PROGRAMMING IN C

TWO MARKS

UNIT-1

1. **Define c:**

***C** is a structured programming language.

*c was developed in 1970s by Dennis Ritchie at bell telephone labarotries.

2.**what are character set?**

1.letters

2.digits

3.special characters

4.white space

3.**define c tokens:**

The smallest individual units are known as c tokens.

4.**define constant:**

Constants are fixed values that do not change during the execution of the program.

5.**what is identifier?**

Identifiers are referring to the names of variables, functions and arrays. These are the user -defined names.

6.**define string constants:**

A string constant is a sequence of character enclosed in double quotes.

Example: "hello"

7.**what is variable?**

A variable is data name that may be used to store the value.

8.**define data type and their types:**

C language is rich in its data type. There are four types :

Primary or fundamental data type

Derived data type

User defined data type

Empty data type

9.**define void:**

Void is an empty data type. It returns nothing. The void type has no value.

10.**define operators:**

An operator is a symbol that is to perform mathematical or logical manipulation. It is used in program to manipulate data and variables.

11.**what is called associativity?**

If two operators with the same precedence occur in an expression. The order in which they are executed is called aasociativity.

12.**define type conversion:**

The operands are different types in the expression. The lower type is automatically converted to the higher type before the operation proceeds.

13.**define type caste Operators:**

The process of such local conversion of variable is known as casting value or type modifier or type caste operator.

14.**define expressions:**

The combination of operand and operators form the expression.

The operand may be variable or constants.

UNIT-2

1.define scan f() function:

Scan f () function is used to read the value from the input device.

2.**define print f () function:**

Print f ()function is used to display data on the monitor.

3.**define decision making statement:**

These statements are used to execute particular set of instruction for based on certain condition.

Ex:if, if else, nested if, if else if ladder, switch.

4.**define looping statement :**

Looping statement are used to execute a group of instruction repeatedly at till some condition is satisfied.

Example: while, do while, for loop.

5.**define unconditional statement:**

This condition is used to transfer the control to other statement without checking any condition.

Example : goto, break.

6.**define simple if statement:**

It is used to execute some statements for a particular condition.

7.**define switch statement :**

Switch statement is the simple form of if.…else….. If ladder construct. Switch statement is a multi branch decision statement.

8.**define for statement :**

The for loop is entry controlled loop that provides a more concise loop control structure.

9.**define goto statement:**

Goto statement can transfer the control to any place in a program. It is useful to provide branching within a loop.

10.**define break statement:**

Break statement exit from the loop can be accomplished by using the break statement.

11.**define exit statement:**

It is used to terminate the program it is same as break statement.

12.**what is getchar() :**

Getchar () function is used to read one character at a time from the standard input device.

13.**define putchar() :**

Single character can be displayed using the function putchar(). The function putchar() stands for "putchar"and uses an argument.

UNIT-3

1.define array:

An array is a group of related data items that share a common name.

2.**how many types of array:**

There are three types of arrays.

They are:

One dimensional array

Two dimensional array

Multi dimensional array.

3.**write a initialization of array?**

The general form of declaring the array during the initialization is

Datatype arrayname[size]={ list of values};

The Values in the list are separated by commas.

4.**define two dimensional array:**

A two dimensional array can be represented with two pairs of square bracket. The two dimensional array also called matrix or a table.

5.**define multi dimensional array:**

An array of three or more dimensional is called as multi dimensional array.

6.**define string:**

A group of character can be stored in a character array.

Character array are called as strings.

7.**define string handling functions and it's meaning:**

The c library has a large number of string handling functions. These functions are used to carry out many of the string manipulations.

Functions	Meaning
Strcat()	Concatnates two strings
Strcmp()	Compare two strings
Strcpy()	Copies one string over another
Strlen()	Find the length of a string

8.**define functions:**

A function is a self contained program segment that performs a particular task.

They are classified into two types:

1.pre defined functions

2.user defined functions.

9.define return statement:

Information is returned from the function to the calling program through a return statement.

10.**define actual argument:**

The arguments used in calling function are called actual argument.

The actual and formal arguments should match in number, type and order.

11.define recursion:

A recursion is a function that calls by itself repeatedly until some specified condition has been satisfied. Recursion is also called as circular definition.

12.**define static variable:**

A static variable may be either an internal or an external type depending on the place of declaration.

13.**define register variable:**

A variable should be kept in one of the machine's register instead of keeping in the memory.

14.**define automatic variable:**

A variable declared inside a function without storage class specification is called as automatic variable.

15.**define external variable:**

External variable are active throughout the program execution. They also known as global variables.

UNIT-4

1.Define structure:

A structure can be used to represent a collection of data items of different types using single name. It is a compound type.

2.define defining structure:

Struct tag-name

{

Data -type member1;

Data -type member2;

…. . …

… .. …

Data – type membern;

};

3.define variable declaration:

The complier does not reserve memory space. When the structure is declared so memory is reserved only a variable of this type is definned.

4.define union:

Union is another compound data type like structure. Union is used to minimize memory utilization.

5.define pointer:

A pointer is a variable that is to store the address of another variable. It's value is also stored in the memory in another location.

6.**write a declaration of pointer:**

The general form of declaring a pointer variable is

Data-type * pointer-name;

7.**define a file:**

Collection of record is called a file.

Information has to be written or read from auxiliary device.

8.**write a basic file:**

Opening a file

Reading a file

Writing a file

Closing a file.

9.write a file input functions:

fscanf

fgetc

fgets

fread

10.write a file output functions:

fprintf

fputc

fputs

fwrite

UNIT-5

1.define dynamic memory allocation:

The process of allocating memory at run time is known as dynamic memory allocation.

2.**define malloc() :**

A block of memory may be allocated using the function malloc.

Ptr=(cast-type*) malloc(byte size) ;

3.define free() :

This function is used to deallocate the memory. The storage is limited.

free(pointer variable) ;

4.define calloc() :

Malloc () is used to allocate single block of memory. It allocate multiple blocks of storage.

P=(cast-type*) calloc(number of blocks, block size) ;

5.define realloc() :

This function is used to change the memory size previously allocated. This space may be increased or decreased.

Ptr=realloc(pointer variable name, new size) ;

6.define linked list:

It refers to a set items organized sequentially. An array is an example of the list. We use the index for accessing and manipulation of array.

7. **types of linked list:**

There are three types of linked list:

Circular linked list

Two way or doubly linked list

Circular doubly linked list

8.**write a advantages of linked list:**

Linked List is Dynamic data Structure .

Linked List can grow and shrink during run time.

Insertion and Deletion Operations are Easier.

Efficient Memory Utilization ,i.e no need to pre-allocate memory.

Faster Access time,can be expanded in constant time without memory overhead.

9.**write a limitations of linked list:**

They use more memory than arrays because of the storage used by their pointers.

Difficulties arise in linked lists when it comes to reverse traversing. …

Nodes in a linked list must be read in order from the beginning as linked lists are inherently sequential access.

10.**define pre processor:**

The preprocessor is a macro processor that is used automatically by the **C** compiler to transform your program before actual compilation. It is called a macro processor .