

2015

(1st Semester)

BACHELOR OF COMPUTER APPLICATION

Paper No. : BCA-105

(New Course)

(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) What is data type? Explain the three classes of data type. 6
- (b) Write the rules for ++ and -- operators. 4

Or

(c) What is an operator? List out different C operators. 1+3=4

(d) Explain the unformatted input/output functions with appropriate examples. 6

2. (a) Write the flowchart of nested if...else statement. 4

(b) Explain the structure of 'do...while' loop. Write the sum of first 10 natural numbers using 'do...while' loop. 2+4=6

Or

(c) Write the flowchart of else...if ladder. 4

(d) Explain the structure of 'for' loop. Write the sum of first 10 natural numbers using 'for' loop. 2+4=6

3. (a) What do you mean by recursion? Write a program to find a factorial of a number using recursive function. 1+5=6

(b) Write the difference between the functions call by value and call by reference. 4

Or

- (c) What is an array? Explain different types of array with example. $1+3=4$
- (d) What do you mean by sorting? Write different types of sorting technique. Explain any one with example. $1+5=6$
4. (a) Define string. Write the common operations performed on character string. $1+3=4$
- (b) Write the difference between any *two* of the following string functions with example : $3 \times 2 = 6$
- (i) Strcpy and strncpy
 - (ii) strcmp and strncmp
 - (iii) strcat and strncat

Or

- (c) Write the benefits of using pointers in C. 4
- (d) Is it possible to make a pointer to point to another pointer? Explain and prove your answer with an example. 6

5. (a) Write the syntax of structures and unions. What is the major distinction between structures and unions? 3+1=4

(b) Define a structure type, struct student, that would contain student name, date of birth and roll number. Using this structure, write a program to read this information for one student from the keyboard and print all the information in the screen. 6

Or

(c) What do you mean by file? Write the basic file operations and two distinct ways to perform file operations in C. 4

(d) Write a C program to illustrate error handling in file operations. 6

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Paper No. : BCA-105

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(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 $x = 15$, $y = 10$ and $z = (x > y) ? x : y$, the value of z would be

- (i) null ()**
- (ii) 10 ()**
- (iii) 15 ()**
- (iv) 20 ()**

(b) — is the process of putting together other program files and functions that are required by the program.

(i) Execution ()

(ii) Linking ()

(iii) Compiling ()

(iv) Looping ()

(c) Teading of single character can be done by using —.

(i) getch() ()

(ii) getchar() ()

(iii) getche() ()

(iv) char() ()

(d) Which of the following looping statements always executed at least once?

(i) do...while ()

(ii) while ()

(iii) for ()

(iv) All of the above ()

(3)

(e) Which of the following keywords is used to immediately exit from the loop?

(i) Stop ()

(ii) Goto ()

(iii) Pause ()

(iv) End ()

(f) The smallest individual unit in a C program is called

(i) keyword ()

(ii) identifier ()

(iii) token ()

(iv) constant ()

(4)

(g) Which of the following is not a storage class?

(i) Automatic variable ()

(ii) Register variable ()

(iii) Static variable ()

(iv) Executed variable ()

(h) In structures, the link between a member and a variable is established using

(i) operator ()

(ii) assignment operator ()

(iii) dot operator ()

(iv) All of the above ()

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(5)

(i) The function that moves the file position to a desired location within a file is

(i) rewind ()

(ii) fseek ()

(iii) ftell ()

(iv) forward ()

(j) A — is a place on the disk where a group of related data is stored.

(i) file ()

(ii) array ()

(iii) structure ()

(iv) All of the above ()

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

(a) There can be multiple main function in a C program.

(T / F)

(b) If statement is also known as control statement.

(T / F)

(c) The function header consists of three parts—return type, function name and arguments.

(T / F)

(d) Only an address of a variable can be stored in a pointer variable.

(T / F)

(e) Stings can be manipulated with operators.

(T / F)

(7)

SECTION—II

(Marks : 10)

3. Answer the following questions :

2×5=10

(a) What is variable?

(b) Explain the keyword constant with example.

(9)

(c) Define function definition and function call.

(10)

(d) What are static variables?

(e). Explain fopen(), fclose(), getc() and getw().
