2 0 1 5

(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 :   1×10=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 ( )

(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   ( )

(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   (   )

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)

=5

SECTION—II

(*Marks* : 10)

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

   (a) What is variable?

(b) Explain the keyword constant with example.

(c) Define function definition and function call.

(d) What are static variables?

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

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2 0 1 5

(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

(**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 : 3×2=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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2 0 1 5

(2nd Semester)

BACHELOR OF COMPUTER APPLICATIONS

Paper No. : BCA–201 (OC)

(Introduction to 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. Choose the correct answer by putting a Tick (✓) mark in the brackets provided : 1×10=10

    (a) C was developed in the year _____ at AT&T Bell's laboratory.

(i)	1960	(	)
(ii)	1967	(	)
(iii)	1972	(	)
(iv)	1978	(	)

(b) _____ is a formatted output statement.

    (i) putchar( )   ( )

    (ii) puts( )   ( )

    (iii) printf( )   ( )

    (iv) putc( )   ( )

(c) The _____ statement transfers the control out of the loop.

    (i) exit   ( )

    (ii) skip   ( )

    (iii) jump   ( )

    (iv) break   ( )

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

    (i) 0   ( )

    (ii) 1   ( )

    (iii) Indefinitely   ( )

    (iv) Unknown   ( )

(e) Which one of the following is incorrect variable name?

    (i) House_no_10   (   )

    (ii) _House_no_10   (   )

    (iii) House#10   (   )

    (iv) Houseno10   (   )

(f) _____ is the process of arranging elements in the list according to their values.

    (i) Linking   (   )

    (ii) Searching   (   )

    (iii) Merging   (   )

    (iv) Sorting   (   )

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

    (i) strcat( )   (   )

    (ii) stradd( )   (   )

    (iii) stringadd( )   (   )

    (iv) apend   (   )

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

(i)   int x;   (   )

(ii) int &x;   (   )

(iii) ptr x;   (   )

(iv) int *x;   (   )

(i) The unoccupied space between the member of a structure is known as

(i)   slack byte   (   )

(ii) word boundary   (   )

(iii) structure space   (   )

(iv) bit fields   (   )

(j) The _____ function reports the status of the file indicated.

(i)   feof( )   (   )

(ii) fopen( )   (   )

(iii) fclose( )   (   )

(iv) ferror( )   (   )

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

(a) #define statement must not end with a semicolon.

(T / F)

(b) One if can have more than one else.

(T / F)

(c) The return type is optional, when function returns int type data.

(T / F)

(d) When an array is passed as an argument to a function, a pointer is actually passed.

(T / F)

(e) Structure elements occupy the same memory spaces.

(T / F)

(6)

(*Marks* : 10)

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

    (a) Write a short note on size of operator.

(b) What do you understand by variable?

10

(c) Explain GOTO statement.

(d) What do you understand by recursive function?

(e) What is an array of pointer?

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II/BCA/201 (OC)

2 0 1 5

(2nd Semester)

BACHELOR OF COMPUTER APPLICATIONS

Paper No. : BCA–201 (OC)

(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. Answer *either* [(a) and (b)] or [(c) and (d)] :

    (a) What do you understand by C? Explain
    the structure of C program with a neat
    diagram.   6

    (b) What are constants? Explain the
    different types of constant.   4

    (c) Explain in brief gets( ) and puts( )
    functions with appropriate examples.   5

(d) What are implicit-type conversion and explicit-type conversion with examples? 5

2. Answer *either* [(a) and (b)] *or* [(c) and (d)] :

(a) Differentiate between while loop and do-while loop. 4

(b) Write a C program to find the sum of digits of accepted number. 6

(c) Write a program to display the following format on screen : 4

```
1
2   3
4   5   6
7   8   9   10
```

(d) What is switch statement? Explain with an appropriate example. 6

3. Answer *either* [(a) and (b)] *or* [(c) and (d)] :

(a) Differentiate between call by value and call by reference with examples. 7

(b) Explain the different storage classes of variable. 3

(c) What is array? Explain the different types of array with examples. 5

(d) Write a program to search an array using linear search. 5

G15—80/386a   (Continued)

4. Answer *either* [*(a)* and *(b)*] *or* [*(c)* and *(d)*] :

   (a) What do you understand by string? How do you declare and initialize string variables? 4

   (b) Explain any four string-handling functions with examples. 6

   (c) What is pointer? How do you access a variable through its pointer? Explain. 4

   (d) Write a program to swap two numbers using pointer. 6

5. Answer *either* [*(a)* and *(b)*] *or* *(c)* :

   (a) Differentiate between structure and union with examples. 4

   (b) Write a C program to print detail of students like R_no, name, address, city, phone on screen using structure. 6

   (c) What is file? Explain any four file-handling functions with examples. 10

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II/BCA/205 (OC)

2 0 1 5

(2nd Semester)

BACHELOR OF COMPUTER APPLICATIONS

Paper No. : BCA–205 (OC)

(Programming Language Through C)

(Practical)

Full Marks : 75

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer **one** question each from Section–A and Section–B

SECTION—A

1. Write a C program to check whether the given number is prime or not.   20

2. Write a C program to reverse the accepted number.   20

SECTION—B

3. Write a program to inspect two matrices *A* and *B* and perform the multiplication operation.   30

4. Display the following format on screen :   30

        1
      2 3
      4 5 6
      7 8 9 10

SECTION—C

* Viva voce   15

** Practical Record Book   10

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