

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?

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

Answer the following questions

(a) What are the basic operations on character strings?

(b) What are the basic operations on character strings?

(c) What are the basic operations on character strings?

(d) What are the basic operations on character strings?

(e) What are the basic operations 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?

(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)

(2)

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 : 2×3=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)++);
```

(4)

```
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

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) $\max = a > b ? a > c ? a : c : b > c ? b : c$ []

(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);` []

(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.

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

(9)

(d) What is conditional operator? Give example. (9)

(10)

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

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)

- (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
