Q1. What are the four fundamental parts of computer? Explain it with the help of diagram.

Solution1: **A computer is a fast system that is organized to accept, store, and process data and produce output results under the direction of a stored program of instructions.**

- **Input Devices: Computer systems use many devices for input purpose. Input devices include the mouse, input pen, touch screen, and microphone.**
- **Central Processing Unit (CPU) : It is the brain of the computer without this unit computer unable to process.**
- **Output device: Output device is used to show the result of the instructions. Example Monitor, printer, Headphones etc.**
- **Memory unit: A memory unit is the collection of storage units or devices together. The memory unit stores the binary information in the form of bits.**

Q2: Discuss about the classification of computers based on size and capacity.

Solutoin2: **Based on size and capacity, computers are classified as follows:**

- **Super Computers**
- **Mainframe Computers**
- **Mine Computers**
- **Micro Computer**

Super Computer: Supercomputer are the most powerful and physically the largest by size. These are systems designed to process huge amounts of data and the fastest supercomputers can perform over one trillion calculations in a second.

Mainframe computer: Mainframe computers are very large often filling an entire room and can process thousands of millions of instructions per second. In a mainframe environment, users connect to the mainframe through the many terminals wired to the mainframe.

Minicomputers: Minicomputers are much smaller than mainframes. These computers are also less expensive. Sometimes referred to as Midrange Server or Midrange computer, they are typically larger, more powerful and more expensive than desktop computers.

Microcomputers: Microcomputers are the most frequently used type of computer. Also, known as personal Computer (PC), a microcomputer is a small computer system designed to be used by one person at a time.

Q3: What is the meaning of computer generation? How many Computer Generations are defined? What technologies were/are used?

Solution3: Five Generations of Computers:

First Generation: Vacuum Tubes (1940-1956):

The first computer systems used vacuum tunes for circuitry and magnetic drums for memory, and were often enormous, taking up entire rooms. These computers were very expensive to operate and in addition to suing a great deal of electricity, the first computers generated a lot of heat, which was often the cause of malfunctions.

Second Generation: Transistors (1956-1963):

The transistor was far superior to the vacuum tube allowing computers to become smaller, faster, cheaper, more energy-efficient and more reliable than their first-generation predecessors. Though the transistor still generated a great deal of heat that subjected the computer to damage, it was a vast improvement over the vacuum tube.

Third Generation: Integrated Circuits (1964-1971):

The development of the integrated circuit was the hallmark of the third generation of computers. Transistors were miniaturized and placed on silicon chips, called semiconductors, which drastically increased the speed and efficiency of computers.

Fourth Generation: Microprocessors (1971- Present):

The microprocessor brought the fourth generation of computers, as thousands of integrated circuits were built onto a single silicon chip. What in the first generation filled an entire room could now fit in the palm of the hand .The Intel 4004 chip. Developed in 1971, located all the components of the computer from the unit and memory to input/output controls on a singles chip.

Fifth Generation: Artificial Intelligence (Present and Beyond):

The use of parallel processing and superconductors is helping to make artificial intelligence a reality. Quantum computation and molecular and nanotechnology will radically change the face of computers in years to come.

Q4: Differentiate between Volatile &Non- Volatile memories.

Solution4:

S.N0	RAM	ROM
1	Temporary Storage	Permanent Storage
2	Store data in MBs	Store data in GBs
3	Volatile	Non- Volatile
4	Used in normal operations	Used for start-up process of computer
5	Writing data is faster	Writing data is slower

Q5: Distinguish among system software, application software and open source software on the basis of their features.

Solution5: **System Software: It is type of software that is designed to run a computer's hardware and application programs. Software like operating systems, compilers, editors and drivers etc, come under this category.**

Application software: It is software created for a specific purpose, used by end users; it can be called an application or simply an app. Examples: word processor, accounting application a web browser, and email client, media player etc.

Open-source software (OSS) is a type of computer software in which source code is released under a license in which the copyright holder grants users the rights to study, change, and distribute the software to anyone and for any purpose. The Linux operating system (OS) is the best-known examples of open source software technology.

Q7. Create a file in MS-Word for the following document and save it with file name 'ms_word". Describe all steps involved in it.

Solution7:

To create a new blank document:

- **Click the Microsoft Office button.**
- **Select New. The New Document dialog box appears.**
- **Select Blank document under the Blank and recent section. It will be highlighted by default.**
- **Click Create. A new blank document appears in the word window.**

To use the save command:

- **Click the Microsoft Office button.**
- **Select Save from the menu.**

Using the Save command saves the document in its current location using the same file name. If you are saving for the first time and select Save As dialog box ill appear.

To save As a Word 97-2003 document:

- **Click the Microsoft Office button.**
- **Select Save As**
- **Select the location where you want to save the document using the drop-down menu.**
- **Enter the name for the document.**
- **Click the Save button.**

Q10. Create a file in MS-Word to insert a table in the document. Describe all steps involved in it.

Solution10:

To convert existing text to a table:

- **Select the text you want to convert.**
- **Select the Insert tab.**
- **Click the Table command.**
- **Select Convert Text to Table from the menu. A dialog box appears.**
- **Choose one of the options in the Separate text at: section. This is how Word knows what text to put in each column.**
- **Click OK. The text appears in a table.**

To insert a blank table:

- **Place your insertion point in the document where you want the table to appear.**
- **Select the Insert tab.**
- **Click the Table command.**
- **Drag your mouse over the diagram squares to select the number of columns and rows in the table.**
- **Left-click your mouse and the table appears in the document.**
- **Enter text into the table.**

Q12. The sum of the marks using Auto Sum in a range of cells (C2:C12)

Solution12:

To create a simple formula that adds the contents of two cells:

- **Click the cell where the answer will appear (C2,for example)**

- **Type the equals sign (=) to le Excel know a formula is being defined.**
- **Type the cell number that contains the first number to be added (C12, for example).**
- **Type the addition sign (+) to let Excel know that an add operation is to be performed.**

Q14. b) Write the steps for the following action for creation of power point presentation

- **Open a Blank presentation**
- **Save the presentation as Lab1.pptx**
- **Add a New Slide which has a Title and content**

Solution14b:

Open a Blank presentation

1. **Select Office button –New. The Ne Presentation window appears.**
2. **In the left side of the New Presentation window, click Installed Templates,**
3. **Click a template to select it. ...**
4. **Click Create.**

To save a presentation:

1. **Locate and select the Save command on the Quick Access Toolbar.**
2. **If you're saving the file for the first time, the Save As pane will appear in backstage view.**
3. **You'll then need to choose where to save the file and give it a file name.**
4. **The Save As dialog box will appear.**

Add a New Slide which has a Title and content

1. **On the Home tab, click the New Slide button in the Slides group. Power Point adds a blank slide to you presentation.**

OR

Press Ctrl+M. And again. PowerPoint adds a blank slide.

Q15. Write steps for creation of a set of Power Point slides that demonstrates your skill to use the tools of PowerPoint. It should include the following things.

- **Inserting Excel Sheet**
- **Clip art and Text**

Solution15:

Inserting an Excel Worksheet:

1. **In PowerPoint, select the Insert tab & Click the Insert tab.**

2. **Click the Object command in the Text group. ...**
3. **A dialog box will appear. ...**
4. **Locate and select the desired Excel file, then click Insert. ...**

It is shown in the following slide view.

Inserting an Clip art and Text

To create a PowerPoint presentation using a template, click the File tab > New, and kth following panel will be displayed.

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

Solution16:

Machine Language	High Level Language
1. Memory Efficient.	1. East to learn.
2. It is not required to keep track of memory locations.	2. It provides higher level of abstraction from machine languages.
3. Faster in speed.	3. It is machine independent language.
4. Easy to make insertions and deletions.	4. Less error prone, easy to find and debug errors.
5. Hardware Oriented.	5. Cannot communicate directly with hardware.

Q17. Discuss about different data types of C programming Language.

Solution17:

Type	Keyword	Value range which can be represented by this data type
Character	Char	-128 to 127 or 0 to 255
Number	Int	-32,768 to 32,767 or -2,147
Small Number	Short	-32,768 to 32,767
Long Number	Long	-2,147,483,648 to 2,147,483,647
Decimal number	Float	1.2E-38 to 3.3E +38 till 6 decimal places

These data types are called primitive data types and you can use these data types to build more complex data types.

Important arithmetic operators are available in C programming language.

Operator	Description	Example
+	Adds two operands	A+B will give 30
-	Subtracts second operand from the first	A-B will give -10
*	Multiplies both operands	A*B will give 200
/	Divides numerator by de-numerator	`B/A will give 2
%	This gives remainder of an integer division	B % A will give 0

You can understand the use of above arithmetic operators with following C program.