



**POLLACHI INSTITUTE OF ENGINEERING AND  
TECHNOLOGY**

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**Degree/ Branch: B. E / Common to all Branch**

**Semester/ Year: I / I**

**Subject Code / Name: GE2112/ Fundamentals of Computing and Programming**

(Question Bank)

**UNIT V : FUNCTIONS AND POINTERS**

**Part A (2 marks for each question)**

1. **What is the main process of variable?**

Variables are used to allocate the memory.

2. **Define array and write down the syntax?**

An array is a collection of individual data element represented in the same datatype.

Syntax: datatypearrayname[(index expression)]= {value 1,2,2...n}

Or

Data type arrayname[size]

3. **What are the types present in array?**

One dimensional array

Two dimensional array

Three(or) multidimensional array

4. **What do you mean by size of an array?**

One dimensional array declaration is a data type followed by an identifier with a bracket constant integral expression. The value of the expression must be positive, is called size of the array.

**5. Define string and its standard function?**

A group of characters, digits and symbols enclosed within quotation marks are called as string. The string is always declared as character array. Every string is terminated with the NULL character, formally specifies % S.

**6. What is the use of strlen() function?**

This function counts and returns the number of character in a string. Ex.

```
N=strlen(string);
```

n is an integer variable, receive the value of the length of the string.

**7. Write down the main process of strcat() function.**

This function joins two string together .

```
Syntax: strcat(string1, string 2);
```

**8. What is main work for strcpy() function.**

This function works likae a string assignment operation.

```
Syntax: strcpy(string 1, string 2);
```

**9. Write down the process strcmp() function**

This function compares two strings. It returns integer value.

```
Syntax: d=strcmp(string1, string2);
```

**10. Define function**

A function is a self-contained block or a subprogram of one or more statements that performs a special task when called.

**11. What is the use of function?**

If we want to perform a task repetitively not necessary to write the task again & again in the program. we write the task within the (user defined) function and call this function many number of time.

Large programs can be reduced to smaller ones. It is easy to debug & find out the errors, and also increase the readability.

**12. How to declare a function? Write the syntax.**

```
Datatype function_name(arguments/parameter list)
```

```
{
```

```
Local variable declaration;
```

```
Statement 1;
```

```
Statement 2;
```

```
Return(value);
```

```
}
```

**13. What do you mean calling function & called function.**

The function is called from the another function. The parent function is called “calling function”. The function, which is called from the parent function is referred as “called function”.

**14. What are the types of variable?**

Local variable

Global variable

**15. Write down about the local variable.**

The variable are defined within the body of the function or block. Other functions cn not access these variables.

Eg:

Addition (int a, int b)

{

Int a,b;

-----

}

**16. Write down about the local variable.**

This variable are declared outside of the main function.

Eg:

Int b,c,d;

```
Main()
```

```
{
```

```
- - - - -
```

```
- - - - -
```

```
}
```

Integer variable b,c,d re global variable. These are used by all the function.\

### 17. Describe about prototypes.

A function prototype declaration consist of the function's

Return type

Name

Argument list

The function prototype always terminated by semicolon.

Float sum (float, int);

Float multiplication(float x, int y);

### 18. What are the types of function?

1. Without arguments & return value;
2. With arguments but without return values;
3. With arguments and return values
4. Without arguments but with return values.

**19. Describe about call by value.**

The value of actual arguments are passed to the formal arguments and the operation is done on the formal arguments. Any change made in the formal argument does not affect the actual arguments. This method is one way communication.

**20. Define Call By Reference**

The change made in the arguments are permanent, instead of value, addresses(reference)are passed. The function operates on addresses rather than value.

**21. What do you mean by recursion function.**

A function is called repetitively by itself, and it can be used directly or indirectly. Direct recursion function calls itself till the condition is true. In indirect recursion, a function calls another function, then the called function calls the calling function.

**22. Write about the storage class of variable.**

The variable name is associated with a memory location within the computer where the value assigned to the variable. During the execution of the program, these variables may be stored in the register of the primary memory .

**23. Describe structure.**

A Structure is a data type suitable for grouping data elements together. Lets create a new data structure suitable for storing the date. The elements or fields which make up the structure use the four basic data types.

```

struct date
{
int month;
int day;
int year;
};

```

#### 24. Write about Nested Structure.

A structure can be placed within another structure or structures can contain other structures as members. A structure within a structure is called nested structure.

#### 25. Define union.

A union is the collection of variable which share the same (storage) memory. The memory allocated to a union is sufficient to hold its large member. At any given time only one member of union reside in that storage.

Syntax:

```

Union union_name
{
Member1;
Member2;
}
Variable1, variable2....N;

```

#### 26. Compare the array and structure.

<b>Array</b>	<b>Structure</b>
It is a collection of data item of same data type	It is a collection of data item of different data type
No keyword to mention the array datatype	<i>Struct</i> keyword is used to declare structure
The initialization of array elements are	The initialization of structure members

allowed during declaration time itself.

Syntax:

Datatype variable\_name[inde];

are not allowed during declaration, but in definition it is allowed.

Syntax:

Struct struct\_name

{

Datatype variable\_name1;..n;

...

...

...

..}

Struct\_variable;

## 27. Compare structure and union.

### Structure

Every member has its own memory

It handle all the member at a time

Keyword struct is used

More storage space is required

### Union

The same memory is used to store all members

It handle one member at a time

Keyword union is used

Conservation of memory is possible .

## 28. What do you mean by pointer?

It is a variable, that represent the memory address of another variable. The pointer does not represent the value stored in the variable.

Syntax:

Int \*x;

Int \*y;

Int \*z;

**29. Define preprocessor directives.**

Preprocessor directives are used to specify special instruction in a program which are processed before the actual program is executed. It is recognized by hash sign (#) placed before them. Semicolon is not placed to next line.

**30. Mention the categories of preprocessor directives.**

1. Macro substitution directives
2. File inclusion directives
3. Compiler control directives

**31. What are the advantage of preprocessor directives.**

1. It improves the readability of program.
2. It makes program modification easier.
3. It enables easier debugging.
4. It helps in developing generalized programs.

**32. What are the dis-advantages of preprocessor directives.**

1. Parenthesis of the macro arguments missing in the macro body.
2. Conflicts of local variables.

1. Explain the function (i) strlen() (ii) strcpy() (iii) strcat() (iv) strcmp() with example.
2. Describe with example (i) declaration a structure (ii) pointer to multi dimensional array (iii) union.
3. Explain the following concepts with an example,
  - (i) Call by value
  - (ii) Call by reference
4. Write a 'C' program to arrange an array of numbers in Ascending order.
5. a. Explain about the different parameter passing methods with examples.  
b. write short notes on storage classes in C.
6. Explain about structures, unions and pointer with suitable example.
7. Describe the different types of operator available in C with example
8. What is a preprocessor in C language? Explain with any one example.
9. Discuss the categories of function in C.
10. Write a C program to check whether the given number is even or odd.