CCA - 101 : Fundamentals of IT & Programming.

Q1. What are the four fundamental parts of computer?

Ans: The four fundamental parts of Computer are :-

(i) Central processing unit [CPU]
(ii) Memory (RAM) also known as Volatile Memory.
(iii) Input [keyboard, Mouse etc.]
(iv) Output [Monitor, printer etc.]

Q2. Discuss about the classification of Computer based on size & capacity.

Ans: On the basis of size there are 4 types of computer :-

(i) Mini computer :-> A Mini computer is a medium sized computer More powerful than Micro-computer
Example :- Digital Alpha, Sun Ultra.

(ii) Micro computer :-> A Micro computer is the smallest general purpose processing system.
Example :- Apple Computers, PCs, Notebooks etc.
It is 2 types :-
-> Desktops
-> Portables.

(iii) Mainframe Computer :-> Computer with large storage capacities and very high speed of processing

Example :- IBM 370, 51390.

(iv) Super Computer :- Supercomputer have extrem large storage capacity and computing speeds which are many times faster than other Computer.
Example :- IBM Deep Blue.

Q2. What is the Meaning of Computer generation How Many Computer Generation are defined? What technologies were / are used?

Ans: History of Computer can be Considered from arise of human culture as person known as Calculation.
Roman's abcaus is first device used in B.C for Calculation. The Electronic Numerical Integrator and Calculator [ENIAC] first general purpose, digital electronic Computer.

Generation of Computer :-

(i) First Generation (1945 - 1954) - It had been used vacuum tube technology make possible to do calculation.

(ii) Second Generation [1955 - 1964] :- It had been used Transistors which Made a Computer a little Concise & faster to do the same.

(iii) Third Generation (1965-1974) :- It had been used for Integrated Circuits. faster, Comparatively and reliable as well.

(iv) Fourth Generation (1975 till Date) :- It had been used Micro-processor inside to work for better Comparatively.

(v) Fifth Generation :- (Present & Next) Computer are assigned Automatic intelligence, they use Artifical intelligence.

Q4. Differentiate between Volatile & Non-Volatile Memories.

Ans:

Volatile Memory	Non-volatile Memory
(i) Data is present till power supply is present.	(i) Data remain even after power supply is Not Present.
(ii) volatile memory data is Not permanent.	(ii) Is permanent.
(iii) Faster than Non-Volatile Memory	(iii) Memory Access is slower.
(iv) Data transfer is easy.	(iv) Data transfer is difficult.
(v) less storage capacity.	(v) HDD has very high storage capacity.

Q5. Distinguish among system software, Application software and opensource software on the basis of their feature.

Ans:

System Software	Application software
(I) Maintain the system resources and give the path for Appli. software to Run.	(I) It is built for specific tasks.
(II) low level language are used to write	(II) High level language are used to write.
(III) Its a general purpose Software	(III) Specific purpose software.
(IV) Without system software, system can't run.	(IV) While without Applic software system alw runs.
Example :- Operating system etc	Example :- VLC pl photoshop etc

Q16. What is the difference between Machine language and High level language ?

Ans: Machine language, or Machine code, Consists of Binary Code and is the only language that is directly understood by the Computer. Both Machine code and Assembly language are hardware specific.

A high level language is a programming language that uses English and Mathematical Symbols in its instructions.
High Level language such as Swift and C++ must be Compiled into Machine language before the Code is run on a Computer.

Fundamental of IT & Programming.

Ans2

```
# include <studio.h>
main ( )
{
int a = 10;
int b = 20;
int c = 0;
c = a+b;

Print f ("Num 1% d/n Num 2% d/n Sum i/d",
                                    c);
{
```

Ans3

```
{
int x = 0;
int a = 20, b = 8, c = 4, d = 2;

Print f ("Expression %  ");
x = a / (b-c) * b-d;
Print ("Result % d", x);
```

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- Basic of Computer Network.

Basic Input output system [BIOS]
A Computer Network Collection of Computer & Device Connected by Communication Channel.
Computer Network Can be classified on the basis of following feature :-

(I) LAN (Local Area Network)
(II) WAN (Wide Area Network)

Purpose of Computer Network Can be used for several purpose :-

(I) Sharing Hardware
(II) Communication
(III) Sharing file data & Information
(IV) Sharing software.

LAN :- LAN is a Group of Computers located in the same rule on the same floor or building that are connected to form a single Computer Network they are limited to a specific geographical Area. usually has three 2Kmin Diameter.

WAN :- WAN is a digital Communication system which Interconnect different ~~side~~ site and user terminal. This type of Network May be developed to operate Natio wide or World wide

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The transmission media use in WAN are Normally public system such as telephone line, Micro-wave system and satellite length.

- ## BLUETOOTH

Bluetooth is a wireless personal Area Network (WPAN) technology from the bluetooth special interest Group founded in 1998 by Ericsion, Idiom, Nokia. It operate in the frequency band 0.45 Hz data transfer rate of bluetooth is 2.1 MBPS.

- ## WI-FI

Wi-fi is the local Area Network that uses High frequency radio signal to transmit and receive data over Distance of few 100 feet uses Ethernet protocol.

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Ans 4

```
#include <stdio.h>
void main() {

int dividend, divisor, quotient, remainder;
Printf("Enter dividend:");
Scanf("%d", &dividend);
Printf("Enter divisor:");
Scanf("%d", &divisor);

quotient = dividend / divisor;
remainder = dividend % divisor;

Printf("quotient = %d/n", quotient);
Printf("Remainder = %d", remainder);
```

Ans 5 Swap number without using temporary variables

```
#include <studio.h>
   void main() {
int n1, n2,
   n1 = 40;
   n2 = 10;
// swapping

n1 = n1 - n2;
n2 = n1 + n2;
n1 = n2 - n1;
```

```
Print f ("\n After swapping, n1 Number = %d", n2);
Print f ("\n  "  "  "  n2  "  "  n2);
 }
```

Ans6

```
#include <studio.h>
  void main () {
int n1, n2, n3, largest;
Print f ("Enter three different No.");
Scan f ("%d %d", &n1, &n2, &n3);

if (n1 > n2)
  largest = n1;
else
   largest = n2;
if (n3 >= largest)
     largest = n3;
Print f ("largest number is %d", &largest);
  }
```

Enter three Number 30 20 40
largest Number is 40

Ans7

```
#include <studio.h>
  void main () {
  int num;
  Print f ("Enter a Number:");
  Scan f ("%d", &Num);
  if (Num % 2) == =0) {
   Print f ("Even Number");
  else
   Print f ("odd Number");
```

Ans 8

```
#include <studio.h>
void main() {
int n, i;
Printf("Enter an integer:");
Scanf("%d", &n);
for (i = 1; i<=10; ++i) {
Printf("%d * %d = %d \n", n, i, n*i);
}
}
```

Ans 9

```
#include <studio.h>
void main() {
int i, n, t1=0, t2=1, nextTerm;
Printf("Enter the Number of terms;");
Scanf("%d", &n);
Printf("Fibonacci series");
For (i=1; <=n; ++i) {
Printf("%d ", t2);
Next Term = t1+t2;
t1 = t2;
t2 = Next Term;
}
}
```

Ans 10

```
#include <studio.h>
Void main() {
int n, Sum = 0, digit;
Printf("Enter an integer:");
Scanf("%d", &n);
```

```
while (n != 0) {
  digit = n % 10;
  sum = sum + digit;
  n = n / 10;
}
Printf ("Sum of the digit = %d", sum);
}
```

Ans 11:

```
# include <studio.h>
  void main () {
int n ; rev = 0; digit;
Printf ("Enter an integer :");
Scanf ("%d", &n);
while (n != 0) {
 rev = rev * 10 + digit;
  n = n / 10 ;
}
Printf ("Reversed Number = %d", rev);
}
```

Ans 12:

```
#include <studio.h>
  void main () {
  int num, i;
  Printf ("Enter a positive integer :");
  Scanf ("%d", & num);
  Printf ("Factors of %d are: ", num);
  for (i = 1; i <= num ; ++i) {
   if (num % i == 0) {
    Printf ("%d", i);
   }
```