

TKN/KS/16/5951

**Bachelor of Computer Applications (B.C.A) Semester-I
(CBS) Examination
"C" PROGRAMMING
Paper—II**

Time—Three Hours]

[Maximum Marks—50

- N.B.:**— (1) All questions are compulsory and carry equal marks.
(2) Use either ANSI 'C' or Turbo 'C' for program writing
(3) Draw neat and labelled diagrams wherever necessary.

EITHER

1. (a) Explain the following terms :
 - (i) Sequence
 - (ii) Selection
- (b) Define Pseudocode ? Explain programming structure giving suitable example.

OR

- (c) Write an Algorithm to find the roots of quadratic equation.
- (d) What is flowchart ? Explain the limitations of flowchart; also discuss algorithm.

EITHER

- 2. (a) What is data type ? Explain any four data types with suitable example. 5
- (b) What is operator ? Explain relational operator with example. 5

OR

- (c) What are library functions ? Explain with example any two library functions. 5
- (d) Write a program in C to print the following

```

1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
    
```

5

EITHER

- 3. (a) What is an Array ? Write a program in 'C' to insert an element in one dimensional array. 5
- (b) What is recursive function ? Explain with example. 5

OR

- (c) How would you define and initialize two dimensional array ? Explain with example addition of two dimensional array. 5
- (d) What is function ? Explain with example function with argument and function without argument. 5

EITHER

- 4. (a) What is structure ? Differentiate structure and union. 5
- (b) List file modes. Describe various file mode operations. 5

OR

- (c) What is pointer ? Discuss with example void pointer. 5
- (d) What are command line arguments ? Explain with example. 5

- 5. (a) What is Iteration programming structure ? Explain in brief. 2½
- (b) What is 'nested if' ? Explain with suitable example. 2½
- (c) What is storage class ? Explain 'auto' storage class. 2½
- (d) Explain fprintf() and fscanf() with suitable example. 2½

Bachelor of Computer Application (B.C.A.) Semester-I (C.B.S.) Examination**"C" PROGRAMMING****Paper—II**

Time : Three Hours]

[Maximum Marks : 50

- Note :—** (1) All questions are compulsory and carry equal marks.
 (2) Draw neat and labelled diagrams wherever necessary.

EITHER

1. (A) Write notes on :
 (i) Sequence
 (ii) Selection
 (iii) Iteration. 5
 (B) Draw a flowchart to find the sum of digits of a given number. 5

OR

- (C) Write a note on Pseudocode. Give example. 5
 (D) Write an algorithm to find out the largest of three numbers. 5

EITHER

2. (A) What is looping ? Explain "while loop" in detail with syntax and example. 5
 (B) Explain different operators supported by C-language. 5

OR

- (C) Write a program to find the roots of a quadratic equation. 5
 (D) Explain the different datatypes in 'C' with byte length. 5

EITHER

3. (A) Explain the different storage classes in C with example. 5
 (B) Write a program in C for addition of two matrices. 5

OR

- (C) Write a program to sort the elements of one dimensional Array using Bubble's sort method. 5
 (D) Describe the various components of a user defined function. 5

EITHER

4. (A) What is a Data file ? Explain different file opening modes in C language. 5
 (B) Write a program in C to declare a structure to input and print name, age and marks of students. 5

OR

- (C) Explain Random Access mode in files handling with example. 5
 (D) Write a program in C to input 10 numbers and find their sum using pointer. 5

5. Attempt **all** :

- (A) Write advantages and disadvantages of flowcharting. 2½
 (B) Explain "Nested for loop" with example. 2½
 (C) Write a short note on Recursion. 2½
 (D) Explain errors that occur while opening and closing a file. 2½

Bachelor of Computer Application (B.C.A.) Semester-I (C.B.S.) Examination

“C” PROGRAMMING

Paper-II

Time : Three Hours]

[Maximum Marks : 50

N.B. :— (1) **ALL** questions are compulsory and carry equal marks.

(2) Draw neat and labelled diagrams wherever necessary.

EITHER

1. (a) Define Algorithm. Write an algorithm to check whether the entered number is prime or not. 5
- (b) Differentiate between algorithm and flowchart. Explain sequence programming structure with example. 5

OR

- (c) Define Pseudocode. Write its advantages and limitations. 5
- (d) Write an algorithm to find sum of given series :
(1) + (1 + 2) + (1 + 2 + 3) + (1 + 2 + 3 + 4) + upto N terms. 5

EITHER

2. (a) What are the conditional control statements available in C ? Explain. 5
- (b) Write a program to check whether the entered number is even or odd. 5

OR

- (c) What is Ternary Operator ? Explain with example. 5
- (d) Write a program to display the following :

1

2 3

4 5 6

7 8 9 10

5

EITHER

3. (a) Define Array. Write a program to search an element in the given array of size n using Sequential Search Method. 5
- (b) Write a program using recursion to find factorial of a number. 5

OR

- (c) Write a program to find sum of rows and columns in two dimensional array of size 3×3 . 5
- (d) Write a program to concatenate two strings without using strcat() function. 5

EITHER

4. (a) Write a program to illustrate the passing of entire structure as a parameter to a function. 5
- (b) What is a Pointer ? Explain pointer arithmetic with example. 5

OR

- (c) Differentiate between structure and union. Write a program to illustrate use of union. 5
- (d) Explain filestream class. 5

5. Attempt **ALL** :

- (a) What is Escape Sequence ? Give its purpose. 2½
- (b) Explain modular programming structure. 2½
- (c) Give memory representation of two dimensional array. 2½
- (d) Write a syntax to declare pointers. Explain * and & pointer operators with example. 2½

Bachelor of Computer Application (B.C.A.) Semester-I (C.B.S.) Examination

"C" PROGRAMMING

Paper—II

Time : Three Hours]

[Maximum Marks : 50

N.B. :— (1) **ALL** questions are compulsory and carry equal marks.

(2) Draw neat and labelled diagram wherever necessary.

EITHER

1. (a) Explain modular logic with an example in C. 5
 (b) Write an algorithm to find the factorial of a number. 5

OR

- (c) What is a flowchart ? Write the advantages and disadvantages of flowcharts. 5
 (d) Write a short note on pseudo code. 5

EITHER

2. (a) Explain the arithmetic and relational operators in C. 5
 (b) Write a program in C to find the roots of a quadratic equation. 5

OR

- (c) Give the purpose, syntax and example of switch statement. 5
 (d) Write a short note on break and continue statements in C. 5

EITHER

3. (a) Explain the following string fns :
 (i) strlen()
 (ii) strcat() 5
 (b) Write a program in C to find the largest number from one dimensional array. 5

OR

- (c) Write a program to find the factorial of a number using recursion. 5
 (d) Write a short note on storage classes. 5

EITHER

4. (a) Differentiate between structure and union. 5
(b) How will you open and close a file in C ? 5

OR

- (c) Explain different file modes in C. 5
(d) Explain pointer arithmetic in C. 5
5. Attempt **ALL** :
- (a) Explain the various symbols used in flowcharts. 2½
(b) Write a short note on enumerated data types. 2½
(c) Explain any two mathematical functions. 2½
(d) Explain void pointer with example. 2½

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Bachelor of Computer Application (B.C.A.) Semester—I Examination

“C” PROGRAMMING

Paper—II

Time : Three Hours]

[Maximum Marks : 50

- N.B. :—** (1) All questions are compulsory and carry equal marks.
 (2) Draw neat and labelled diagram wherever necessary.

EITHER

1. (A) Write an algorithm to find the sum of even numbers from 1 to 100. 5
 (B) Write short notes on :
 (i) Iterative structure
 (ii) Selection structure
 (iii) Modular structure. 5

OR

- (C) Draw a flowchart to extract digits from the entered no. 5
 (D) What is modular programming ? Explain in detail. 5

EITHER

2. (A) Explain various datatypes supported in ‘C’ language. 5
 (B) Write a program to find sum of the following series till the last term value $\leq .001$.

$$1 + \frac{2}{2!} + \frac{3}{3!} + \frac{4}{4!} + \dots + \frac{n}{n!}. \quad 5$$

OR

- (C) Differentiate between :
 (i) For loop and while loop
 (ii) While loop and do while loop. 5
 (D) Write a program to find the reverse of a number. 5

EITHER

3. (A) Write a program to find the largest element from a one dimensional array. 5
 (B) Write a note on storage classes. 5

OR

- (C) Explain Call by Value and Call by Reference with examples. 5
 (D) Write a program to find the factorial of a number using recursion. 5

EITHER

4. (A) What is a pointer ? Explain pointer to pointer with example. 5
 (B) Write a ‘C’ program to create a structure stud for the following members Rollno, name, mark1, mark2, mark3. Further display the result on the screen along with total marks and percentage.
 If percentage ≥ 45 then pass otherwise fail. 5

OR

- (C) Write a program to demonstrate command line argument. 5
 (D) Write a program to copy the contents of one file to another. 5

5. Attempt **ALL** :

- (A) Write a pseudocode for addition of two numbers. $2\frac{1}{2}$
 (B) Write a program to demonstrate “Switch Case” with example. $2\frac{1}{2}$
 (C) Explain any three string functions with example. $2\frac{1}{2}$
 (D) Give difference between structure and union. $2\frac{1}{2}$

NRT/KS/19/2207

Bachelor of Computer Application (B.C.A.) Semester-I Examination

"C" PROGRAMMING

Paper-II

Time : Three Hours]

[Maximum Marks : 50

N.B. :— (1) All questions are compulsory and carry equal marks.

(2) Draw well labelled diagram wherever necessary.

EITHER

1. (a) What do you understand by programming structure ? Explain in brief. 5
(b) Define flowchart. Draw a flowchart to find greatest among three numbers. 5

OR

- (c) Define algorithm. Write an algorithm to find whether a given year is leap year or not. 5
(d) Give the difference between algorithm and pseudocode. 5

EITHER

2. (a) What is data type ? Explain different data types supported by 'C-language'. 5
(b) Write and explain a program in 'C' to print half pyramid using alphabets as given below :

```
A  
B B  
C C C  
D D D D  
E E E E E
```

5

OR

- (c) What is ternary operator ? Explain giving suitable example. 5
(d) Write a program in 'C' to print numbers from 1 to N using while loop. 5

EITHER

3. (a) Define array. Write a program in 'C' to delete an element from one dimensional array at a given position. 5
(b) Write any five string manipulation functions provided by 'C' language ? Explain with suitable example. 5

OR

- (c) Write a program in 'C' to illustrate function with :
No argument and no return value. 5
(d) What is storage class ? Explain various storage classes with suitable examples. 5

EITHER

4. (a) Give the difference between structure and union. 5
(b) How will you declare pointer to pointer ? Write a 'C' program to read two integers and determine bigger of the two with the help of function big() returning an integer pointer. 5

OR

- (c) What is file ? Describe various modes to open a file with suitable examples. 5
(d) (i) Create a structure student with the members Roll_ No, Name, Marks.
(ii) Create the instances s1 and s2 of structure student.
(iii) Assign data to s1 using scanf() function.
(iv) Give the memory representation of s1. 5

5. (a) If $a = 10$, $b = 20$ then $c = (a++) + (--b) + 10$ and find the value of a, b, c. $2\frac{1}{2}$
(b) Differentiate between break and continue statement. $2\frac{1}{2}$
(c) Illustrate with example formal and default argument. $2\frac{1}{2}$
(d) Differentiate between sequential and random access. $2\frac{1}{2}$