Roll No. ……..

BCA-C–102

B. C. A. (First Semester)
EXAMINATION, 2024-25

PROGRAMMING IN 'C'

Time : $2\frac{1}{2}$ Hours

Maximum Marks : 60

Note : Attempt all questions.

Section—A

1. Multiple choice questions. 1 each

(i) What is an example of iteration in C ?

(CO2, BL1)

(a) for

(b) while

(c) do-while

(d) all of the mentioned

P. T. O.

(ii) What will be the output of the following C code ? (CO4, BL-1)

```
#include <stdio.h>
int main() {
   int arr[] = {4, 5, 6, 7};
   int *p = (arr + 1) ;
   printf("%d\n", *p) ;
   return 0;
}
```

(a) 4

(b) 5

(c) 6

(d) 7

(iii) Which of the following declarations is not supported by C language ? (CO2, BL-2)

(a) String str;

(b) char *str;

(c) float str=3e2;

(d) Both "String str;" and "float str = 3e2;"

(iv) Which of the following cannot be a variable name in C ? (CO1, BL-2)

(a) volatile

(b) true

(c) friend

(d) export

(v) What is the scope of an automatic variable ? (CO3, BL-1)

(a) Within the block it appears

(b) Within the blocks of the block it appears

(c) Until the end of program

(d) Within the block it appears and within the blocks of the block it appears

(vi) What will be the output of the following C code ? (CO2, BL-1)

```
1.  #include <stdio.h>
2.  void main()
3.  {
4.      int a[2][3] = {1, 2, 3, 4, 5};
5.      int i = 0, j = 0;
6.      for (i = 0; i < 2; i++)
7.      for (j = 0; j < 3; j++)
```

```
8.      printf("%d", a[i][j]);
9.  }
```

(a) 1 2 3 4 5 0

(b) 1 2 3 4 5 junk

(c) 1 2 3 4 5 5

(d) Run time error

(vii) What will be the output of the following C code ? (CO4, BL-1)

```
#include <stdio.h>
int main() {
   int arr[] = {4, 5, 6, 7};
   int *p = (arr + 1) ;
   printf("%d\n", *arr + 9) ;
   return 0;
}
```

(a) 12

(b) 5

(c) 13

(d) error

(viii) Identify that, which is valid C expression ?

(CO1, BL-2)

(a) int my_num = 100,000;

(b) int my_num 100000;

(c) int my num= 1000;

(d) int $my_num = 10,000;

(ix) The value obtained in the function is given back to main by using ..... keyword.

(CO3, BL-2)

(a) return

(b) static

(c) new

(d) volatile

(x) What will be the output of the following C code ? (CO1, BL-1)

```
#include <stdio.h>
int main()
{
    int a = 1, b=1, c;
    c = a+++b;
    printf("%d, %d", a, b);
}
```

(a) a = 1, b = 1

(b) a = 2, b = 1

(c) a = 1, b = 2

(d) a = 2, b = 2

(xi) In file handling, if the mode includes b after the initial letter, what does it indicate ?

(CO5, BL-2)

(a) text file

(b) big text file

(c) binary file

(d) blueprint text

(xii) Is the NULL pointer same as an uninitialized pointer ? (CO4, BL-2)

(a) True

(b) False

(c) May be

(d) Not sure

2. Attempt any *four* of the following : 3 each

(a) Write a program to check whether a given number is a palindrome or not. (CO2, BL-6)

(b) Define array. And also explain the concept of dynamic array used in c language.

(CO2, BL-1, 2)

(c) Write a c program to create a File, write data into it and then close the File. (CO5, BL-6)

(d) Describe programming language. And also explain the different types of programming languages. (CO1, BL-2)

(e) Design and implement a C Program to Concatenate Two Strings without Using string function. (CO2, BL-6)

Section—B

3. Attempt any *two* of the following : 6 each

(a) Define pointer. And also explain the concept of null pointer in C language. (CO4, BL-2)

(b) What do you understand by dynamic memory allocation ? Also explain malloc(), calloc() function with example. (CO5, BL-2)

(c) Design and implement a C Program to explain the concept of call by value and call by reference. (CO3, BL-6)

4. Attempt any *two* of the following : 6 each

(a) Explain storage classes in c language with appropriate example. (CO3, BL-2)

(b) What do you understand by conditional operator ? Explain with proper example. (CO1, BL-2)

(c) Design and implement a C Program to find Largest Element in an Array. (CO2, BL-6)

5. Attempt any *two* of the following : 6 each

(a) What do you understand by control statements. Explain them with appropriate example. (CO2, BL-2)

(b) Design a flowchart to explain the concept of switch case. And also write a c program to create a simple calculator performing following operations : Addition, Subtraction, Multiplication and Division. (CO2, BL-6)

(c) Explain the concept of structure and union in c language with example. (CO4, BL-2)