. (10 Marks)

2 a. Choose your answers for the following:

i) The two types of storage available in host computer system are and _

A) primary and secondary B) RAM and ROM C) primary and hard disk D) none of these

ii) An example of magnetic storage device is

A) CD-ROM B) diskette C) DVD D) flash memory

iii) What does the term SCSI stand for?

A) small computer software interface B) small computer storage interface

C} small computer system interface D) small computer standard interface

iv) Acronym DOS stands for

A) disk operating system B) driver operating system

C) diskless operating system D) distributed operating system (04 Marks)

b. List and explain any four types of computer processing techniques. (10 Marks)

c. Explain the types of networks, in brief. (06 Marks)

3 a. Choose your answers for the following:

i) Which of the following is not a data type?

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

ii) Symbols used in flow chart for decision making is :

A) rectangle B) circle C) parallelogram D) diamond shape

3 a. iii) The tool used to convert a source program to a machine language is :

A) compiler B) loader C) linker' D) preprocessor

iv) Which of the following is not a valid identifier?

A) _option .B) amount C) $amount D) sales_amount (04 Marks)

b. Explain the input and output statements, with examples. (08 Marks)

c. Draw the structure of C-program and explain in brief. (08 Marks)

4 a. Choose your answers for the following:
i) Which of the following is a unary expression?
A) + + x B) - - x C) – 5D)x=4
ii)Which is used to determine the order in which different expression are evaluatedin complexoperations?
A) predictivity B) infix evaluation C) associativityD) none of these
iii) How will a = (int)32.2/(int)4.3 be evaluated?
A) 323/4.3 B) 32.0/4.0 C) 32/4 D) none of these
iv) Which is not an arithmetic operator?
A)+ B)- C)*D) &
b. Write C assignment statements for: (04 Marks)
i) Area $\pi r^2 + 2\ \pi rh$ ii)torque=$\frac{2m1m2}{(m1+m2)}$.g iii) Side =√ a2 + b2 -2abcos(x)(06 Marks)
c. Write a C-program to convert degrees to radians accepting a value from user.(06 Marks)
d. Explain the postfix and prefix expressions, with examples.(04 Marks)

PART-B

5 a. Choose your answers for the following:
i) The default return type of a function is :
A) void B) char C) int D) float
ii) A variable declared in a function is called
A) actual variable B) local variable C) formal variable D) global variable
iii) The main ( ) is a
A) library function B) keyword C) user defined function D) none of these
iv) Which of the following is not a part of function header?
A) name B) parameter list C) return type D) title (04 Marks)
b. Discuss the different methods of parameter passing to function, with examples. (10 Marks)
c. Write a C - program to find GCD of two numbers. (06 Marks)

6 a. Choose your answers for the following:
i) is a way to implement a multiway selection in C.
A) while do .B) gotoC) for D) switch case
ii) Which of the following is not a comparator operator in C?
A) <B) <= C) =D) >=

6 a. iii) Which of the C - loops is not a pretest loop?
A) do .....while B) for C) while D) none of these
iv) Given the while loop as :

```
i= 1;
while (i< = 32)
{
print f ("%d", i) ;
y;
}
```

If the 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 x 2 D) none of these (04 Marks)
b. List the different decision making statements. Explain any two with their syntax and example. (07 Marks)

c. Write the C-codeto find factorial of a number with all the looping statements. (06 Marks)
d. Explain the use of break and continue statements. (03 Marks)

7 a. Choose your answers for the following:
i) Ifx [5] is a declaration, then the first and last array index will be;
A) 1,5B) 1,6 C) 0,4 D) 0,5
ii) An array is a group of related data that shares a common __
A) name B) index C) values D) all of these
iii) Which of the following statement assigns the value stored in x to the first element on an array, ary?
A) ary= x [1] ; B) ary = x [0] ; C) ary [0] = x; D) ary [1] = x;
iv) The de-limiter in a C string is :.
A) new line B) a del character C) a null character D) none of these (04 Marks)
b. Explain the declaration and initialization of one-dimensional array, with an example. (06 Marks)
c. Explain the initialization and declaration of C - strings. (04 Marks)
d. Write a C - program to read an array of size 'N' and print the array elements. (06 Marks)

8 a. Choose your answers for the following:
i) Parallel computing is_____ execution of instructions in a computer.
A) simultaneous B) serial C) accurate D) complete
ii) Which of the following is not a synchronization construct?
A) single B) master C) section D) critical
iii) _____ reduces multiple private copies of variables belonging to different threads into a single value.
A) reduction B) consolidate C) deduction D) merge
iv) Which of the following open Mp environmental variables enables or disables nested parallelism?
A) omp_set_nested B) omp_get_nested C) omp_nested D) none of these (04 Marks)
b. What is a thread? What are the advantages of using threads? (06 Marks)
c. Explain the open Mp programming model, with a sample program. (10 Marks)

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10CCP13/23

First / Second Semester B.E. Degree Examination, December 2011
Computer Concepts and C programming

Time: 3 hrs Max. Marks: 100

Note: 1. Answer FIVE full questions choosing atleast two from each part.
2. Answer all objective type questions only in OMR sheet page 5 of the answer booklet.
3. Answer to objective questions on sheets other than OMR will not be valued.

PART - A

1. a) Select the correct answer. **(04 Marks)**

i)The general name given to the physical parts of the computer is_____
a)Software b)Hardware c)firmware d)Computerware

ii)A byte contains _____ no of bits.
a)12 b)8 c)16 d32

iii)Which of these is not an example of software?
a)Utilities b)Operating System c)floppydisk d)Device drivers

iv) Which of these is not a part of information processing cycle?
a)Data sharing b)Datacollection c)Datastorage d)Dataoutput

b) Mention the various steps associated with the information processing cycle and explain them. **(08 Marks)**

c)What is data scanning device?Mention any four such devices? **(04 Marks)**

d)i)Convert the binary no 11100111 to decimal no.

ii)Convert the decimal no 55 to binary no. **(04 Marks)**

2. a) Select the correct answer. **(04 Marks)**

i)A translator which reads the high level line by line and converts into machine language code is _____
a)Translator b)Interpreter c)Compiler d)Assembler

ii)The size of most commonly used floppy these days is _____
a)8 inch b)3.5 inch c)5.25inch d)2.5inch

iii)Which of these is not anetwork topology?
a)Bus b)Ring c)star d)square

iv)Which of these is not a type of translator?
a)Assembler b)Interpreter c)Compiler d) Integrator

b)Mention the various functions of an operating system?Explain n any two of them. **(08 Marks)**

c)List & explain the basic components of Computer network. **(04 Marks)**

d)Mention the different storage devices and explain any one of them. **(04 Marks)**

3. a) Select the correct answer. **(04 Marks)**

i)Which of the following is associated with software changes /modification/evolution of software?

a)Design b)Coding c)Testing d)Maintenance

ii)The type of programming that is done with C is _____

a) Highlevel b)Lowlevel c)Both a& b d)None of these

iii)The function which takes a single character input from the keyboard is_____

a)getchr b)getchar c)give char d)char get

iv) Which of these is not a keyword to C language?

a)Float b)staticc)delete d) Insert

b)What are C tokens?Mention them, explain any two of them. **(08 Marks)**

c)What is a data type?Mention the basic data types available in C? **(04 Marks)**

d)What are variables? How are they declared? **(04 Marks)**

4. a) Select the correct answer. **(04 Marks)**

i)The order in which different operations in an expression are evaluated is decided by_____

a)Associtivity b)Precedence c)Evaluation d)Format

ii)The correct version of the clause to input the I/O function library in C programming is

a)#include<io.h> b)#include<Std io.h> c))include#<io.h>

d)include#<Std io.h>

iii)The result of evaluating the expression 7%5+10.0*10/3 is _____

a) 32.0 b)32 c)31.0 d)31

iv)Let K=12,i=3,j=5.Consider the statement K+=i+j++.After the execution the value of K, i,j are

a)21,3,6 b)20,3,6 c)21,3,6 d)20,4,6

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

c)Write a program to find a area of triangle given the 3 size. **(06 Marks)**

d)With examples,illustrate any four common programming errors. **(04 Marks)**

PART - B

5. a) Select the correct answer. **(04 Marks)**

i)Which of the following will not be terminated by semicolon sign?

a) Function prototype b) function calling statement c) function definition d) None of these

ii)A function that calls itself is _____

a) Nested function b)Over loaded function c) Recursive functiond)Inline function

iii)The scope of the variables defined in a function is _____

a) Local b)Modular c)Global d)Universal

iv)The parameters used in a function call are called _____Parameters.

a)Formal b)Dummy c)Actual d)None of these

b) Mention the different layers of passing the parameters to the function.Explain any one of them. **(08 Marks)**

c) Write a program to accept two integers and swap their values using a function to swap. **(04 Marks)**

6. a) Select the correct answer. **(04 Marks)**

i)The correct statement for checking a condition in if statement is.

a)if (a=b) b)if (a==b) c)if (a, b) d)if (a b)

ii)The loop in which the number of iterations remains known prior to the execution of the loop is _____

a)for b) While c)do while d)None of these.

iii)The value of switch expression must be of type _____

a) real b)int c)double d)all of these

iv)The least number of times the do-while loop will be executed is

a)0 b)1 c)2 d)Both a & b

b) Distinguish between while and do-while statement. **(08 Marks)**

c) Write a C program to read a positive number and reverse the given number. **(08 Marks)**

7. a) Select the correct answer. **(04 Marks)**

i)The number of elements in an array defined by a [3] [4] is _____

a)8 b)12 c)16 d)None of these

ii)If x[4] is a declaration then the first and last array index will be _____

a) 1,4 b)0,3 c)3,0 d)None of these

iii)Given int a[3] [2] = { 1,2,3,4,5,6}; the element in third row and second column is _____

a) 3 b)6 c)52 d)4

iv)A function that is used to join two strings is _____

a)strepy b)strlen c)streat d)stremp

b) Explain the declaration nd initialization of one dimensional array with examples. **(06 Marks)**

c) Write a C program to input N integers in to a single dimensional array and sort them in descending order using bubble sort method. Print both given array and sorted array with suitable headings. **(10 Marks)**

8. a) Select the correct answer. **(04 Marks)**

i)_____ execution of instruction in a computer system is referred to as parallel computing

a)Serial b)Sequential c)Accurate d)Simultaneous

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

a)A single computer with multiple processors

b) An arbitrary number of computers connected by a network

c) A combination of the above

d) All of these

iii)Open Mp stands for _____

a)Open Multi- parallelism b)Organized multi - programming

c)Open multi - processing d)organized multi – parallelism

iv)An example of environment variable in OPEN MP is

a)Omp – thread - limit b)Omp – init - lock c)Omp – test – lock
d)Omp – get – Dynamic.

b) Define concurrent processing. What is the motivation for concurrent processing? **(10 Marks)**

c) What are threads give the advantages and disadvantages of multiple threads? **(06 Marks)**

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10CCP13/23

First / Second Semester B.E. Degree Examination, June 2012
Computer Concepts and C programming

Time: 3 hrs Max. Marks: 100

Note: 1. Answer 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 questions on sheets other than OMR will not be valued.

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

i) The first mechanical computer designed by Charles Babbage was called
A)Abacus B)Processor
C) Calculator D)Analytical Engine

ii)Integrated circuit was developed in _____ generation of computers
A)FIRST B)SECOND
C)THIRD D)FOURTH

iii)I Gigabyte (GB)is equivalent to _____
A)1024 MB B)1024 KB
C) 1024 GB D)1024TB

iv)ASCII is a _____ bit BCD code
A)4 B)6
C)8 D)10

b.Discuss the basic structure of a computer with a neat block diagram (06Marks)

c.Explain the different types of computers for organizations. (10 Marks)

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

i)A collection of 4 bits is called
A)Nibble B)Byte C) Word D) Record

ii Which of the operating systems is not a GUI based?
A)Windows B)Linux C)MAC D)DOS

iii Which is a secondary memory device?
A)CacheB) RAM C) Registers D) Floppy Disk

iv)Which of the following is not a layer in the OSI layer
A)Presentation B) Transport C)Session D) Communication

b.Enlist various secondary storage devices.Explain how data can be stored and retrieved from CD-ROM. (06 Marks)

c. What is an operating system?What are the major functions of an operating system?(06 Marks)

d. Write a note on the need for networking. (04 marks)

3 a.Choose your answers for the following (04 marks)

i.'C' language is _____
A) Structured language B) object –oriented language
C) Machine language D)Assembly language

ii. Identify valid identifier

A)a123 B)$123

C)123a D)a#123

iii. A step by step procedure to solve a given problem is called

A)Logarithm B) Algorithm

C) Flowchart D)Program

iv.The range of char data types on 16 bit machine is :

A)-126 to 127 B)-128 to 127

C)-127 to 128 D) -127 to 127

b.Explain the different phases of solving a given problem using computer (10 marks)

c.What is type conversion?What are the different ways of type conversion?Explain with an example. (08 Marks)

4 a.Chooseyour answers for the following : (04 Marks)

i.The operator % yields

A) Quotient B) Reminder

C) Percentage D)Fractional Part

ii.Evaluate the expression 10!=10||5<<4&&8.The result is:

A)1 B) 0 C) 2 D)10

iii.Which of the following bitwise operator shifts their first operand to its left?

A)&& B) << C) >> D) ^

iv.if a=10,b=5 find C=++a-b.The result os

A)5 B)7 C)6 D)-6

b.Explain precedence and associativity of operators in 'C' with an example. (08 Marks)

c.What is type conversion?What are the different ways of type conversion?Explain with an example.

PART-B

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

i.What is the output of following program

```
#include<stdio.h>
    Void main()
{ intnum;
for(num=0;num<=10;num++)
{;
}
printf("%d",num);
```

A)012345678910 B)11

C)10 D)01234567891011

ii.A for loop with no test condition is known as _____loop

A)finite B)Infinite C) While D)do-while

iii.In 'C' which of the following is not a storage class register

A)Static B) Auto C) Const D)Register

iv.Which of the following is the last character that is stored in a char array in 'C'

A)\0 B)NULL C)0 D/0

b.Describe the different ways of passing parameters to functions. (08 Marks)

c.Write a 'C' program using functions to compute the sum of N numbers. (08 Marks)

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

i.Which of the following command will place the program control out of the loop when it gets executed

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

ii.How many times will the following loop be executed?

For(;;)
printf("hello");
A)one B) zero C) infinite D) finite
iii. What would be the output of the following code segment?
For(i=1;i<=5;i++)
{ if(i=3) continue;
printf(i);}
A)1,2 B) 1,2,4,5 C) 1,2,3,4 D) 3,4,5
iv. The minimum number of times the ' do while' will be executed
A)0 B) 1 C) 2 D) both A and B
b.Differentiate between while and do while statement with an example for each. (08 Marks)
c. Write a C program to calculate area of circle, rectangle and triangle using switch(08 Marks)
statement. (Area of circle = πr^2; of rectangle=length x breadth ; of triangle =0.5 x length x height)

7. a. Choose your answers for the following;
iIn the following code segment what will be the values of x and y after execution, if n assumes a value of zero (0)
x=1; y=1;
if(n>0)
{ x=x+1; y=y-1;}
Printf("%d %d",x,y);
A)0,0 B) 1,0 C) 0,1 D) 1,1
ii Arrays can be initialized at
A)compile time B) run time C) both A and B D) None of these
iii. strncmp() function has _____ number of parameters.
A)2 B) 3 C) 1 D) 4
iv How many times the following loops is executed?
while(0)
{ statement;}
A)0 B) 1 C) infinite D) finite (04 Marks)
b. What is an array? Write a program to print the sum of two one dimension array and store the result in another array? (08 Marks)
c. Write a program that accepts a string and check whether the string is a palindrome or not (08 Marks)

8. a. Choose your answers for the following;
iParallel computing is _____execution of instructions in a computer
A)simultaneous B) serial C) accurate D) complete
iiOpenMP supports _____.
A)Multi threaded B) shared memory C) both A and B D) none of these
iii Which of the following is not a synchronization construct?
A)Single B) Master C) section D) critical
iv Which of the following is the correct syntax of specifying OpenMP threads?
A)#pragma omp directive [clause 1][clause 2]...[clause n]
B)#pragma openmpdirective [clause 1][clause 2]...[clause n]
C)#define omp directive [clause 1][clause 2]...[clause n]
D) #define pragma omp directive [clause 1][clause 2]...[clause n] (04 Marks)
b. What is parallel computing? What are the various motivating factors for parallelism (10 Marks)
c. What is OpenMP? Explain the OpenMP programming Model. (06 Marks)