CHAPTER 5:

Software System

SOLVED EXERCISE

Tick (✓) the correct answer.

1. What is the primary function of an operating system?
a) To create documents
b) To manage hardware resources and provide a user interface
c) To perform calculations   d) To design graphics

2. Which software is used to enhance system performance and security?
a) Operating system   b) Utility software
c) Application software   d) Device drivers

3. What role do device drivers play in a computer system?
a) Manage files
b) Facilitate communication between hardware devices and the operating system
c) Create presentations
d) Enhance graphics performance

4. Which of the following is an example of application software?
a) Microsoft Word (b) BIOS   c) Disk Cleanup   d) Device Manager

5. What is the main purpose of spreadsheet software?
a) To edit text documents   b) To organize and analyze data
c) To create visual content   d) To enhance system security

6. How does utility software differ from application software?
a) Utility software manages hardware, while application software performs specific tasks for users.
b) Utility software creates documents, while application software manages hardware.
c) Utility software performs specific tasks for users, while application software manages hardware.
d) Utility software is free, while application software is paid.

7. Which type of software would you use to design a logo?
a) Operating system   b) Spreadsheet software
c) Graphic design software   d) Utility software

8. **What is the function of system software?**
a) To facilitate communication between hardware and software
b) To perform specific tasks for the user
c) To create visual content
d) To organize and analyze data

9. **Why are operating system updates important?**
a) They increase screen brightness   b) They add more fonts
c) They enhance security and fix bugs   d) They improve battery life

10. What is a common task you can perform using word processing software?
a) Create and edit text documents   b) Manage hardware resources
c) Enhance system performance   d) Organize and analyze data

1	2	3	4	5	6	7	8	9	10
b	b	b	a	b	a	c	a	c	a

Short Answer Questions

1. Define system software and provide two examples.
Ans: System Software
System software is designed to manage the system resources and provide a platform for application software to run. It acts as a bridge between the hardware and the user applications. Here are some examples:
Examples include Microsoft Windows, mac OS, and Linux, printer drivers, graphics card drivers, and sound card drivers etc.

2. Explain the primary functions of an operating system.
Ans: An Operating System (OS) is a type of system software that manages all the hardware and software on a computer.
Primary functions of an operating system
•   It acts as an intermediary between the computer hardware and the user applications.
•   It ensures that different programs running on a computer do not interfere with each other.
•   It provides a stable and consistent way for applications to interact with the hardware without knowing the details of the hardware.

3. What is utility software and why is it important?
Ans: Utility programs are essential components of system software that enhance the functionality of a computer system. They perform various tasks to ensure smooth operation and efficient management of hardware, software, and data. Examples are antivirus software, disk cleanup tools, and backup software.

4. Describe the role of device drivers in a computer system.

Ans: Device drivers facilitate communication between hardware devices and the operating system, ensuring that devices function correctly. A device driver is like a translator between the computer and its gadgets For Example Printer Driver helps the computer to send the correct signals to the printer, so it can print documents.

5. Differentiate between system software and application software with examples.

System software	Application software
System software manages the hardware and basic system operations. It acts as a bridge between the hardware and the user applications. **Examples include:** Operating Systems: Microsoft Windows, mac OS, and Linux, Device Drivers: These include printer drivers, graphics card drivers, and sound card drivers. Utility Programs: Examples are antivirus software, disk cleanup tools, and backup software.	Application software helps users perform specific tasks. These programs are built to fulfill user needs such as writing documents, editing photos, or browsing the internet. **Examples include:** Word Processors: Such as Microsoft Word and Google Docs. Web Browsers: Such as Google Chrome, Mozilla Firefox, and Safari. Games: Such as Minecraft, Fortnite, and Among Us.

6. What are the main functions of spreadsheet software?

Ans: Spreadsheet software is a type of application software used for organizing, analyzing, and storing data in tabular form. Spreadsheets consist of a grid of cells arranged in rows and columns, where users can input data, perform calculations, and create charts. This software is essential for tasks such as budgeting, financial analysis, data management, and statistical analysis.

7. How can graphic design software be used in the field of education?

Ans: Graphic design software is a type of application software used for creating, editing, and managing visual content. These programs provide tools for drawing, painting, photo editing, and creating illustrations etc. Graphic design software can be used in the field of education **for example**

•   Graphic design software can help students create visual aids like infographics, diagrams, and illustrations to better understand complex concepts.

•   Students can use graphic design software to express their creativity, develop their artistic skills, and showcase their work.

•   Teachers can use graphic design software to create engaging lesson materials, such as interactive presentations, videos, and animations.

8. What is the significance of data backups and how can they be performed?

Ans: Data backups are essential for protecting digital information against loss, corruption, or theft. The significance of data backups lies in their ability to:

• Backups ensure that critical data is not lost in case of hardware failures, software corruption, or human errors.

• With backups, organizations can quickly restore data and resume operations, minimizing downtime and revenue loss.

• Backups help restore data in case of corruption due to malware, viruses, or software bugs.

Long Questions

1. Discuss the importance of system software in a computing system.

Ans: System software is essential for the operation of a computer system, acting as an intermediary between the hardware and the user applications. It ensures that the hardware components of a computer work together efficiently and provides a stable environment for application software to run. The role and main functions of system software are

1. Hardware Management: System software manages hardware resources, such as CPU, memory, storage, and peripherals.

2. Process Management: System software oversees process creation, execution, and termination.

3. Memory Management: System software allocates and deallocates memory for running programs.

4. File System Management: System software provides a file system to store, retrieve, and manage files.

5. Security: System software implements security measures, such as authentication, authorization, and access control.

6. Platform for Applications: System software provides a platform for application software to run, enabling users to perform various tasks.

Examples of System Software

• Operating Systems: Windows, mac OS, Linux, Android, iOS

• Device Drivers: Printer drivers, graphics drivers, sound drivers

• Firmware: Embedded software in devices like routers, printers, and smartphones

• Utility Software: Disk formatting tools, disk cleanup tools, antivirus software

2. Describe the roles of operating systems, utility software, and device drivers, providing examples of each.

Ans: Operating System

An Operating System (OS) is a type of system software that manages all the hardware and software on a computer. It acts as an intermediary between the computer hardware and the user applications. The operating system ensures that different programs and users running on a computer do not interfere with each other. It also provides a stable and consistent way for applications to interact with the hardware without having to know all the details of the hardware. Some most commonly used operating systems are:

Windows: A popular OS for personal computers developed by Microsoft.

macOS: An OS for Apple's Mac computers.

Linux: An open-source OS that is used for everything from servers to desktop computers.

Android: An OS for smartphones and tablets, developed by Google.

iOS: An OS for iPhones and iPads, developed by Apple.

Functions of operating system

1. Managing Hardware Resources

One of the primary functions of an operating system is to manage the hardware resources of a computer system. This includes the CPU, memory, disk drives, and peripheral devices such as printers and keyboards.

Example: When you open a web browser while listening to music on your computer, the operating system allocates CPU time and memory to both the web browser and the music player. It ensures that both applications run smoothly by managing the resources effectively.

2. Providing a User Interface

The operating system provides a User Interface (UI) that allows users to interact with the computer.

There are two main types of user interfaces:

- Graphical User Interfaces (GUIs)
- Command-Line Interfaces (CLIs).

3. Running Applications

The operating system is responsible for running applications on a computer. It loads applications into memory, allocates the necessary resources, and manages their execution.

Example: When you open a word processor like Microsoft Word, the operating system loads the application into the computer's memory and allocates CPU time for it to run. If you open multiple applications, the OS manages the distribution of resources so that all applications can run simultaneously.

Utility Programs

Utility programs are essential components of system software that enhance the functionality of a computer system. They perform various tasks to ensure smooth operation and efficient management of hardware, software, and data.

Device Drivers

Device drivers facilitate communication between hardware devices and the operating system, ensuring that devices function correctly.

Examples:

- Printer Driver: Helps the computer send the correct signals to the printer, so it can print documents.
- Graphics Card Driver: Makes sure the computer can display images and videos correctly on the screen.

3. Explain the differences between system software and application software.

Ans:

System software	Application software
System software manages the hardware and basic system operations.	Application software helps users perform specific tasks.
It acts as a bridge between the hardware and the user applications.	These programs to fulfill user needs such as writing documents, editing photos, or browsing the internet.
System software performs low-level tasks.	Application software performs high-level tasks.
Runs independently	Depends on system software
Minimal user interaction	High user interaction
Examples include:	Examples include:
Operating Systems: Microsoft Windows, mac OS, and Linux,	Word Processors: Such as Microsoft Word and Google Docs.
Device Drivers: These include printer drivers, graphics card drivers, and sound card drivers.	Web Browsers: Such as Google Chrome, Mozilla Firefox, and Safari.
Utility Programs: Examples are antivirus software, disk cleanup tools, and backup software.	Games: Such as Minecraft, Fortnite, and Among Us.

4. Describe the process of using utility software to optimize system performance and maintain security. Provide detailed steps and examples of common utility tools.

Ans: Utility Programs

Utility programs are essential components of system software that enhance the functionality of a computer system. They perform various tasks to ensure

smooth operation and efficient management of hardware, software, and data. Here are some common utility programs along with their functionalities in real-life Scenarios.

Disk Cleanup

Functionality: Disk Cleanup scans your hard drive for temporary files, cached files, and other unnecessary items that can be safely deleted.

Real-life Scenario: After using your computer for a while, you notice it's running slower than usual. Running Disk Cleanup can help reclaim disk space, potentially improving performance.

Antivirus Software

Functionality: Antivirus software scans files and incoming data for known viruses and malware signatures. It also provides real-time protection to prevent virus attacks.

Real-life Scenario: You receive an email attachment from an unknown sender. Before opening it, you run your antivirus software to scan for any potential threats, ensuring your computer remains safe.

Backup Software

Functionality: Backup software schedules regular backups of files and folders to external drives, cloud storage, or network locations. It allows for full system backups or selective file backups.

Real-life Scenario: You accidentally delete an important presentation file. Using backup software, you retrieve the latest backup version of the file, ensuring minimal disruption to your work.

File Compression Tools

File compression tools reduce file size to save storage space and make file transfer faster.

Functionality: File compression tools compress one or multiple files into a single archive format (e.g., ZIP, RAR) while preserving data integrity. They also provide options for encryption and password protection.

Real-life Scenario: You need to send a large folder of high-resolution photos via email. Using a file compression tool, you create a ZIP archive to reduce file size, making it easier and quicker to upload and send.

These utility programs are essential for maintaining the efficiency, security, and reliability of your computer system. Understanding their functionalities can help you better manage and optimize your computing experience

5. Explain how to install, update, and troubleshoot device drivers for hardware components.

Ans: Device Drivers

Device drivers facilitate communication between hardware devices and the operating system, ensuring that devices function correctly. Imagine your

computer as a superhero with many powers, but sometimes it needs help to talk to its gadgets, like a printer, keyboard, or mouse. Here's where device drivers come in. A device driver is like a translator between the computer and its gadgets.

- Printer Driver: Helps the computer send the correct signals to the printer, so it can print documents.
- Graphics Card Driver: Makes sure the computer can display images and videos correctly on the screen.

How Device Drivers Work?

Installation: When you connect a new device to your computer, you often need to install a driver.

Communication: The driver acts as a translator, converting general instructions from the computer into specific instructions that the device can understand.

Operation: Once installed, the driver helps the computer and the device to work together smoothly.

Real-Life Analogy: TV Remote Control

Think of a device driver like a TV remote control:

TV (Device): It can change channels, adjust the volume, and more, but it needs instructions.

Remote Control (Driver): Sends the correct signals to the TV to perform these actions.

You (Computer): You decide what you want to watch or adjust and use the remote control to tell the TV.

6. Discuss the main functions of commonly used application software, such as word processing, spreadsheet, presentation, and graphic design applications.

Ans: COMMONLY USED APPLICATION SOFTWARE

1. Word Processing Software

Word processing software is a type of application software used for creating, editing, formatting, and printing documents. These software programs are essential tools for writing letters, reports, essays, and other text-based documents.

Examples of Word Processing Software:

Microsoft Word: Available on Windows and macOS, Microsoft Word is one of the most widely used word processors. It offers a range of features including text formatting, spell check, grammar check, and the ability to insert images, tables, and charts.

Google Docs: A web-based word processor available on any operating system with internet access. Google Docs allows for real-time collaboration, where multiple users can edit a document simultaneously. It also integrates with other Google services.

Apple Pages: Available on macOS and iOS, Apple Pages provides a user-friendly interface with powerful tools for creating beautiful documents. It includes templates, design tools, and easy integration with other Apple products.

2. Spreadsheet Software

Spreadsheet software is a type of application software used for organizing, analyzing, and storing data in tabular form. Spreadsheets consist of a grid of cells arranged in rows and columns, where users can input data, perform calculations, and create charts.

Examples of Spreadsheet Software:

Microsoft Excel: Available on Windows and macOS, Microsoft Excel is one of the most widely used spreadsheet programs. It offers powerful features including complex formulas, pivot tables, and a variety of chart options.

Google Sheets: A web-based spreadsheet available on any operating system with internet access. Google Sheets allows for real-time collaboration, where multiple users can edit a spreadsheet simultaneously.

Apple Numbers: Available on macOS and iOS, Apple Numbers provides a user-friendly interface with strong visualization tools for creating visually appealing spreadsheets.

3. Presentation: Presentation software is a type of application that allows users to create and display presentations, typically in the form of a slideshow. The main function of presentation software is to help users communicate ideas, convey information, and engage audiences in a visually appealing and effective way.

3. Key Functions of Presentation Software:

1. Creating slides   2. Designing layouts
3. Adding multimedia   4. Animating slides

Applications of Presentation Software:

1. Business presentations: Presentation software is widely used in business settings to create sales pitches, product demonstrations, and training sessions.

2. Educational presentations: Teachers and students use presentation software to create interactive lessons, projects, and assignments.

3. Personal projects: Individuals use presentation software to create personal projects, such as photo albums, family histories, and hobby-related presentations.

Some popular presentation software applications include:

1. Microsoft PowerPoint   2. Google Slides
3. Apple Keynote   4. LibreOffice Impress

4. Graphic Design Software

Graphic design software is a type of application software used for creating, editing, and managing visual content. These programs provide tools for drawing, painting, photo editing, and creating illustrations. Graphic design software is used in various industries, including advertising, web design, publishing, and multimedia production.

Examples of Graphic Design Software:

Adobe Photoshop: Available on Windows and macOS, Adobe Photoshop is one of the most popular graphic design programs. It offers powerful tools for photo editing, digital painting, and graphic design.

Adobe Illustrator: Available on Windows and macOS. Adobe Illustrator is a vector graphics editor used to create logos, illustrations, and scalable graphics that maintain quality at any size.

Corel DRAW: Available on Windows and macOS, CorelDRAW is a vector graphics editor known for its user-friendly interface and robust feature set, ideal for creating professional graphics and layouts.

Additional Multiple Choice Questions (MCQs)

1. What is the primary function of system software?
a) To perform specific tasks
b) To manage hardware
c) To connect to the internet
d) To play games

2. Which of the following is an example of application software?
a) Operating system
b) Device driver
c) Word processor
d) Utility program

3. How is system software typically installed?
a) By the user
b) Pre-installed
c) Through the internet
d) By a technician

4. Which of the following is an example of application software?
a) Linux
b) Printer driver
c) Microsoft Word
d) Disk cleanup tool

5. What type of software is Google Chrome?
a) System software
b) Application software
c) Utility program
d) Device driver

6. Which of the following is an example of system software?
a) VLC Media Player
b) Antivirus software
c) Fortnite
d) Google Docs

7. What message did the first computer virus display?
a) "Error 404: Virus Not Found"
b) "I'm the creeper, catch me if you can!"
c) "System Overload"
d) "Data Corrupted"

8. Which software is typically pre-installed on a computer?
a) System software
b) Application software
c) Games
d) Web browsers

9. What type of software are printer drivers classified as?
a) System software
b) Application software
c) Media players
d) Games

10. Which of the following is NOT an application software?

a) Microsoft Word

b) Disk cleanup tool

c) Mozilla Firefox

d) Minecraft

11. What is the primary purpose of application software?

a) Managing hardware

b) Helping users perform specific tasks

c) Running the operating system

d) Cleaning disk space

12. Which software bridges hardware and user applications?

a) System software

b) Application software

c) Web browsers

d) Games

13. Which of the following is an example of system software?

a) Microsoft Word

b) Google Chrome

c) Microsoft Windows

d) Adobe Photoshop

14. Which of the following is a type of user interface?

a) (GUI)

b) (CLI)

c) Both a and b

d) Neither a nor b

15. Which of the following is NOT an operating system?

a) Windows   b) Linux   c) VLC Media Player d) macOS

16. What type of user interface uses icons, menus, and windows?

a) (CLI)   b) (GUI)   c) Text Interface d) Binary Interface

17. What does an operating system NOT do?

a) Manage hardware resources

b) Run applications

c) Provide a user interface

d) Create computer viruses

18. Which tool helps reduce file size for easier storage and transfer?

a) Disk Cleanup

b) File Compression Tool

c) Antivirus Software

d) Device Driver

19. What is an example of a CLI-based operating system?

a) macOS   b) Linux   c) Windows   d)   Android

20. Which system utility scans for temporary and unnecessary files?

a) Antivirus Software

b) Disk Cleanup

c) Backup Software

d) File Compression Tool

21. What was the first operating system created for IBM computers?

a) Unix   b) DOS   c) GM-NAA I/O   d) Windows

22. Which device requires a driver to function correctly?

a) CPU   b) Hard disk   c) RAM   d) Printer

23. What is a real-life analogy for a device driver?

a) A TV remote control

b) A recipe for cooking

c) A map for navigation

d) A smartphone app

24. What ensures smooth operation between the computer and its devices?

a) Utility programs

b) System updates

c) Device drivers

d) File compression tools

25. What is the primary purpose of word processing software?
a) Browsing the internet
b) Creating and editing text documents
c) Playing games
d) Managing hardware resources

26. Which of the following is a feature of Microsoft Word?
a) Real-time collaboration
b) Spell check and grammar check
c) Free and open-source license
d) Exclusive to Linux

27. What makes Google Docs unique compared to other word processors?
a) It allows real-time collaboration.
b) It is a desktop-only application.
c) It requires no internet connection.
d) It is exclusive to macOS.

28. Which word processor is specifically designed for macOS and IOs users?
a) LibreOffice Writer
b) Microsoft Word
c) Google Docs
d) Apple Pages

29. What is the key advantage of LibreOffice Writer?
a) Requires a subscription
b) Free and open-source
c) Only available online
d) Limited to text editing

30. Which feature is commonly found in modern word processors?
a) Disk cleanup
b) File compression
c) Text formatting
d) Device management

31. What technology is revolutionizing word processing by offering style and tone suggestions?
a) Device drivers
b) AI-based tools
c) Backup software
d) File compression tools

32. Which word processor supports editing by multiple users simultaneously?
a) Microsoft Word
b) Apple Pages
c) Google Docs
d) LibreOffice Writer

33. What is the benefit of using Apple Pages?
a) Available on all operating systems
b) Easy integration with other Apple products
c) Free and open-source
d) Exclusively used for spreadsheets

34. Which word processor offers templates and design tools for document creation?
a) Microsoft Word
b) Google Docs
c) Apple Pages
d) LibreOffice Writer

35. What is the primary function of word processing software?
a) To create spreadsheets
b) To design graphics
c) To create documents
d) To manage databases

36. Which of the following is an example of word processing software?
a) Adobe Photoshop
b) Microsoft Excel
c) Microsoft Word
d) Google Chrome

37. What is the primary purpose of spreadsheet software?
a) Creating text documents
b) Organizing data
c) Managing device drivers
d) File compression

38. Which spreadsheet software is best for collaboration?
a) Microsoft Excel
b) Apple Numbers
c) Google Sheets
d) LibreOffice Calc

39. What does LibreOffice Calc offer?
a) Templates for word processing
b) Integration with Apple products
c) Free and open-source features
d) Real-time editing

40. Which spreadsheet program is known for strong visualization tools?
a) Microsoft Excel
b) Apple Numbers
c) Google Sheets
d) LibreOffice Calc

41. What feature in Microsoft Excel is used for data analysis?
a) Templates
b) Pivot tables
c) Real-time editing
d) Explore feature

42. Which of the following is a cloud-based spreadsheet software?
a) Microsoft Excel
b) Google Sheets
c) LibreOffice Calc
d) Apple Numbers

43. How do AI-based tools in spreadsheets help users?
a) By managing hardware resources
b) By suggesting formulas and creating charts
c) By formatting text documents
d) By compressing files

44. What is a common feature of spreadsheet software?
a) Spell check
b) Grid of cells
c) Video editing tools
d) Internet browsing capabilities

45. Which spreadsheet program integrates with Google services?
a) Microsoft Excel
b) Google Sheets
c) Apple Numbers
d) LibreOffice Calc

46. What does Apple Numbers offer for creating visually appealing spreadsheets?
a) Real-time collaboration
b) Advanced pivot tables
c) Templates and visualization tools
d) Open-source features

47. Which software is best for creating scalable vector graphics?
a) Adobe Photoshop
b) Canva
c) GIMP
d) Adobe Illustrator

48. Which of the following is an open-source graphic design tool?
a) Adobe Photoshop
b) CorelDRAW
c) Canva
d) GIMP

49. Which graphic design software is known for its templates and ease of use?
a) CorelDRAW   b) Adobe Photoshop   c) Canva   d) Adobe Illustrator

50. What is a feature of Adobe Sensei?
a) Real-time collaboration   b) Creating pivot tables
c) Automating repetitive tasks   d) Enhancing audio quality

51. What operating systems support CorelDRAW?
a) Windows and macOS   b) Windows and Linux
c) macOS and Linux   d) Web-based only

52. Which software is best for professional photo editing?
a) Adobe Photoshop   b) Adobe Illustrator
c) Canva   d) LibreOffice Draw

53. What type of software is Canva?
a) Open-source and desktop-based   b) Paid and desktop-based
c) Web-based and template-driven   d) Offline and advanced editing

54. What does GIMP stand for?
a) General Image Manipulation Program
b) Graphics and Image Management Program
c) GNU Image Manipulation Program   d) Great Image Master Program

55. Which software is specifically designed for vector graphic editing?
a) Adobe Photoshop   b) CorelDRAW
c) Microsoft Paint   d) GIMP

56. What is the primary function of graphic design software?
a) To create spreadsheets   b) To edit videos
c) To create and edit visual content d) To manage databases

57. Which of the following is an example of graphic design software?
a) Microsoft Word   b) Adobe Photoshop
c) Google Chrome   d) Microsoft Excel

Answers:

1	2	3	4	5	6	7	8	9	10	11	12
B	C	B	C	B	B	B	A	A	B	B	A
13	14	15	16	17	18	19	20	21	22	23	24
C	C	C	B	D	B	B	B	C	D	A	C
25	26	27	28	29	30	31	32	33	34	35	36
B	B	A	D	B	C	B	C	B	C	C	C
37	38	39	40	41	42	43	44	45	46	47	48
B	C	C	B	B	B	B	B	B	C	D	D
49	50	51	52	53	54	55	56	57			
C	C	A	A	C	C	B	C	B			

Topic Wise Additional Short Questions and Answers

5.1- Software

1. What is software?

Ans: Software is a collection of programs and instructions that tell a computer what to do and how to do. Without software, computers would be useless machines.

2. What is the role of system software?

Ans: System software is designed to manage the system resources and provide a platform for application software to run. It acts as a bridge between the hardware and the user applications.

3. What are some examples of system software?

Ans: • Operating Systems: Examples include Microsoft Windows, macOS, and Linux.
• Device Drivers: These include printer drivers, graphics card drivers, and sound card drivers.
• Utility Programs: Examples are antivirus software, disk cleanup tools, and backup software.

4. What is the purpose of application software?

Ans: Application software is designed to help users perform specific tasks. These programs are built to fulfill user needs and are typically more varied than system software.

5. What are some examples of application software?

Ans: • Word Processors: Such as Microsoft Word and Google Docs.
• Web Browsers: Such as Google Chrome, Mozilla Firefox, and Safari.
• Games: Such as Minecraft, Fortnite, and Among Us.
• Media Players: Such as VLC Media Player and Windows Media Player

6. How does system software differ from application software?

Ans: System software manages hardware and provides a platform, while application software performs specific tasks.

7. What was the first computer virus?

Ans: The "Creeper" virus, created in 1971, displayed the message, "I'm the creeper, catch me if you can!"

8. What are utility programs?

Ans: Utility programs are essential components of system software that enhance the functionality of a computer system. They perform various tasks to ensure smooth operation and efficient management of hardware, software, and data.

9. What is the purpose of utility programs in a computer system?
Ans: To enhance the functionality of the system and perform tasks such as file compression and disk cleanup.

5.2- Introduction to System Software

10. What is the primary function of an operating system?
Ans: An Operating System (OS) is a type of system software that manages all the hardware and software on a computer. It acts as an intermediary between the computer hardware and the user applications.

11. What are the two main types of user interfaces provided by an operating system?
Ans: Graphical User Interfaces (GUIs) and Command-Line Interfaces (CLIs).

12. Why is it important to keep the operating system updated?
Ans: To ensure the system runs smoothly, remains secure, and receives the latest features and bug fixes.

13. What are examples of operating systems?
Ans: Windows, macOS, Linux, Android, and iOS.

14. Write the uses of some famous operating systems?
Ans: • Windows: A popular OS for personal computers developed by Microsoft. It has a start menu, taskbar, and windows for applications.
• macOS: An OS for Apple's Mac computers. It has a dock at the bottom of the screen and unique features like Mission Control.
• Linux: An open-source OS that is used for everything from servers to desktop computers. It can look different depending on the distribution (version) you use.

15. What is an Android?
Ans: An OS for smartphones and tablets, developed by Google. It is used on many different devices from various manufacturers.

16. What is iOS?
Ans: An OS for iPhones and iPads, developed by Apple. It is known for its smooth performance. Let's study some key functions of an operating system.

17. What was the first operating system called?
Ans: GM-NAA I/O, created in the 1950s for IBM computers.

18. What is user interface? What are its types?
Ans: The operating system provides a User Interface (UI) that allows users to interact with the computer. There are two main types of user interfaces:
• Graphical User Interfaces (GUIs)
• Command-Line Interfaces (CLIs).

19. What is difference between GUI and CLI

Ans:

Graphical User Interface (GUI)	Command Line User Interface (CLI)
A GUI allows users to interact with the computer using visual elements such as windows, icons, and menus. This type of interface is user-friendly and intuitive, making it easy for users to navigate and perform tasks Examples: Windows, macOS etc.	A CLI requires users to type text commands to perform specific tasks. This interface is more flexible and powerful, but it can be more difficult for beginners to use. Examples: Linux and Disk Operating System (DOS).

20. Write down the functionality of Disk Cleanup.

Ans: Disk Cleanup scans your hard drive for temporary files, cached files, and other unnecessary items that can be safely deleted.

21. What is the role of antivirus?

Ans: Antivirus software scans files and incoming data for known viruses and malware signatures. It also provides real-time protection to prevent virus attacks.

22. Write down the function of back-up software?

Ans: Backup software schedules regular backups of files and folders to external drives, cloud storage, or network locations. It allows for full system backups or selective file backups.

23. What is the function of File Compression tools?

Ans: File compression tools compress one or multiple files into a single archive format (e.g., ZIP, RAR) while preserving data integrity. They also provide options for encryption and password protection

24. What is the function of device drivers?

Ans: Device drivers facilitate communication between hardware devices and the operating system to ensure devices function correctly.

25. Why is a device driver called a translator?

Ans: It converts general instructions from the computer into specific instructions the hardware device can understand.

26. What is an example of a device driver?

Ans: Examples include printer drivers and graphics card drivers.

27. What is the role of a printer driver?

Ans: It helps the computer send the correct signals to the printer for printing documents.

28. What is the role of a graphics card driver?

Ans: It ensures that the computer displays images and videos correctly on the screen.

29. What are the three steps involved in how device drivers work?

Ans: Installation, communication, and operation.

30. What does "Plug and Play" mean?

Ans: Devices that configure themselves automatically when connected to a computer.

31. What is a real-life analogy for a device driver?

Ans: A device driver is like a TV remote control that translates user inputs into signals for the TV to act upon.

32. What happens during the installation of a device driver?

Ans: The driver is set up to enable the computer and the device to communicate and work together.

5.3 Application Software

33. What is word processing software used for?

Ans: Word processing software is used for creating, editing, formatting, and printing documents.

34. What are some examples of word processing software?

A Ans: Microsoft Word, Google Docs, Apple Pages, and LibreOffice Writer.

35. What are some features of word processing software?

Ans: Text formatting, spell check, grammar check, and the ability to insert images, tables, and charts.

36. How are AI-based tools changing word processing?

Ans: AI-based tools like Grammarly and Microsoft Editor are revolutionizing word processing by providing advanced grammar, style, and tone suggestions. These tools help users write more clearly and effectively by offering real-time feedback and corrections.

37. Give an example of a web-based word processor.

Ans: Google Docs is a web-based word processor that allows real-time collaboration.

38. Which word processor is known for its integration with other Apple products?

Ans: Apple Pages is known for its seamless integration with other Apple products.

39. Name a free and open-source word processor.

Ans: LibreOffice Writer is a free and open-source word processor.

40. Which operating systems support LibreOffice Writer?

Ans: LibreOffice Writer is available on Windows, macOS, and Linux.

41. What is spreadsheet software used for?

Ans: Organizing, analysing, and storing data in tabular form.

42. What are the main components of a spreadsheet?

Ans: A grid of cells arranged in rows and columns.

43. What are some examples of spreadsheet software?

Ans: Microsoft Excel, Google Sheets, Apple Numbers, and LibreOffice Calc.

44. What are some features of spreadsheet software?

Ans: Complex formulas, pivot tables, chart options, and real-time collaboration.

45. How are AI-based tools changing spreadsheet software?

Ans: AI-based tools in spreadsheet software, such as Microsoft's Ideas in Excel and Google Sheets' Explore feature, help users analyse data by providing insights, suggesting formulas, and creating charts automatically.

46. What is spreadsheet software used for?

Ans: Spreadsheet software is used for organizing, analysing, and storing data in tabular form.

47. What are the main components of a spreadsheet?

Ans: A spreadsheet consists of a grid of cells arranged in rows and columns.

48. Give an example of a widely used spreadsheet program.

Ans: Microsoft Excel is a widely used spreadsheet program.

49. Which spreadsheet software allows real-time collaboration? OR What feature does Google Sheets provide that is ideal for teamwork?

Ans: Google Sheets allows real-time collaboration.

50. Name a spreadsheet program designed for macOS and iOS users.

Ans: Apple Numbers is designed for macOS and iOS users.

51. Which spreadsheet software is free and open-source?

Ans: LibreOffice Calc is free and open-source.

52. What advanced tools does Microsoft Excel offer?

Ans: Microsoft Excel offers tools like complex formulas, pivot tables, and various chart options.

53. Which spreadsheet software integrates with other Apple products?

Ans: Apple Numbers integrates with other Apple products.

54. What is graphic design software used for?

Ans: Graphic design software is used for creating, editing, and managing visual content. These programs provide tools for drawing, painting, photo editing, and creating illustrations, making them essential for designers.

55. What are some examples of graphic design software?

Ans: Adobe Photoshop, Adobe Illustrator, CorelDRAW, GIMP, and Canva.

56. What are some features of graphic design software?

Ans: Tools for drawing, painting, photo editing, and creating illustrations.

57. How are AI-based tools changing graphic design software?

Ans: AI-based tools in graphic design software, such as Adobe Sensei in Photoshop and Illustrator, help designers by automating repetitive tasks, suggesting design elements, and enhancing images with advanced algorithms.

58. What industries use graphic design software?

Ans: Advertising, web design, publishing, and multimedia production.

59. Name one industry where graphic design software is widely used.

Ans: Graphic design software is widely used in advertising.

60. Which software is known for photo editing and digital painting?

Ans: Adobe Photoshop is known for photo editing and digital painting.

61. What type of graphics does Adobe Illustrator focus on?

Ans: Adobe Illustrator focuses on vector graphics.

62. Name an open-source alternative to Adobe Photoshop.

Ans: GIMP (GNU Image Manipulation Program) is an open-source alternative.

63. What is the use of CorelDRAW?

Ans: Available on Windows and macOS, CorelDRAW is a vector graphics editor known for its user-friendly interface and robust feature set, ideal for creating professional graphics and layouts.

64. What makes CorelDRAW popular among graphic designers?

Ans: CorelDRAW is popular for its user-friendly interface and robust feature set.

65. What is the use of Canva?

Ans: A web-based graphic design tool accessible on any operating system with internet access. Canva provides an easy-to-use interface with a wide range of templates and design elements, making it perfect for beginners and professionals alike.

66. Which software is ideal for beginners due to its templates and user-friendly interface?

Ans: Canva is ideal for beginners.

67. Which graphic design software is web-based and accessible on any operating system?

Ans: Canva is web-based and accessible on any operating system.

68. What is Adobe Sensei, and how does it help designers?

Ans: Adobe Sensei is an AI tool in Adobe software that automates tasks, suggests design elements, and enhances images.