COA 102

CREDIT BASED FIRST SEMESTER B.C.A. DEGREE EXAMINATION

OCTOBER 2012

B.C.A

BASIC CONCEPTS OF PROGRAMMING IN 'C'

Time: 3 Hrs **Max. Marks: 80**

PART – A

1. Answer any 10 questions from the following: 10x2=20

a.. What do you mean by escape sequence? Give any two examples.

b. What is an operator? List any two.

c. How do you represent octal integer and hexadecimal integer? Give example.

d. Define string constant. Give an example.

e. State the precedence of arithmetic operators.

f. What is the output of: ceil (33.3) and abs (-1.36)?

g. What is the purpose of gets() and puts() function?

h. What is mixed mode arithmetic? Give an example.

i. What are storage classes in C? What is the storage class by default?

j. Differentiate between local and global variables.

k. What is the difference between library function and user defined function?

l. What is the role of C preprocessor?

PART – B

Answer any TWO questions from each unit:

UNIT – I

2. a. Explain the basic structure of C programs.
b. Write a note on defining symbolic constant.

(5+5)

3. a. Explain the following terms:
i) single character constant
ii) getchar( )
b. Explain the logical operators and assignment operators. **(4+6)**

4. a. Find output of the following:
i) printf ("%d", sizeof ('A'));
ii) 25/3%2
iii) 21% (int) 4.5
b. Explain any four bitwise operators.
c. Give the general form of enumerated data type. **(3+4+3)**

UNIT – II

5. a. The grading in an academic institution is done according to the following rules:

Average Marks	Grade
80 to 100	Honours
60 to 79	First division
50 to 59	Second division
40 to 49	Third division
0 to 39	Fail

Implement this using if – else ladder.

b. What is meant by one dimensional array? How do we declare and initialize them? Explain with suitable example. **(4+6)**

6. a. Explain for loop with a suitable example.
b. Write a C program to read N integers and search for a given element. **(5+5)**

7. a. With a suitable example, explain break and continue statements.
b. Write a program to find the largest and smallest number in an array. **(5+5)**

UNIT – III

8. a. How do we declare and initialize string variables?
b. With example, explain formal arguments and actual arguments. **(5+5)**

9. a. Describe the various categories of functions.
b. What do you mean by scope of the variable? Explain the use of extern variables with the help of an example. **(6+4)**

10. a. How does a structure differ from an array? Explain.
b. Write a note on macro substitution directives. **(5+5)**

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COA 102 Reg.No.

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OCTOBER 2013
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BASIC CONCEPTS OF PROGRAMMING IN 'C'

Time: 3 Hrs Max. Marks: 80

PART – A

1. Answer any 10 questions from the following: 10x2=20

   a. What is a C token? List the various categories.

   b. List any four basic data types along with their size.

   c. What is integer arithmetic? Give suitable example.

   d. Find the value of x, if a=9, b=15 and c=5. X=a-b/3+c*2-1;

   e. What is the purpose of goto statement?

   f. Write the syntax of exit controlled looping and give an example to it.

   g. Write the syntax of switch statement.

   h. What is an array? Write the necessary statement to create an array to store 5 real numbers.

   i. Write the syntax and example for declaring a string variable.

   j. Name different storage classes.

   k. What is the difference between library function and user defined function?

   l. List different categories of user defined functions.

PART – B

Answer any TWO questions from each unit:

UNIT – I

2. a. List any four features of C program.
   b. Explain hierarchy of arithmetic operators in an expression. Give an example.
   c. Write an explanatory note on backslash character constants. (4+3+3)

3. a. Explain the basic structure of a C program.
   b. Explain the following operators
      i) Increment and Decrement
      ii) Conditional **(5+5)**

4. a. Determine the value if each of the following expressions if a=8, b=10 and c=-6
      i) [illegible]
      ii) $a == c \;\&\&\; b > a$
      iii) [illegible]
   b. Explain formatted output function with syntax and example.
   c. Explain any three bitwise operators. **(3+4+3)**

UNIT – II

5. a. Explain simple if and else if ladder with syntax and example.
   b. Write a program to find largest element in an array of N elements. **(5+5)**

6. a. Explain while loop with syntax and example.
   b. How do we create and initialize two-dimensional arrays? Explain with an example. **(5+5)**

7. a. Explain for-loop with syntax and example.
   b. With a suitable example, explain break and continue. **(5+5)**

UNIT – III

8. a. Explain any four string handling functions with examples to each.
   b. Explain recursion with an example. **(6+4)**

9. a. Explain following terms with examples.
      i) Function definition ii) Function call
      iii) Function declaration
   b. What are automatic and static variables? With a program, explain how the value of a static variable is retained between function calls. **(5+5)**

10. a. Compare structures with unions.
    b. Write a note on macro substitution directives. **(5+5)**

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BASIC CONCEPTS OF PROGRAMMING IN 'C'

Time: 3 Hrs Max. Marks: 80

PART – A

1. **Answer any 10 questions from the following:** **10x2=20**
   a. Mention the difference between a constant and a variable in C.
   b. What is an operator? Write the syntax of a conditional operator.
   c. Mention the difference between getch ( ) and getchar ( ) function.
   d. Write the output of: floor (327.83) and pow (3, 4).
   e. Explain 'goto' statement in C.
   f. How does main function differ from other user-defined functions?
   g. What is an array? How do you declare a two dimensional array?
   h. What are storage classes in C? What is the storage class by default?
   i. Mention any two differences between local variable and global variable.
   j. Mention the differences between strcpy( ) and strcat( ).
   k. Mention the role of C preprocessor.
   l. Mention any four backslash character constants.

PART – B

Answer any TWO questions from each unit:

UNIT – I

2. a. Explain the various primary data types in C.
   b. Write a note on various arithmetic operations and logical operations in C.
3. a. Explain any five printf format codes.
   b. Write a program to calculate the factorial of a given number. **(5+5)**

4. a. Explain the following functions with an example.
(i) islower( ) (ii) isspace( ) (iii) tolower( ) (iv) sqrt( ) (v) abs(x)
b. What are identifiers? State the rules for naming identifiers. **(5+5)**

UNIT – II

5. a. An electric power distribution company charges its domestic consumers as follows:

Consumption Units	Rate/Unit
0 – 200	` 0.50/unit
201 – 400	` 0.65
401 – 600	` 0.80
601 and above	` 1.00

Write a program to calculate the amount to be paid by the customers.

b. With syntax and example explain for – loop and do – while loop. **(5+5)**

6. a. Write a 'C' program to search for an element in an array of 'n' numbers.
b. Explain with an example, the syntax of switch statement. **(5+5)**

7. a. Write a 'C' program to find the maximum and minimum number in a given array.
b. What is meant by one dimensional array? How do we declare and initialize them? Explain with suitable example. **(5+5)**

UNIT – III

8. a. Write a 'C' program to copy one string to another without using built-in function.
b. How do we declare and initialize string variables. **(5+5)**

9. a. Write a 'C' program to check whether the given string is palindrome or not.
b. What do you mean by scope of the variable? Explain the use of 'extern' variable with an example. **(5+5)**

10. a. Write a note on macro substitution directives.
b. With an example, explain formal arguments and actual arguments. **(5+5)**

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BASIC CONCEPTS OF PROGRAMMING IN 'C'

Time: 3 Hrs Max. Marks: 80

PART – A

1. **Answer any 10 questions from the following:** 10x2=20
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   b. What is an operator? Write the syntax of a conditional operator.
   c. Mention the difference between getch ( ) and getchar ( ) function.
   d. Write the output of: floor (327.83) and pow (3, 4).
   e. Explain 'goto' statement in C.
   f. How does main function differ from other user-defined functions?
   g. What is an array? How do you declare a two dimensional array?
   h. What are storage classes in C? What is the storage class by default?
   i. Mention any two differences between local variable and global variable.
   j. Mention the differences between strcpy( ) and strcat( ).
   k. Mention the role of C preprocessor.
   l. Mention any four backslash character constants.

PART – B

Answer any TWO questions from each unit:

UNIT – I

2. a. Explain the various primary data types in C.
   b. Write a note on various arithmetic operations and logical operations in C.
3. a. Explain any five printf format codes.
   b. Write a program to calculate the factorial of a given number. (5+5)

4. a. Explain the following functions with an example.
(i) islower( ) (ii) isspace( ) (iii) tolower( ) (iv) sqrt( ) (v) abs(x)
b. What are identifiers? State the rules for naming identifiers. **(5+5)**

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Write a program to calculate the amount to be paid by the customers.

b. With syntax and example explain for – loop and do – while loop. **(5+5)**

6. a. Write a 'C' program to search for an element in an array of 'n' numbers.
b. Explain with an example, the syntax of switch statement. **(5+5)**

7. a. Write a 'C' program to find the maximum and minimum number in a given array.
b. What is meant by one dimensional array? How do we declare and initialize them? Explain with suitable example. **(5+5)**

UNIT – III

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b. What do you mean by scope of the variable? Explain the use of 'extern' variable with an example. **(5+5)**

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COA 102 Reg.No. ……

CREDIT BASED FIRST SEMESTER B.C.A. DEGREE EXAMINATION OCTOBER 2015

B.C.A

BASIC CONCEPTS OF PROGRAMMING IN 'C'

Time: 3 Hrs **Max. Marks: 80**

PART – A

1. Answer any 10 questions from the following: 10x2=20

a. What is initialization? How do initialize value of a variable as 40?

b. How do you read a floating point number in 'C'? Give an example.

c. List any 2 rules to be followed while naming an identifier n 'C'.

d. Write the equivalent 'C' expression for the following:

i) ii)

e. Mention any 4 bitwise operators in C.

f. If initial value of variable x is 4, what would be the value of x in the expression x + 5/1; here + = is …….. operator?

g. Why is continue statement used in 'C'?

h. Explain the syntax of if… else statement.

i. Correct the error: # Define pi = 3.14;.

j. How do you declare a one dimensional array? Give example.

k. Which of the following are invalid variable names?

i) 123sum ii) emp-no iii) total-amt iv) ab123

l. What is the output of the following statement?

printf("value of the expression is %if", ((a!=b)? pow(a,2) : pow (b,2));

if a=5, b=4

PART – B

Answer any TWO questions from each unit:

UNIT – I

2. a. What are constants? How are they classified? Give example for each.
b. Explain increment and decrement operators with example.

3. a. Explain the use of # define statement with example.
b. Explain the following tokens used in programming with syntax and example.
i) keyword ii) identifier
c. Explain the formatted output function with its syntax and example. **(3+4+3)**

4. a. Briefly explain the following mathematical functions supported by 'C' language with example.
(i) ceil (x) (ii) pow (x,y)
b. How do variables and symbolic names differ?
c. What is implicit type of conversion? Explain. **(4+2+4)**

UNIT – II

5. a. Differentiate between for loop and while loop in 'C'. Explain with examples.

b. Rewrite the following using switch statement.

if level = 1 then
hra = 10% of basic salary
else if level = 2, 3 or 4 then
hra = 5% of basic salary
otherwise hra= 0% of basic salary.

c. Write a 'C' program to check whether a given number is even or odd. **(4+3+3)**

6. a. What is an array? How do you declare and initialize two dimensional array in 'C'?
b. Explain do..while statement with its syntax and example.
c. Write a 'C' program to find minimum of 3 numbers. **(3+4+3)**

7. a. Explain with example nesting of loops.
b. Explain goto statement with example.
c. What is the output of the following program code?

```
int x=0, i=1;
while (i<=15)
{ if (i%5==0)
{ x +=I;
    Printf("\t%d",i); } I++; }
```

(4+3+3)

UNIT – III

8. a. Explain the following functions with syntax, usage and example.
i) strlen( ) ii) strcat( )
b. What is a structure? How do you define and access the values of a structure? Explain with example. **(5+5)**

9. a. What is recursion? Write a 'C' program to find factorial of a number using recursion.
b. Differentiate automatic and static variables with example.
c. What is union? Explain with example how does it differ from a structure.

(4+3+3)

10. a. What is meant by scope of a variable within a program? Explain with example.
b. Differentiate actual and formal parameters with example.
c. Write macros to:

i) Find sum of a and b
ii) Find minimum of x and y
iii) Find product of e, f and g **(4+3+3)**

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COA 102 Reg. No. .....

CREDIT BASED FIRST SEMESTER B.C.A. DEGREE EXAMINATION
OCTOBER 2016
B.C.A
BASIC CONCEPTS OF PROGRAMMING IN 'C'

Time: 3 Hrs. Max. Marks: 80

PART – A

1. **Answer any TEN questions from the following:** **10×2=20**
   a. List various tokens in C language.
   b. What are single character constants and string constants? Give examples for each.
   c. Identify the mistakes, if any
      i) ≠ define N = 50
      ii) for (i = 0, i <= 10, i++)
   d. What does isalpha ( ) function performs?
   e. Write the syntax of switch-case statement.
   f. Write the conditional operator statement for the following if...else statements.

```
if (a>10)
   b=100;
else
   b=0;
```

   g. What is nesting of for loops? Give its syntax.
   h. Write the syntax of declaring a 2-dimensional array. Give an example.
   i. Differentiate between structure and union.
   j. What is recursion?
   k. Differentiate macro substitution and file inclusion directives.
   l. Write equivalent C statements for the following mathematical expressions.
      i) $side = \sqrt{a^2 + b^2 - 2ab\cos(x)}$
      ii) $d = ut + (at^2)/2$

PART – B

Answer any TWO full questions from each unit:

UNIT – I

2. a. What are symbolic constants? List various rules for defining symbolic constants.
   b. List and explain the relational operators in C. **(5+5)**

3. a. Explain the following;
      i) Enumerated data types
      ii) Integer constants
   b. Explain precedence of arithmetic operators. **(6+4)**

4. a. Explain formatted input and output with suitable examples.
   b. What are keywords and identifiers? Explain with examples. (6+4)

UNIT – II

5. a. Explain nested if....else with syntax and suitable example code.
   b. Write the syntax of while loop and explain with suitable example. (5+5)

6. a. Explain break and continue with syntax and example.
   b. Write a program to sort 'N' numbers in ascending order. (5+5)

7. a. Define array. How do we declare, initialize and access an one-dimensional array?
   b. Write a program to generate prime numbers in a given range. (5+5)

UNIT – III

8. a. Explain any four string handling functions along with suitable examples.
   b. Write a program to check if the given number is a palindrome or not. (4+6)

9. a. Explain any two categories of user defined functions with suitable example program.
   b. What is a structure? Explain how we can define a structure, and access structure members. (5+5)

10. a. What do you mean by scope of a variable? Explain automatic and register storage classes with suitable examples to each.
    b. How does a structure differ from an array? Explain. (6+4)

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