MOTHER TERASA COLLEGE OF ARTS AND SCIENCE

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MICROPROCESSOR AND C - PROGRAMING

Major: III-Physics

1. Define hardware?

The physical parts of the computer are called hardware.

Ex: Monitor, printer

2. Define software?

A set of instruction given to the computer are called software.

Ex: antivirus, c, c++

3. What is a firm ware in computer?

Firmware is a software program or set of instruction programmed in on a hardware device.

Firmware is typically stored in the flash ROM of a hardware device.

4. What are buses in a computer?

A bus is defined as the set of physical connection (cables, printed circuits) which can be shared by multiple hardware components in order to communicate with one another.

5. Define semiconductor memory?

The semiconductor memory is a static device which is very small, fast and consumes less power. This access time is 50μs.

6. What are Addressing modes?

Each instruction require certain data on which it has to operate this is known as addressing modes

7. Define Register addressing?

Here the operand will be gentral purposes register. The address of the register s along with the operation will be performed

Ex: MOVA, B

Here the content of the memory was moved to the accumulator.

8. What is the function of $\overline{Rd}$ and $\overline{WR}$?

$\overline{Rd}$:

It perform Read operation which is a output signal .When the signal goes to low aselected memory or IO device is read.

$\overline{WR}$:

It performs write operation and when it goes to low. The selected memory or IO device is written.

9. What are data transfer group?

Each data will be transfer in to memory to memory, register to memory or memory to register.

Ex: MOV r_1, r_2

MOVr, m

10. Define interrupts?

An interrupt is a signal to the processor emitted by hardware or software indicating an event that needs immediate attention

11. Subtract $(11101)_2$-$(10011)_2$ =?

11101

100110
_____

01010 $\longrightarrow$ 0A

12. Devide $(101101)_2$ % $(101)_2$=?

```
                1001
        ┌─────────────
    101 │ 101101
        │ 101
          ───────────
            000101
                101
          ───────────
                000
```

13. Define operator?

An operator is a symbol that tells the compiler to perform a certain mathematical or logical manipulation. Operator are used in programs to manipulate the data and variables.

14. What is bitwise operator?

Bitwise operators perform manipulations of data at bit level. These operator also perform shifting of bit from right to left. Bitwise operators are not applied for float or double

Operator	Description
&	Bitwise AND
|	Bitwise OR
^	Bitwise exclusive OR
<<	Left shift

15. Define variable?

A variable is nothing but name given to a storage area .Each variable in c has a specific type, which determines the size and layout of the variable's memory the range of the values that can be stored within that memory and the set of operations that can be applied to the variable.

16. .Define Constant?

Constant is a fixed values that are used in a program and its values remains same during the entire execution of the program. Constants are also literals.

17. What are increment and decrement operators?

Increment ++ and decrement – to change the values of an operand (constand and variables) by 1. Increment ++ increases the value by 1 whereas decrement – decreses the value by 1. These type operators are unary operators, meaning they only operate on a single operand.

18. Define Array

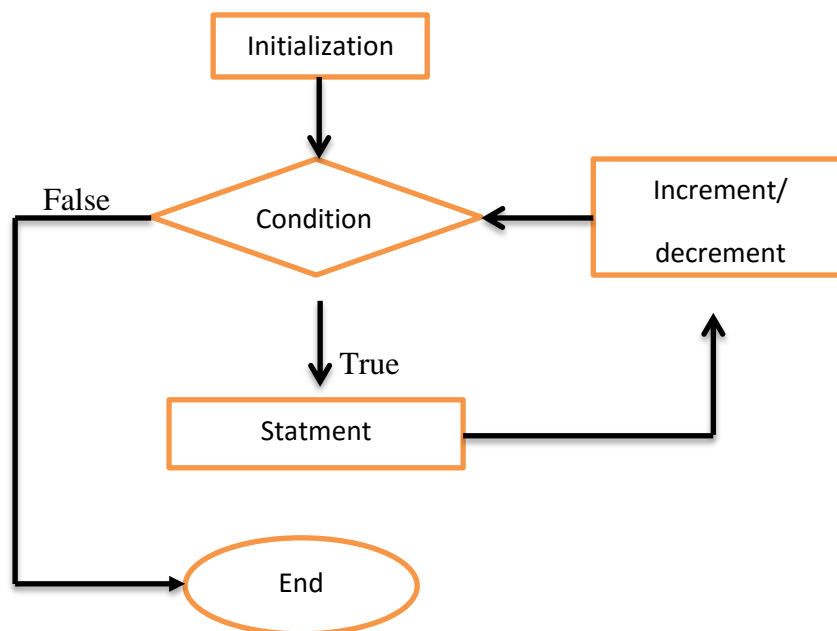An array is a collection data items, all of the same type accessed using a common name.

Syntax:

Data type variable name [size];

19. What is a for loop?

A for loop enables a particular set of condition is satisfied.

Flow chart:

```
              ┌──────────────────┐
              │  Initialization  │
              └────────┬─────────┘
                       │
                       ▼
  False          ◇ Condition ◇ ◄──────┐ Increment/
  ┌──────────────                     │ decrement
  │                    │              │
  │                    ▼ True         │
  │              ┌──────────┐         │
  │              │ Statment │─────────┘
  │              └──────────┘
  │
  ▼
 ( End )
```

20. Difference between While-Dowhile loop

While	Do-while
Entry controlled loop whether the condition specified is true before executing the statementsin in the body of the loop	Exit controlled loop the condition after executingthe body of the loop
Doesn't executesevenonce if the condition is false	Executes atleast once even if the condition is false
No semicolon at the end of the loop	semicolon is required at end of the loop

Syntax:
while(i<=0)
{
i=i%10;
}
	Syntax:
	Do
	{
	i=i%10;
	}while(i<=0);

21. What is If statement?

If the condition is true, the statement inside if the statement are executed, otherwise they are skipped

Syntax:

If (condition)

{

Statements;

-·-·-·-·-·-·-·-·-·-

}