

Registration No. :

--	--	--	--	--	--	--	--	--	--

Total number of printed pages – 3

B. Tech
BE 2105

First Year Special Examination – 2014

PROGRAMMING IN 'C'

BRANCH(S) : AEIE, AUTO, BIOTECH, CHEM, CIVIL, CSE, EC,
EEE, ELECTRICAL, ENV, ETC, FASHION, IEE, IT, MECH, MM,
MME, PLASTIC, TEXTILE

QUESTION CODE : G 574

Full Marks – 70

Time : 3 Hours

Answer Question No. 1 which is compulsory and any five from the rest.

The figures in the right-hand margin indicate marks.

1. Answer the following questions : 2 × 10
- (a) What are the different types of floating point constants ?
- (b) What are various primary data types used in C language ?
- (c) How do you declare an array of 10 pointers pointing to integers ?
- (d) What is a pointer ?
- (e) What will be output if you will compile and execute the following c code ?
- ```
void main(){
int a=9,b=10,c=12;
if(a<b<c)
printf("True");
else
printf("False");
}
```
- (f) Find the output of the following program :
- ```
void main() {
int i=15;
if(--i){
main();
printf("%d ",i);
}
}
```

P.T.O.

(g) Find the output of the following :

```
int main()
{
int x, y, z;
    x=y=z=1;
    z = x++ && ++y && --z;
printf("x=%d, y=%d, z=%d\n", x, y, z);
return 0;}
```

(h) Give an example to illustrate the concept of self referential structure in C.

(i) Find the output of the following program :

```
main()
{
char *p;
int *q;
float *r;
printf("%f %f %f' sizeof(p),sizeof(q),size(r));
}
```

(j) Find the output of the following :

```
void main() { int a[]={1,2,3,4,5,6}; int *ptr=a+2;
printf("%d",*--ptr);
}
```

2. (a) Write a C function that computes mean of an interger array. 5
(b) Write a C Program to find the ⁿth largest element of a given array. 5
3. (a) Write a C function that searches for value key in a a 2D array of size 6 by 5. The function should return the row # and col# of location the value was found at if found and return -1 if not found. The function returns these two valeus using arguments passed by reference. 5
(b) Write a C function that computes that maximum of a specific row R in a 2D array of size 6 by 5. 5
4. Write a C Program that declares 3 arrays of size 4 by 3 and type integer. Your program should read the values of the first two arrays add the two arrays values and store the results in a third array. Declare function to read the array values, use the function twice. Declare another function to add two arrays and store the result in a third one. 10

5. (a) Write a C function that has three inputs which are integers. The function returns true if the first number raised to the power of the second number equals the third number. 5
- (b) Develop a flowchart to check whether a given year is a leap year or not. Write the equivalent program for the same. 5
6. (a) Explain the complete syntax of a command line arguments used program with example. 4
- (b) Write a program that reads integer file and displays the sum of all integers on the screen. 6
7. (a) Write a program to find the largest element among a set of n elements of an array using **realloc** and **free** functions. 5
- (b) Write a C-program to create data for 10 students (roll, name, mark1, mark2, mark3, termmark) using union and then find the total marks for each student and average mark of all students. 5
8. Write short notes on the following (any **two**) : 5×2
- (a) Write the syntax of opening a file
- (b) Call by value
- (c) Function Prototype
- (d) Conditional Operator(?) in C using an example.