

**I/BCA/105 (R)**

**2014**

( 1st Semester )

**BACHELOR OF COMPUTER APPLICATION**

Paper No. : BCA-105

**( Programming Language Through C )**

( Revised )

( PART : A—OBJECTIVE )

( Marks : 25 )

*The figures in the margin indicate full marks for the questions*

Answer **all** questions

**SECTION—I**

( Marks : 15 )

1. Put a Tick (✓) mark against the correct answer in the brackets provided : 1×10=10

(a) If  $a = 10$  and  $b = 11$ , the value of an expression  $a+++-b$  would be

(i) 20 ( )

(ii) 21 ( )

(iii) 22 ( )

(iv) None of the above ( )

(b) Arrays are passed as arguments to a function by

- (i) value ( )
- (ii) reference ( )
- (iii) Both (i) and (ii) ( )
- (iv) None of the above ( )

(c) The declaration **void a (int)** indicates that **a ( )** is a function which

- (i) has no arguments ( )
- (ii) returns nothing ( )
- (iii) Both (i) and (ii) ( )
- (iv) None of the above ( )

(d) You can initialize a pointer by

- (i) 0 ( )
- (ii) null ( )
- (iii) address of another variable ( )
- (iv) All of the above ( )

( 3 )

(e) The function **fopen** ("filename", "r") returns

- (i) nothing ( )
- (ii) a value 0 or 1 depending on whether the file could be opened or not ( )
- (iii) a pointer to file filename, if it exists ( )
- (iv) a pointer to a new file after creating it ( )

(f) The first element of a string is

- (i) the name of the string ( )
- (ii) the first character in the string ( )
- (iii) the length of the string ( )
- (iv) None of the above ( )

(g) Consider the following programme fragment :

```
switch (choice)
{
    case 'R' : printf("RED");
    case 'W' : printf("WHITE");
    case 'B' : printf("BLUE");
    default : printf("ERROR");
    break;
}
```

What would be the output, if choice = 'R'?

- (i) RED ( )
- (ii) REDERROR ( )
- (iii) REDWHITEBLUEERROR ( )
- (iv) REDWHITEBLUE ( )

(h) Which of the following C data types is not a built-in data type?

- (i) int ( )
- (ii) float ( )
- (iii) char ( )
- (iv) None of the above ( )

( 5 )

(i) The format code for printing a signed decimal integer is

(i) %s ( )

(ii) %d ( )

(iii) %i ( )

(iv) %f ( )

(j) The first computer language to use a block structure was

(i) ALGOL ( )

(ii) BCPL ( )

(iii) UNIX ( )

(iv) Traditional C ( )

( 6 )

2. State whether the following statements are *True (T)* or *False (F)* by putting a Tick (✓) mark : 1×5=5

(a) `fseek()` sets the position to the beginning of the file.

( T / F )

(b) Pointer constants are the addresses of memory locations.

( T / F )

(c) Program execution always begins in the main function irrespective of its location in the program.

( T / F )

(d) The format specification `%5s` will print only the first 5 characters of a given string to be printed.

( T / F )

(e) The modulus operator `%` can be used only with integers.

( T / F )

( 7 )

SECTION—II

( Marks : 10 )

3. Answer the following questions : 2×5=10

(a) Why and when do we use the #include directive?

( 8 )

(b) What are character strings? What are the common operations that can be performed on character strings?



( 9 )

(c) Write the differences between Arrays and Structures.

( 10 )

(d) What are data overflow and data underflow?

( 11 )

(e) What is a command-line argument?

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( 2 ) **I/BCA/105 (R)**

**2014**

**( 1st Semester )**

**BACHELOR OF COMPUTER APPLICATION**

**Paper No. : BCA-105**

**( Programming Language Through C )**

**( Revised )**

**Full Marks : 75**

**Time : 3 hours**

**( PART : B—DESCRIPTIVE )**

**( Marks : 50 )**

*The figures in the margin indicate full marks  
for the questions*

1. (a) Write and explain a flowchart of  
executing of C program. 4
- (b) What are constants? What are different  
types of constant in C? Give example of  
each. 6

**G15—280/193a**

**( Turn Over )**

Or

- (a) What are implicit-type conversion and explicit-type conversion? Give examples. 4
- (b) Explain the formatted input/output functions with appropriate examples. 6
2. (a) Write a C program that exchanges the values between two variables, without using third variable. 4
- (b) Write notes on any three of the following with example :  $2 \times 3 = 6$
- (i) Switch statement
  - (ii) Conditional operator statement
  - (iii) GOTO statement
  - (iv) If statement

Or

- (a) What is infinite loop? Write a C program for an infinite loop.  $1 + 3 = 4$
- (b) Explain the three looping statements with example. 6
3. (a) Explain, in brief, the four storage classes in C. 4
- (b) Explain the three elements of user-defined functions by giving example. 6

( 3 )

Or

- (a) What is an array? Illustrate different ways of initializing one- and two-dimensional arrays with examples.  $1+4=5$
- (b) What is searching? Explain, with example, the technique of linear search.  $1+4=5$

4. (a) Explain, with example, how to declare and initialize string variables. 4

- (b) Write the syntax and explain with example any *three* string handling functions from the following :  $2 \times 3 = 6$

(i) strcat( )

(ii) strcmp( )

(iii) strcpy( )

(iv) strlen( )

Or

- (a) Write the exact output for the following C pointer program : 4

```
#include <stdio.h>
void main( )
{
    int x = 10, y = 10;
    int *p1 = &x, *p2 = &y;
    printf("%d", (*p1)++);
```

```
printf("\n%d", -- (*p2);  
printf("\n%d", *p1 + (*p2) --);  
printf("\n%d", ++ (*p2) - *p1);  
getch();  
}
```

- (b) What are the dereference and the address-of operator? What are the benefits of using pointers in C? 2+4=6

5. (a) What is a structure? What are the three methods by which the values of a structure can be transferred from one function to another? 1+3=4

- (b) Define a structure type, **struct personal** that would contain person name, date of joining and salary. Using this structure, write a program to read this information for one person from the keyboard and print the same on the screen. 6

Or

- (a) Write the syntax and explain with example the uses of **fopen( )** and **fclose( )** file functions. 4
- (b) Write a C complete program for file management using any file function. 6

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**2014**

( 2nd Semester )

**BACHELOR OF COMPUTER APPLICATIONS**

Course No. : 201

**( Introduction to Programming Language Through C )**

( PART : A--OBJECTIVE )

( Marks : 25 )

*The figures in the margin indicate full marks for the questions*

**SECTION—A**

( Marks : 15 )

1. Put a Tick [✓] mark in the brackets provided against the correct answer : 1×10=10

(a) Which keyword is used for skipping part of the loop?

(i) Skip [    ]

(ii) Continue [    ]

(iii) Break [    ]

(iv) Jump [    ]



(b) What is the only function all C programs must contain?

(i) start() [ ]

(ii) system() [ ]

(iii) main() [ ]

(iv) include() [ ]

(c) How many times is a do-while loop guaranteed to loop?

(i) 0 [ ]

(ii) 1 [ ]

(iii) Indefinitely [ ]

(iv) Unknown [ ]

(d) Which one of the following is the correct usage of conditional operators used in C?

(i)  $a > b ? c = 30 : c = 40;$  [ ]

(ii)  $a > b ? c = 30;$  [ ]

(iii)  $\text{max} = a > b ? a > c ? a : c : b > c ? b : c$  [ ]

(iv)  $\text{return } (a > b) ? (a : b)$  [ ]

(e) Which of the following adds one string to the end of another?

(i) `append();` [ ]

(ii) `stringadd();` [ ]

(iii) `strcat();` [ ]

(iv) `stradd();` [ ]

(f) Which one of the following is the proper declaration of a pointer?

(i) `int x;` [ ]

(ii) `int &x;` [ ]

(iii) `ptr x;` [ ]

(iv) `int *x;` [ ]

(g) Which one of the following gives the memory address of integer variable x?

(i) `*x;` [ ]

(ii) `x;` [ ]

(iii) `&x;` [ ]

(iv) `address(x);` [ ]

( 4 )

(h) The keyword used to transfer control from a function back to the calling function is

- (i) switch      [   ]
- (ii) goto      [   ]
- (iii) return      [   ]
- (iv) break      [   ]

(i) What will be the output of the following code?  
(Assuming that the union exist)

```
main( ) {  
    union student x;  
    x.a=5; x.b=7;  
    printf("%d and %d", x.a, x.b);  
}
```

- (i) 5 and 5      [   ]
- (ii) 7 and 7      [   ]
- (iii) 5 and 7      [   ]
- (iv) 7 and 5      [   ]

(j) The library function used to reverse a string is

- (i) strstr()      [   ]
- (ii) strrev()      [   ]
- (iii) revstr()      [   ]
- (iv) strreverse()      [   ]

( 5 )

2. State whether *True* or *False* : 1×5=5

(a) The keyword used to make any variable constant is `const`.

(        )

(b) The function use to check whether the input character is number or not is `isnum()`.

(        )

(c) Function prototypes must always ends with semi-colon.

(        )

(d) The code `fseek(fp, 0L, 0);` will put the file pointer to the end of file.

(        )

(e) Union elements occupy different memory spaces.

(        )

( 6 )

SECTION—B

( Marks : 10 )

3. Answer the following questions : 2×5=10

- (a) Differentiate between while loop and do-while loop.

( 7 )

- (b) Explain the relationship between pointers and arrays.

( 8 )

(c) How does structure differ from union? (1)

( 9 )

(d) What is conditional operator? Give example. (3)



( 10 )

- (e) Define recursion. Give one example of recursive function.

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**II/BCA/201**

**2014**

**( 2nd Semester )**

**BACHELOR OF COMPUTER APPLICATIONS**

**Course No. : 201**

**( Introduction to Programming Language  
Through C )**

*Full Marks : 75*

*Time : 3 hours*

**( PART : B—DESCRIPTIVE )**

*( Marks : 50 )*

*The figures in the margin indicate full marks  
for the questions*

1. (a) Write a simple C program and explain the structure of C program. 7
- (b) Define variable. What are the rules for creating variables in C programming? 1+2=3
- Or*
- (c) Explain briefly a function for printf( ) and scanf( ) with appropriate examples. 6

14G—400/599a

*( Turn Over )*

( 2 )

- (d) Write a brief note on operator precedence and associativity. 4
2. (a) Explain 'break' and 'continue' statements with a complete C program. 10
- Or
- (b) What is nested if? Write a program for finding the largest of three given numbers using nested if. 6
- (c) Explain for loop with an example. 4
3. (a) Explain and differentiate call by value and call by reference with examples. 10
- Or
- (b) Write a program for insertion sort. 5
- (c) What is recursive function? Write a C program of factorial by using recursive function. 5
4. (a) Write a C program of function for concatenation of two strings, comparing two strings. 5+5=10
- Or
- (b) What is an array of pointer? Write a program to illustrate array of program and explain. 3+7=10

( 3 )

5. (a) What is structure within structure? Write C program to demonstrate structure within structure and explain in brief.

3+7=10

Or

- (b) What is file? Explain any four file-handling functions giving an example each.

2+8=10

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