

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

( 2 )

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

( 3 )

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 :  $3\times2=6$
- (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

( 4 )

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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2015

( 1st Semester )

## BACHELOR OF COMPUTER APPLICATION

Paper No. : BCA-105

( New Course )

( Programming Language through C )

( 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 :  $1 \times 10 = 10$

(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 ( )

( 2 )

(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 ( )

- (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 ( )

( 6 )

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

(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) Strings can be manipulated with operators.

( T / F )

( 7 )

SECTION—II

( Marks : 10 )

3. Answer the following questions :  $2 \times 5 = 10$

(a) What is variable?

( 8 )

(b) Explain the keyword constant with example.

Q1-~~Q2~~ There can be ~~one~~ ~~more~~ ~~than~~ ~~one~~ ~~constant~~ ~~in~~ ~~a~~ ~~C~~ ~~program~~ ~~if~~ ~~they~~ ~~are~~ ~~defined~~ ~~at~~ ~~the~~ ~~beginning~~ ~~of~~ ~~the~~ ~~program~~ ~~as~~ ~~shown~~ ~~as~~ ~~follows~~

( 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 )

Strings can be manipulated with operators.

( T / F )

( 9 )

(c) Define function definition and function call. (6)

( 10 )

(d) What are static variables?

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

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