**B.E / B. Tech. Degree Examination, May 2014**

**GE6151 – Computer Programming**

**(Common to all branches)**

**(Regulation 2013)**

**Time : Three hours Maximum : 100 Marks**

**PART A (10x2=20marks)**

**1. Convert the binary number 110 100 111 101 to octal.**

(110 100 111 101)2 = (6475)8

**2. Draw a flow chart to find the bigger of two numbers.**

Read A, B

No

Yes

If A>B

Print B

Print A

**3. List a different data types available in C.**

|  |  |  |  |
| --- | --- | --- | --- |
| C Data Types | | | |
| **Primary** | **User Defined** | **Derived** | **Empty** |
| Char  int  float  double | typedef | arrays  pointers  structures  union | void |

**4. Write a C program to find factorial of a given number using iteration.**

Refer Appendix – I, Ex. 7

**5. Write example code to declare two dimensional arrays.**

int a[3][2], b[3][3];

Here a[3][2] means , array ‘a’ contains 3 rows and 2 columns. So totally (3\*2) 6 data in the table. Similarly array ‘b’ contains 3 rows and 3 columns. Totally 9 data in the table. Two dimensional arrays are used to handle matrix elements conveniently.

**6. List any four string handling functions.**

1.int strlen(string\_var) to compute the length of the string, not counting null character

2.strcpy(dst\_string,src\_string) to copy a source string into destination string

3.int strcmp(str1,str2) to compare str1 with str2

4.strcat(dst\_string,src\_string) to append copy of the source string at the end of destination string

**7. Define Recursion.**

When a function calls itself then it is called recursive function or function recursion. Recursive function must include a conditional statement, which force to exit from the execution of body of the recursive function. Otherwise the function will never stop its execution.

**8. What is the difference between pass by value and pass by reference?**

**call by value :**call by value means programmer send some value coping from one function to another. At the time of function calling a programmer can send a copy of variable of value.  
**call by referance :**  
it means sending sending the address of variable to the called function means a user can send the address of variable.

**9. What is the purpose of Unions in C?**

Memory allocation is done for the data member which requires maximum allocations. Hence Less memory space is needed. Hence Union is used in C Programming.

**10. What is the purpose of pre-processor directives?**

The preprocessor examines the code before actual compilation of code begins and resolves all these directives before any code is actually generated by regular statements.

These lines are not program statements but directives for the preprocessor.

**PART B (5x16=80marks)**

11. (a) (i) Discuss about Generation of digital computer. (10)

**Refer 1.5.**

(ii) Draw a flow chart to find the factorial of a number. (6)

**Refer 5.2.**

Or

(b) (i) Explain the basic organization of a computer. (10)

**Refer 2.1.**

(ii) Draw a flow chart to find the sum of first 100 natural numbers. (6)

Read n

I=1,sum=0

If i <=n

Sum=sum + i

Print sum

12. (a) (i) Write a program to check whether a given number is prime or not. (8)

#include<stdio.h>

int main()

{

    int num,i,count=0;

    printf("Enter a number: ");

    scanf("%d",&num);

    for(i=2;i<=num/2;i++){

        if(num%i==0){

         count++;

            break;

        }

    }

   if(count==0 && num!= 1)

        printf("%d is a prime number",num);

   else

      printf("%d is not a prime number",num);

   return 0;

}

(ii) Write a C program to find the sum of the digits of an integer. (8) **Refer Appendix – I, Ex. 13**

Or

(b) (i) Write a C program to find the roots of the quadratic equation. (8)

**Refer Appendix – I, Ex. 47**

(ii) Differentiate entry and exit checked conditional constructs with an example (8). **Refer 11.1.**

13. (a) (i) Explain the concept of pass by reference with suitable example. (8)

**Refer 14.7.**

(ii) Write a C program to find the factorial of a number using recursion. (8)

**Refer 14.9.**

Or

(b) (i) Write a C program to swap the content of two variables using pointers.(8)

**Refer Appendix – I, Ex. 13**

(ii) Explain the use of pointers in arrays with examples. (8)

**Refer 10.10**

14. (a) Write a C program to arrange the numbers in ascending order. (16) **Refer Appendix – I, Ex. 18**

Or

(b) Write a C program to subtract two matrices and display the resultant matrix. (16)  **Refer 12.9. 1.** .

15. (a) Explain the concept of storage classes with suitable example. (16)

**Refer 17.1.**

Or

(b) Write a C program to store the employee’s information using structure and search a particular employee using Employee Number. (16)

#include<stdio.h>  
#include<conio.h>  
struct emp  
{  
 int empno;  
 char ename[10];  
 int esal;  
} ;  
main()  
{  
    struct emp e[10];  
    int n,i, eno, c =0;  
    clrscr();  
    printf("\n How many records");  
    scanf("%d",&n);  
    printf("\n Enter the records");  
    for(i=0;i<n;i++)  
    scanf("%d%s%d",&e[i].empno,e[i].ename,&e[i].esal);  
     printf("\n Enter Employee No. to search:");

    scanf("%d",&eno);  
    for(i=0;i<n;i++)

{

if(eno == e[i].empno)

{   
    printf("\n %d\n %s\n %d",e[i].empno,e[i].ename,e[i].esal);

c = c+1;

}

}

if (c<=0)

printf( “ No Record Found”);  
    getch();  
}