SECTION A (Multiple Choice Questions)

1. Which of these parts would interpret a program's instructions to initiate the control operations?
    (a) Logic unit (b) Control unit (c) Storage unit (d).Input

2. _____ is the computer program that would convert an assembly language to the machine language.

3. What is the CPU's section that interprets, selects, and also sees to a program instructions' execution?
(a) Register unit (b) Control unit (c) ALU (d) Memory

4. Which of these output devices are used for the translation of information from any computer into a pictorial form on the papers?
    (a) Card punch (b) Touch panel (c) Plotter (d) Mouse

5. The computer size was very large in
    (a)First Generation (b)Second Generation (c)Third Generation (d)Fourth Generation

6. _____translates and executes program at run time line by line
    (a) Compiler (b) Interpreter (c) Linker (d) Loader

7. 1 Byte =? (a) 8 bits (b) 4 bits (c) 2 bits (d) 9 bits

8. While working with MS-DOS which command transfer a specific file from one disk to another?
(a) Copy (b)Diskcopy (c)Time (d) rename

9. Which of the following is not a binary number? (a)001 (b)101 (c)202 (d)110

10. _____ are high-end printers:
    (a) Dot matrix (b) Laser printer (c) Inkjet printer (d) Plotter

11. PARAM is an example of:
    (a) Super computer (b) PC (c) Laptop (d) PDA

12. Physical structure of computer is called:
    (a)Software (b) Hardware (c) Human ware (d) All of these

13. Touch Screen is_____.
    (a)Input device (b)Output device (c)Both a & b (d)None of these

14. Which command creates a directory or subdirectory?
    (a)Dir (b)Mkdir (c)Md (d)both b and c

15. Transistor-based computers are
    (a) first generation (b) second generation (c) fifth generation (d) third generation

16. DOS command that is used to rename a file

(a) MOVE (b) REN (c)ERASE (d)RD

17. A graphical or symbolic representation of a process is
    (a)Algorithm (b) Flowchart (c) Pseudocode (d) Program

18. DOS command that is used to quit the command interpreter:
    (a)EXIT (b)CLOSE (c) QUIT (d) None of these

19. Floppy disk ,optical disk and hard disks are example of:
    (a)primary memo (b) Auxiliary memory (c)cache memory (d)flash memory

20. Pointing devices among the following are:
    (a)keyboard (b)barcode reader (c)joystick (d) touch screen

21. Which programming languages are classified as low level languages?
 (a) BASIC,COBOL,Fortran (b) Prolog (c) C,C++ (d) Assembly language

22. MICR stands for
 (a) Magnetic Ink Character Recognition (b)Magnetic Ink Code Recognition (c)
Magnetic Ink Cases Reader (d)None

23. Which language was used by the second generation of computers?
    (a) Assembly language (b) Machine language
    (c) Low-level language (d) High-level language

24. Integrated chips (IC) were started to be used from which generation of computers?

25. Add, Subtract, Multiple and logic operations are performed by
    (a) Memory (b) Control unit (c) ALU (d) None of the above

26. DTP stands for…..

27. Which of the following memories must be refreshed many times per second ?
    (a) ROM (b) RAM (c) Dynamic RAM (d) EPROM

28. The second generation computers were programmed using____.
     (a) Assembly language (b) Machine language (c) Source code (d) Object code

29. What is not a font style?
     (a) Bold (b) Superscript (c) Regular (d) Italic

30. MS-PowerPoint is a _____ language.
    (a) Document (b) Spreadsheet (c) Presentation (d) Programmatic

SECTION B (Short Questions)
   1. What is an Operating System? How it is related to computer hardware?
   2. What is an algorithm? Write down the algorithm for finding out whether a number is even or odd?
   3. **(i)** Discuss various types of symbols used in a flowchart.
      (ii) What is DTP? Explain its features.

4. What is Cache memory and explain its advantages.
5. Explain the following:
    (a)Control Panel (b) Windows Accessories (c) Desktop (d) Compiler (e) Icons. 6. Convert
the following:-
    (a) $(347)_{10} = (\ )_{16}$
(b) $(F3C7.A)_{16} = (\ )_2$
(c) $(10011010)_2 + (\ 110010)_2$
(d) $(10101)_2 = (\ )_{10}$

SECTION C (Long Questions)

1. What do you mean by a digital computer? Draw a neat schematic diagram showing all functional blocks of a digital computer.Explain the function of each unit in brief.
2. Explain the difference between main memory and auxiliary memory. What are the differences between RAM and ROM? Give any two examples of auxiliary memory.
3. (a) Differentiate between High level language, Assembly Language and machine language.
    (b) What is database management system? Explain the factors of DBMS.
4. Write short notes on the following:
(i) Web Browser (ii) Task bar (iii) Paintbrush (iv) Start Button (v) USB Pen drive 5. (a)
    What is MS-Windows? Explain the features of MS-Windows.
    (b) Explain any five internal and five external commands of MS-DOS.
6. (a) Discuss the MS-Excel.
(b) What is the purpose of Power Point? Explain the features of Power Point.

Answers key by Bhavy Sharma

1. **(b) Control unit**
2. **(a) Compiler**
3. **(b) Control unit**
4. **(c) Plotter**
5. **(a) First Generation**
6. **(b) Interpreter**
7. **(a) 8 bits**
8. **(b) Diskcopy**

9. (c) 202
10. (b) Laser printer
11. (a) Super computer
12. (b) Hardware
13. (c) Both a & b
14. (d) Both b and c
15. (b) Second generation
16. (b) REN
17. (b) Flowchart
18. (a) EXIT
19. (b) Auxiliary memory
20. (c) Joystick, (d) Touch screen
21. (d) Assembly language
22. (a) Magnetic Ink Character Recognition
23. (a) Assembly language
24. Integrated chips were started to be used from the Third Generation of computers.
25. (c) ALU
26. DTP stands for Desktop Publishing.
27. (c) Dynamic RAM
28. (a) Assembly language
29. (b) Superscript
30. (c) Presentation

Short Question Answers

1. Operating System:

An operating system (OS) is the core software that manages computer hardware and resources, provides a platform for running applications, and facilitates communication between users and the computer. It acts as the interface between the computer hardware and the user, allowing users to interact with the computer and run applications.

2. Algorithm for Even/Odd Number:

Algorithm:

1. Input a number.
2. Divide the number by 2.
3. Check the remainder.
4. If the remainder is 0, the number is even.
5. If the remainder is 1, the number is odd.
6. Output the result (even or odd).

3. Flowchart Symbols:

There are various types of symbols used in a flowchart, each representing a specific action or function. Some common symbols include:

- **Terminal: Represents the start and end of the flowchart.**
- **Process: Represents an action or operation performed by the algorithm.**
- **Decision: Represents a point where the algorithm makes a decision based on a condition.**
- **Input/Output: Represents data input or output operations.**
- **Connector: Connects different parts of the flowchart together.**
- **Annotation: Provides additional information or comments about the flowchart.**

DTP:

DTP stands for Desktop Publishing. It is the process of creating professional-looking documents using computer software. DTP software includes features such as:

- **Page layout: Arranging text, graphics, and other elements on a page.**
- **Font and type design: Selecting and formatting fonts for text.**
- **Image editing and manipulation: Editing and enhancing images used in documents.**
- **Color and printing options: Selecting colors and printing documents on various printers.**

4. Cache Memory:

Cache memory is a small, high-speed memory that stores frequently accessed data to improve processing speed. When a program needs to access data, it first checks the cache. If the data is in the cache, it can be accessed much faster than retrieving it from the slower main memory.

Advantages of Cache Memory:

- **Increased performance: Reduces the average time to access data, making the system feel faster.**
- **Reduced memory traffic: Reduces the load on the main memory, allowing it to handle other tasks more efficiently.**
- **Lower power consumption: Cache memory consumes less power than main memory, leading to increased energy efficiency.**

5. Explanation of terms:

(a) Control Panel: A system utility used to configure various settings and options of the operating system.

(b) Windows Accessories: A collection of basic applications included with the Windows operating system, such as Notepad, Calculator, and Paint.

(c) Desktop: The graphical user interface of the operating system where users can launch applications, manage files, and access other resources.

(d) Compiler: A program that translates source code into machine code, which can be executed by the computer.

(e) Icons: Small graphical representations of files, programs, and other objects on the desktop or in folders.

6. Conversions:

(a) $(347)_{10} = (21B)_{16}$

(b) $(F3C7.A)_{16} = (1111000111000111010.101)_2$

(c) $(10011010)_2 + (110010)_2 = (10101100)_2$

(d) $(10101)_2 = (21)_{10}$

Long Answers Type

1. Digital Computer:

Definition: A digital computer is an electronic device that processes information using bits (binary digits) represented as 0s and 1s. It can perform various operations like arithmetic calculations, logical comparisons, and data manipulation.

Schematic Diagram:

Block diagram of computer
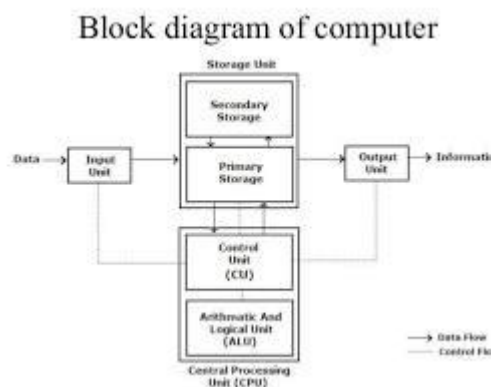
digital computer schematic diagram

Functional Units:

1. **Input Unit: Receives data and instructions from the user or other devices.**
2. **Output Unit: Displays results and sends information to other devices.**
3. **Memory Unit: Stores data and instructions temporarily (RAM) or permanently (ROM).**
4. **Control Unit: Decodes instructions and controls the flow of data between other units.**
5. **Arithmetic Logic Unit (ALU): Performs arithmetic and logical operations on data.**

2. Memory:

Main Memory (RAM): Volatile memory used for temporary storage of data and instructions during processing. It is fast but loses data when power is turned off.

Auxiliary Memory: Non-volatile memory used for permanent storage of data and programs. It is slower than RAM but retains data even when power is off.

Feature	RAM	ROM
Volatility	Volatile	Non-volatile
Data Storage	Temporary	Permanent
Access Speed	Faster	Slower
Usage	Stores data and instructions during program execution	Stores programs and instructions that are not frequently changed

Examples of Auxiliary Memory:

- **Hard Disk Drive (HDD)**
- **Solid State Drive (SSD)**
- **Optical Disks (CD, DVD, Blu-ray)**

3. Programming Languages:

High-Level Language (HLL): Easy-to-understand language resembling human languages. Requires a compiler or interpreter to translate into machine code. Examples: C++, Java, Python.

Assembly Language: Lower-level language using mnemonics to represent instructions. Closer to machine code but requires less processing compared to HLL. Needs an assembler to translate into machine code.

Machine Language: Binary code understood directly by the computer. Difficult to read and write, but most efficient.

Database Management System (DBMS): Software for managing and manipulating large collections of data.

Factors of DBMS:

- **Data Definition Language (DDL): Defines the structure of the database.**
- **Data Manipulation Language (DML): Used to manipulate data within the database.**
- **Data Query Language (DQL): Used to retrieve data from the database.**
- **Data Control Language (DCL): Controls access to and security of the database.**

4. Short Notes:

i) **Web Browser:** A software application that allows users to access and view web pages on the internet.
ii) **Taskbar:** A bar at the bottom of the desktop that displays running applications and allows users to switch between them.
iii) **Paintbrush:** A simple drawing application included in Windows for creating and editing images.
iv) **Start Button:** A button on the taskbar that opens the Start Menu, providing access to programs, settings, and files.

v) **USB Pen Drive:** A portable storage device that connects to a computer via a USB port.

5. MS-Windows:

Definition: A widely used operating system developed by Microsoft for personal computers.

Features of MS-Windows:

- **Graphical user interface (GUI) for easy interaction.**
- **Multitasking capability allows running multiple applications simultaneously.**
- **Plug-and-play functionality for easy hardware installation.**

- Support for various applications and peripherals.
- Security features to protect user data and privacy.

MS-DOS Internal Commands:

- **DIR:** Displays a list of files and directories.
- **COPY:** Copies files from one location to another.
- **DELETE:** Deletes files.
- **RENAME:** Renames files.
- **TYPE:** Displays the contents of a text file.

MS-DOS External Commands:

- **FORMAT:** Formats disks for use.
- **CHKDSK:** Checks the disk for errors.
- **BACKUP:** Backs up data to another location.
- **RESTORE:** Restores data from a backup.
- **FDISK:** Creates and manages partitions on a disk.

6. MS-Excel:

Description: A spreadsheet application used for creating and manipulating data in a grid of cells.

Features of MS-Excel:

- Performing calculations and formulas.
- Creating charts and graphs.
- Data analysis and sorting.
- Formatting and customizing worksheets.
- Collaboration and sharing capabilities.

Purpose of Power Point:

Description: A presentation software used for creating and presenting multimedia presentations.

Features of Power Point:

- Adding text, images, videos, and audio.
- Creating slides with different layouts and themes.
- Applying animations and transitions.