

Roll No.

Total No. of Questions : 11] [Total No. of Printed Pages : 7

**B.C.A. 2nd Semester (Reg.)  
Examination April/May, 2017**

**UN-210**

**PROGRAMMING IN 'C'  
Paper : BCA-203**

**Time : 3 Hours]**

**[Maximum Marks : 85**

**(Section-A)**

**(Objective Type Questions)**

1. Choose the correct answer.  $1 \times 10 = 10$

(i) .....is the largest value that an unsigned short int type variable can hold.

- (a) 124 (b) 255  
(c) 512 (d) 1024

(ii) C language supports as many as.....relational operators.

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- (a) 6 (b) 8  
(c) 10 (d) 12

(iii) By default the real numbers are printed with a precision of.....decimal places.

- (a) 2 (b) 4  
(c) 6 (d) 8

(iv) The use of.....on a variable returns the number of bytes the operand occupies.

- (a) type def (b) size of  
(c) mem (d) var

(v) The.....operator is true only when both the operands are true.

- (a) NOT (b) NOR  
(c) AND (d) OR

(vi) In a pre-test loop, if the body is executed  $n$  times, the test expression is executed.....times.

- (a)  $n$  (b)  $n + 1$   
(c)  $n + 2$  (d)  $2n$

(vii) .....is the process of arranging the elements of an array in order.

- (a) sorting (b) searching  
(c) merging (d) splitting

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(viii) .....statement is required if the return type is anything other than void.

- (a) void (b) return  
(c) goto (d) clear

(ix) The variables declared in a structure definition are called its :

- (a) operands (b) union  
(c) members (d) components

(x) A pointer variable contains.....until it is initialised.

- (a) garbage (b) zero  
(c) nil (d) X

### (Section-B)

(Short Answer Type Questions) 6x5=30

2. Explain any *two* from the following :

- (a) constants  
(b) variables  
(c) keywords  
(d) flowchart

3. Write a program in C to calculate the average of a set of N numbers input by the user.

*Or*

Write a program in C to convert temperature given in Fahrenheit to degree celcius. (Use conversion formula  $C = (F - 32)/1.8$ )

4. Write about the following (any *three*) :

- (a) Increment operator  
(b) Decrement operator  
(c) Bitwise operator  
(d) type conversion  
(e) operator precedence  
(f) relational and logical operators supported by C

5. Explain what are pointers.

*Or*

Give the syntax for switch case along with an example.

6. Explain what is a union.

*Or*

Explain array of structures.

**(Section-C)****(Long Answer Type Questions)**

9×5=45

7. Mention all data types of C along with their storage requirements and range of values that can be held by them.

*Or*

Write the output for the following program code :

```
main( ) http://www.onlinebu.com
```

```
{
int a, b, c, d;
a = 15;
b = 10;
c = ++a - b;
printf ("a = %d b = %d c = %d \n", a, b, c);
d = b ++ + a;
printf ("a = %d b = %d d = %d \n", a, b, d);
printf ("ab = %d \n", ab);
printf ("a%%b = %d \n", a % b);
printf ("a *= b = %d \n", a *= b);
printf ("%d \n", (c > d) ? 1 : 0);
printf ("%d \n", (c < d) ? 1 : 0);
}
```

8. What do you understand by nested if ? Show its use by example. What essential rules must be followed ?

*Or*

Explain the importance of break, continue and goto statements. Show with an example, how they can be used in a program.

9. Write a complete program in C to implement binary search for finding an element in an array.

*Or*

Write a program that reads two matrices A and B of size  $3 \times 3$  and prints the result of  $A + B$ .

10. Name and describe the elements of a function definition and function call in detail.

*Or*

Write a program to find simple interest and compound interest with the help of functions calls to SI or CI as per user choice, by passing parameters to the functions.

11. Name and explain the storage classes supported by C.

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*Or*

- (a) How does a structure differ from an array ?
- (b) Describe typical applications of pointers in developing programs.

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