

- 3 a. Choose your answers for the following :
- A device that connects two or more LANs is a
A) HUB B) SWITCH C) BRIDGE D) ROUTER
 - A program which is used to access the contents of web and view webpages is
A) Website B) Web browser C) Hot mail D) None of these
 - Which of the following is not an O.S?
A) Windows B) Linux C) Apple D) Macintosh
 - The O.S. is used in _____ systems
A) Real time B) Multi user C) Single user D) All of these
- (04 Marks)
- b. What is an operating system? Mention its functions. (06 Marks)
- c. What are the various types of network topologies? Explain in brief, with their advantages and disadvantages. (10 Marks)
- 4 a. Choose your answers for the following :
- A digital integer constant can be any combination of digits from
A) '1' to '10' B) '0' to '10' C) '0' to '9' D) None of these
 - Which of the following is not a bitwise operator?
A) << B) | C) && D) ^
 - Identify formatted console input function
A) get char () B) gets () C) scanf () D) fgets ()
 - The valid floating point number is
A) 10 E 10.5 B) 10,555.55 C) 10.5 e 10.5 D) 10.5 E 10
- (04 Marks)
- b. What is an algorithm? Write an algorithm to find the biggest of three numbers using if-else statement. (05 Marks)
- c. What is a variable? List out the rules to define a variable. (05 Marks)
- d. What is an operator? Explain the different types of an operator. (06 Marks)

PART - B

- 5 a. Choose your answers for the following :
- Identify the invalid statement
A) case 4 B) case 'a' C) case4 D) case 1
 - Identify the conditional branch statement
A) goto B) break C) continue D) switch
 - The break statement is used
A) to skip the statement B) in switch statement
C) in looping statements D) All of these
 - The output of the following program is
include <stdio.h>
void main ()
{
 int i = 8 ;
 printf(“%d”, i>>1) ;
}
- A) 8 B) 4 C) 16 D) Invalid printf
- (04 Marks)
- b. Explain the various unformatted I/O functions in C. (08 Marks)
- c. Differentiate between nested if and ladder if statements. (03 Marks)
- d. Write a program to find the roots of a quadratic equation with switch statement. (05 Marks)

- 6 a. Choose your answers for the following :
- Identify the correct syntax for 'for' loop
 A) for (Exp1 ; exp2 ; exp3) B) for (Exp1 : Exp2 : exp3)
 C) for (Exp1 ; exp2 ; exp3) ; D) for (Exp1 : Exp2 ; exp3)
 - The minimum number of times the do-while loop will be executed.
 A) 0 B) 1 C) 2 D) both A and B
 - The keyword 'else' can be used with
 A) switch B) while C) if D) for
 - What is the output of the following program?

```
#include <stdio.h>
void main ( )
{
    int i ;
    for (i = 1 ; i <= 4 ; i++)
        printf ("%d", i) ;
}
```

 A) 1234 B) 123 C) 234 D) None of these
 (04 Marks)
- b. Differentiate between while and do-while statement. (06 Marks)
- c. Write a flow chart and C – program to check the given number is prime or not. (10 Marks)
- 7 a. Choose your answers for the following :
- The array elements are represented by
 A) Index value B) Subscripted variable
 C) Array name D) Size of array
 - Identify the correct declaration
 A) int a[6] [5] ; B) int a[5], [5] ;
 C) int a (10) (10) ; D) int b (10, 10) ;
 - Identify the correct array initialization
 A) int a [5] = {10, 20, 15, 30, 40} B) float a [4] = {10.0, 15.00, 17.6, 6.0}
 C) char s [8] = welcome D) A and B
 - An array subscript may be
 A) Integer constant B) Integer variable
 C) Integer expression D) All of these
 (04 Marks)
- b. What is an array? How you are initializing an array in C? (06 Marks)
- c. Write a 'C' program to find the product of two matrices with suitable messages. (10 Marks)
- 8 a. Choose your answers for the following :
- Which is the user defined function?
 A) main () B) sqrt () C) clrscr () D) gets ()
 - Identify the statement used to return the control to the calling function
 A) continue B) break C) return D) exit
 - A function cannot be called as
 A) module B) procedure C) subprogram D) application
 - The default return type of function is
 A) float B) int C) void D) None of these
 (04 Marks)
- b. Differentiate between call by value and call by reference. (05 Marks)
- c. Differentiate global and local variables. (04 Marks)
- d. Write 'C' program to sort the elements by bubble sort technique using functions. (07 Marks)

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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 :
- Which of the following device stored instructions that help computer to start up?
A) Joystick B) RAM C) ROM D) Monitor
 - A collection of 8-bits is called
A) Byte B) Word C) Record D) File
 - Which of the following is not an output device?
A) Printer B) Keyboard C) VDU D) CRT Screen
 - 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 37_{10} to binary form.
ii) Convert the binary number 0011110 to decimal. (04 Marks)
- 2 a. Select the correct answer :
- Unlike a transistor, a magnetic disk can store data without a continual source of
A) electricity B) RPMs C) polarity D) light
 - A magnetic disk's tracks are divided into smaller parts called
A) clusters B) sectors C) bytes D) slices
 - A translator which reads an entire program written in high level language and converts it into machine language code is
A) Assembler B) Translator C) Compiler D) System software
 - 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)

Important Note : 1. On completing your answers, carefully 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.

- 3 a. Select the correct answer :
- Which of the following are not valid identifiers?
A) student_name B) _total C) 2names D) int
 - Which of the following are not character constants?
A) 'C' B) "C" C) 'bb' D) '?'
 - Which field specification is used to read or write short integer?
A) %c B) %d C) %f D) %hd
 - Which function reads data from the keyboard?
A) displayf 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 :
- _____ is used to determine the order in which different operations in an expression are evaluated.
A) Associativity B) precedence C) evaluation D) format
 - Which of the following is not a valid assignment expression?
A) X = 23 B) 4X = 8 = 3 C) Y% = 5 D) x = r = 5
 - Which of the following is not an expression format?
A) assignment B) conditional C) binary D) primary
 - Which of the following has highest precedence?
A) prefix increment B) Multiply C) Modulus D) Assignment (04 Marks)
- b. If a = 2, b = 8, c = 4, d = 10, what is the value of each of the following?
- $a + b / c + d - c / a$ ii) $(b / a) \% c$
 - $a++ + b-- + d++$ iv) $++a + b-- + ++d$ (04 Marks)
- c. Write a program to convert temperature from Fahrenheit to Celsius using the following formula.

$$\text{Celsius} = \left(\frac{100}{180}\right) * (\text{Fahrenheit} - 32) \quad (08 \text{ Marks})$$

- d. Convert the following mathematical expressions into 'C' expressions:
- $a + b \times c$ ii) $\frac{a+b}{2}$ iii) $\sqrt{s(s-a) \times (s-b) \times (s-c)}$ iv) $x^2 + y^2 + 2xy$ (04 Marks)

PART - B

- 5 a. Select the correct answer :
- A function that calls itself for its processing is known as
A) Inline function B) Nested function C) Overloaded function D) Recursive function
 - We declare a function with _____ if it does not have any return type.
A) long B) double C) void D) int
 - Variables inside parenthesis of a function declaration have _____ level access.
A) local B) global C) module D) universal
 - 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 (||) 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 array ary?
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)
