**Anna University Solved Question Papers**

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

**GE6151 – Computer Programming**

**(Common to all branches)**

**(Regulation 2013)**

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

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

1. **List some important hardware and software technologies of fifth generation computers.**

* Magnetic drums were used for memory.
* Computers were difficult to program since they used machine language.
* Punch cards and paper tapes were used as inputs and output was displayed on printouts.

1. **Write two characteristics of pseudo code.**

* Since it is independent of any language, it can be used by most programmers.
* It is easy to develop a program from pseudo code than with a flowchart.
* It is easy to translate pseudo code into a programming language.
* Pseudo code is compact and does not tend to run over many pages.

1. **What are the various types of C operators?**

Arithmetic Operators

Relational Operators

Logical Operators

Assignment Operator

Increment & decrement Operator

Conditional Operator

Bitwise Operator

Special Operator

1. **Write a for loop statement to print numbers from 10 to 1.**

#include<stdio.h>

main()

{

int i;

for(i=10; i<=1; i--)

{

printf(“%d”, i);

}

1. **Define Array.**

An array is a derived data type. It is a collection of data elements of similar data type under a common name. Each element in the collection is indentified by an index. The data elements are stored in contiguous memory location.

**General syntax for array:**

**datatype array\_name[n]**

Ex int a[10];

1. **Name any two library functions used for string handling.**

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. What is the need for functions?**

* + Functions are sub programs which performs a specific task
  + Functions support modularity in software engineering. That is, a complex problem is divided into easily manageable modules of functions
  + Similarly repetitive operations are specified within the function only once and it can be invoked in several places. So functions are used to reduce the length of the program.

**8. What are the uses of pointers?**

* Pointers save the memory space.
* Execution time with pointer is faster because data is manipulated with the address.
* The memory is accessed efficiently with the pointers.
* Dynamically, memory is allocated.
* Pointers are useful for representing two-dimensional and multi-dimensional arrays.

**9. Write any two preprocessor directives in C.**

#include

#define

#ifdef

#ifndef

#pragma

**10. Differentiate between structure and union.**

|  |  |  |
| --- | --- | --- |
| **S.No** | **Structure** | **Union** |
| 1. | The keyword is struct. | The keyword is union. |
| 2. | Memory allocation is done for all the data members in the structures.  **Example.**  struct student  {  int rollno;  char name[5];  }s1;  The memory allocation is 7 Bytes. | Memory allocation is done for the data member which requires maximum allocations.  **Example:**  union student  {  int rollno;  char name[5];  }  The memory allocation is 5 Bytes |
| 3. | All the data members are available in the primary memory at any time of execution. | Only the last stored data element is available in the primary memory at any time of execution. |
| 4. | Since memory is allocated for all the data members, no data is deleted in the primary memory | Since memory is not allocated for all the data member, only one data is available and other data is deleted from the primary memory |

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

11.(a) Write in detail about the evolution and the various generations of computers. (16) **Refer 1.4 & 1.5.**

Or

11.(b)Explain the basic computer organization using a neat diagram. (16) **Refer 2.1.**

12.(a)Write about the need and types of looping statements in C language and discuss with examples (16) **Refer 11.1, 11.2,11.3 &11.4.**

Or

12.(b)Write about the need and types of branching statements in C language and discuss with examples. (16)  **Refer 10.1 & 10.2.**

13.(a) (i)Write a C program to reverse a string. (8) **Refer Appendix – I, Ex. 45**

(ii)Write a C program to print the Fibonacci series of a given number. (8)

#include<stdio.h>

 int main()

{

int n, first = 0, second = 1, next, c;

printf("Enter the number of terms**\n**");

scanf("%d",&n);

printf("First %d terms of Fibonacci series are :-**\n**",n);

for ( c = 0 ; c < n ; c++ )

{

if ( c <= 1 )

next = c;

else

{

next = first + second;

first = second;

second = next;

}

printf("%d**\n**",next);

}

return 0;

}

Or

13.(b)Write a C program to print the sum of two matrices. (16)

**Refer Appendix – I, Ex. 45 & 14.10.**

14(a) Explain the following with suitable examples

(i)Function declaration. (8)

(ii)Call by reference,Call by value. (8) **Refer 14.7.**

Or

14.(b)(i)Explain function with and without arguments with examples for each. (10) **Refer 14.6.**

(ii)What is recursion? Give an example. (6)

**Refer 14.9.**

15.(a)(i)What is storage class? List and explain with example. (8)

**Refer 17.1.**

(ii)Define and declare a structure to store date, which including day, month and year.(8)

#include<stdio.h>  
#include<conio.h>  
struct date  
{  
 int day;  
 int month;  
 int year;  
};  
  
void main()  
{  
 struct date d1;  
 clrscr();  
 printf("Enter  date(dd/mm/yyyy):");  
 scanf("%d%d%d",&d1.day,&d1.month,&d1.year);  
 printf("\nYour Date is : %d%d%d",d1.day,d1.month,d1.year");  
 getch();  
}

Or

15.(b)Write a C program to create a mark sheet for students using structure. (16) **Refer 16.2.**