PPC18

RAMAIAH
Institute of Technology

USN	1	M	S	2	2	A	0	0	2	6

(Autonomous Institute, Affiliated to VTU)
(Approved by AICTE, New Delhi & Govt. of Karnataka)
Accredited by NBA & NAAC with 'A+' Grade

SEMESTER END EXAMINATIONS – MAY 2023

Program	:	**B.E :- Common to CSE / ISE / CSE(CY) / AI & DS / BT / AI & ML / CSE (AI&ML)**	**Semester**	:	**1**
Course Name	:	**Principles of Programming using C**	**Max. Marks**	:	**100**
Course Code	:	**PPC18**	**Duration**	:	**3 Hrs**

Instructions to the Candidates:

- Answer one full question from each unit.

UNIT - I

1. a) Explain the general structure of a c Program. CO1 (06)
   b) Define Flowchart? What are the characteristics of an flowchart? Draw an flowchart to check whether the person is eligible to vote or not? CO1 (08)
   c) Elaborate different types of Tokens in C in detail with examples. CO1 (06)

2. a) Write the three input and output statements in C with examples. CO1 (06)
   b) what is an identifier? State the rules for formulating an identifier. CO1 (06)
   c) What are datatypes? Mention different datatypes supported in c Language, give an example for each. CO1 (08)

UNIT - II

3. a) Compare and contrast the following with syntax: CO2 (08)
      i) The break and continue statement
      ii) The while loop, the do While loop statement.
   b) Write a C program to perform arithmetic operations namely addition, subtraction, multiplication and division using switch statement. CO2 (06)
   c) CO2 (06)

A. What is the value of each of the following expression?	**B. If originally x=2, y=3 and z=1 what is the value of each of the following expression?**
1. -15*2+3 2. 72/5 3. 72%5 4. 5*2/6+15%4	1. x+2/6+y 2. y-3*z+2 3. z-(x+z)%2+4 4. x-2*(3+z)+y

C. If originally x=2, y=1 and z=1, what is the value of x, y and z after executing the following code?

```
switch(x)
{
case 0 :  x =2;
y =3;
case 1:  x=4;
break;
default:
y =3;
x= 1;
}
```

4. a) Illustrate implicit and explicit type conversion with an example. CO2 (08)
   b) Write a C program to read test score from user, calculate and print the letter grade for the score using else if statement. CO2 (06)

c) CO2 (06)

A. If originally x=3 and y=5 what is the value of x and y after each of the following expression?	B. If x=2945, what is the value of each of the following expressions?
1. x++ + y 2. ++x 3. x++ + y++ 4. ++x +2 5. x-- - y--	1. x % 10 2. x / 10 3. (x / 10) % 10 4. x /100 5. (x / 100) 10

C. If originally x=1, y=3 and z=0, what is the value of x, y and z after executing the following code?

```
switch(x)
{
case 0 :  x =2;
          y =3;
case 1:    x=4;
break;
default:
          y =3;
          x= 1;
}
```

UNIT - III

5. a) What would be printed by the following program? CO3 (04)

```
#include<stdio.h>
int main()
{
int list[10]={2,1,2,1,1,2,3,2,1,2};
printf("%d\n", list [2]);
printf("%d\n", list [list [2]] );
printf("%d\n", list[ list [2]+ list [3]] );
printf("%d\n", list[ list [ list [2]]] );
return 0;
}
```

b) Write a C program to find whether a given number is prime or not using function, without argument and without return type. CO3 (08)

c) Write a C program to search an element in an array using binary search. CO3 (08)

6. a) What would be printed by the following program? CO3 (04)

```
#include<stdio.h>
int main()
{
inti;
int list[10]={2,1,2,4,1,2,0,2,1,2};
int line[10];

for(i=0; i<10; i++)
line[i] = list[9-i];

for(i=0; i<10; i++)
printf("%d %d \n", list[i],line[i] );
return 0;
}
```

b) Write a C program to read N elements into an array and sort them in ascending order using bubble sorting technique. CO3 (08)

c) Write a C program to read two number, Find its GCD and LCM using function with arguments and without return type. CO3 (08)

UNIT- IV

7.	a)	Write a program to swap two numbers using call-by-value and call-by-reference techniques.	CO4	(08)
	b)	Explain the storage classes in c with example programs.	CO4	(06)
	c)	Define String? how to declare and initialize string explain with an example?	CO4	(06)
8.	a)	Discuss about String handling function with examples?	CO4	(06)
	b)	Bring out the difference between local, global and static variables.	CO4	(06)
	c)	Define pointer with declaration. Write a C program to find the sum, mean and standard deviation of N elements in an array using pointer.	CO4	(08)

UNIT - V

9.	a)	What is structure? Explain the C syntax of structure declaration with example.	CO3	(05)
	b)	Write a C program to create structure with five student's details and display the same.	CO3	(05)
	c)	What is a file? Discuss about the various modes in which a file can be opened in C language. What are the functions associated with opening and closing a file in C language?	CO5	(10)
10.	a)	Differentiate between union and structure.	CO3	(05)
	b)	Write a program to illustrate array of structures.	CO3	(10)
	c)	Write a C program to copy the contents from one file to another file.	CO5	(05)

****