

Registration No. :

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Total number of printed pages – 4

B. Tech
BE 2105

First Semester (Back/Special) Examination – 2013

PROGRAMMING IN C

BRANCH : AEIE,AERO,AUTO,BIOMED, BIOTECH, CHEM, CIVIL, CSE, EC, EEE,
EIE, ELECTRICAL, ETC, FASHION, FAT, IEE, IT, MANUFACT, MANUTECH,
MECH, MINERAL, MINING, MM, MME, PLASTIC, TEXTILE

QUESTION CODE : D 165

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 integer constants ?
 - (b) What are various data types used in C language ?
 - (c) How do you declare an array of 10 pointers pointing to integers ?
 - (d) How are logical operators written in C ?
 - (e) What will be output if you will compile and execute the following c code ?

```
void main(){  
int a=10,b=10,c=10;  
if(a==b==c )  
printf("True");  
else  
printf("False");  
}
```



P.T.O.

- (f) Find the output of the following program :

```
void main() {
static int i=15;
if(i--){
main();
printf(“%d “,i);
}
}
```

- (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 structures in C.

- (i) Find the output of the following program :

```
main()
{
char *p;
int *q;
float *r;
printf(“%d %d %d “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 that maximum of a 2D array of size 6 by 5. 5
- (b) Write a C Program to find the second largest element of a given array. 5
3. (a) Write a C function that searches for value key in 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 values 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 a line of text from a data file character by character and displays the text on the screen. 6
7. (a) Write a program to find the largest element among a set of n elements of an array using **malloc** and **calloc** functions. 5
- (b) Write a C-program to create data for 50 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 any **two** of the following :

5×2

(a) Command line arguments

(b) Call by reference

(c) Function Prototype

(d) Switch-case structure

