Class : 9ᵗʰ

Subject : Computer Science

Chapter : 5   Software System

Book Exercise Complete Solved

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

⬥ **Correct Option: (b)**

▤ **Explanation:** Operating System (OS) system ka core software hota hai jo hardware ko control karta hai aur user ko computer se interact karne ka interface deta hai (GUI ya CLI).

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2. Which software is used to enhance system performance and security?

- (a) Operating system
- (b) Utility software ✓
- (c) Application software
- (d) Device drivers

⬥ **Correct Option: (b)**

▤ **Explanation:** Utility software jaise antivirus, disk cleanup waghera system ki performance ko better bana kar security bhi provide karta hai.

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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

⬧ **Correct Option: (b)**

▤ **Explanation:** Device drivers hardware aur OS ke darmiyan translator ka kaam karte hain, jaise printer, keyboard ya scanner properly chal sakein.

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4. Which of the following is an example of application software?

- (a) Microsoft Word ✓
- (b) BIOS
- (c) Disk Cleanup
- (d) Device Manager

⬧ **Correct Option: (a)**

▤ **Explanation:** Application software user ke tasks perform karta hai. Microsoft Word ek word processing software hai jo documents banane ke liye use hota hai.

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5. What is the main purpose of a spreadsheet software?

- (a) To edit text documents
- (b) To create visual content
- (c) To organize and analyze data ✓
- (d) To enhance system security

⬧ **Correct Option: (c)**

▤ **Explanation:** Spreadsheet software (e.g., MS Excel) numerical data ko organize aur analyze karne ke liye use hota hai, formulas aur charts ke zariye.

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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.

⬧ **Correct Option: (a)**

▤ **Explanation:** Utility software system-related kaam karta hai jaise disk defragmentation, jabke application software user ke specific kaamon (jaise writing, editing) ke liye hota hai.

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

⬥ **Correct Option: (c)**

▤ **Explanation:** Logo design karne ke liye graphic design software (e.g., Adobe Illustrator, CorelDRAW) use kiya jata hai — ye visuals aur creative content banata hai.

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

⬥ **Correct Option: (a)**

▤ **Explanation:** System software OS, drivers waghera par mushtamil hota hai jo system ke hardware aur user applications ke darmiyan coordination karta hai.

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

⬥ **Correct Option: (c)**

▤ **Explanation:** OS updates security flaws ko patch karte hain, bugs fix karte hain aur naye features la kar system ko zyada reliable banate hain.

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

⬥ **Correct Option: (a)**

▤ **Explanation:**

Word processing software jaise **Microsoft Word** ka istemal likhne (typing), editing, formatting aur printing documents ke liye hota hai. Ye software application software ka hissa hota hai.

✍ ☐ *Short Questions – Answer Key*

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1. Define system software and provide two examples.

Answer:

System software wo programs hote hain jo computer hardware ko control karte hain aur application software ko run karne ka environment dete hain.

✎ **Examples:**

1. Operating System (e.g., Windows 10)
2. Device Drivers (e.g., Printer Driver)

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2. Explain the primary functions of an operating system.

Answer:

Operating System ke primary functions ye hain:

1. Hardware resources ka management (CPU, memory, devices).
2. User interface provide karna (GUI or CLI).
3. File management aur task scheduling.

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3. What is utility software and why is it important?

Answer:

Utility software aise programs hote hain jo system ki performance ko improve karte hain aur security maintain karte hain.

📌 **Importance:**

- Virus removal (e.g., Antivirus)
- Disk cleanup
- Data backup and recovery

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4. Describe the role of device drivers in a computer system.
Answer:
Device drivers hardware aur OS ke darmiyan communication ka zariya hote hain. Ye batate hain OS ko ke hardware device (jaise printer ya mouse) ko kaise operate karna hai.

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

System Software	Application Software
Hardware ko control karta hai	User-specific tasks ke liye hota hai
e.g., Windows OS, Drivers	e.g., MS Word, Excel

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6. What are the main functions of spreadsheet software?
Answer:
Spreadsheet software (e.g., MS Excel) ka kaam:

- Data entry aur organization
- Calculations using formulas
- Charts aur graphs banana
- Data analysis (sorting/filtering)

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7. How can graphic design software be used in the field of education?
Answer:
Graphic design software (e.g., Adobe Illustrator, Canva):

- Educational posters and charts banana
- Visual aids for teaching
- Infographics and diagrams tayar karna

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8. What is the significance of data backups and how can they be performed?
Answer:
Data backup ka matlab data ka copy tayar karna in case of data loss.

📌 **Importance:**

- Virus attack, accidental deletion, or hardware failure ke waqt data recover ho jata hai.
  - ⬍ **Methods:**
- USB/Hard Drive backup
- Cloud backup (e.g., Google Drive)

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

Answer:
System software computer system ka **foundation** hota hai jo hardware aur software ke darmiyan bridge ka kaam karta hai. Ye aise programs ka majmua hota hai jo system ko boot, manage, aur operate karne mein madad karte hain.

💡 Importance of System Software:

1. **Hardware Ko Control Karna:**
   System software hardware components jaise CPU, RAM, hard disk, printers ko manage karta hai.
2. **Operating Environment Provide Karna:**
   Ye application software ke liye aik aisa environment faraham karta hai jahan wo smoothly run kar saken.
3. **User Interface:**
   Graphical User Interface (GUI) ya Command Line Interface (CLI) ke zariye user ko computer se interact karne ka tareeqa deta hai.
4. **Task Management:**
   Multiple programs ko ek waqt mein handle karne ke liye multitasking support karta hai.
5. **Security and Access Control:**
   Passwords, user roles, firewalls waghera ke zariye system ki security banata hai.

❖ **Examples:** Windows, Linux, BIOS, device drivers, utility software.

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

Answer:
Ye teeno components system software ka part hain aur har ek ka apna role hota hai:

A. Operating System (OS):

- OS wo software hota hai jo computer ke tamaam functions ko control karta hai.
- Ye user aur hardware ke darmiyan interface provide karta hai.
- **Examples:** Windows 10, Linux, macOS

Functions:

- Resource management
- File management
- Process scheduling
- User interface (GUI/CLI)

B. Utility Software:

- Ye aise tools hote hain jo system ki performance ko enhance karte hain aur security ko maintain karte hain.
- **Examples:**
  - o Antivirus (e.g., Avast)
  - o Disk Cleanup
  - o Backup Tools

Functions:

- Viruses remove karna
- Temporary files delete karna
- Data backup and recovery

C. Device Drivers:

- Ye special software hote hain jo hardware devices ko operating system ke sath communicate karne mein madad dete hain.
- **Examples:**
  - o Printer Driver
  - o Sound Driver
  - o Display Driver

Functions:

- Hardware configuration
- Communication with OS
- Enabling proper hardware functioning

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

Answer:

Feature	System Software	Application Software
Purpose	Hardware ko operate aur control karta hai	User ke specific tasks complete karta hai

Feature	System Software	Application Software
User Interaction	Direct interaction nahi hoti	Direct user interface hoti hai
Dependency	OS ke bina computer kaam nahi karta	OS ke bina application software run nahi hota
Examples	Windows, BIOS, Device Drivers	MS Word, Excel, PowerPoint

Summary:

System software har waqt background mein chalta hai aur application software uss environment mein user tasks perform karta hai. Dono ki apni importance hai lekin bina system software ke application software ka koi use nahi.

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

Answer:

Utility software system ko fast, secure aur efficient banata hai. Ye chhoti chhoti tasks perform karta hai jo OS ya application software nahi karte.

Steps to Optimize Performance:

1. **Disk Cleanup:**
   Temporary files, cache files, recycle bin clean karo — jisse space free hoti hai.
   ⚒ Tool: Windows Disk Cleanup
2. **Disk Defragmentation:**
   Hard drive ke scattered data blocks ko arrange karta hai — access speed increase hoti hai.
   ⚒ Tool: Defragment and Optimize Drives (Windows)
3. **Antivirus Scan:**
   System ko virus, malware, spyware se clean karta hai.
   ♡ Tool: Avast, Windows Defender
4. **Backup Utilities:**
   Important data ko backup bana kar secure jagah store karta hai.
   🖫 Tool: Acronis, Windows Backup
5. **Task Manager Monitoring:**
   System load aur running processes ko monitor karta hai — unnecessary processes ko close karo.

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

Answer:

Installation of Device Drivers:

- Jab naya hardware install karte hain (e.g., printer), uske sath driver CD ya manufacturer's website ka link hota hai.
- Windows OS aksar **Plug & Play** feature se khud hi driver install kar leta hai.

Updating Drivers:

1. Open **Device Manager**
2. Right-click on device → "Update Driver"
3. Automatically search or browse manually
4. Reboot after update

Troubleshooting Drivers:

- Agar device kaam nahi kar raha:
  - Device Manager open kar ke yellow warning check karo.
  - "Uninstall" karke dobara install karo.
  - Roll back to previous version if update created error.
  - Manufacturer's site se latest driver download karo.

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

Answer:

Application software directly user ke kaam aata hai — ye productivity tools hain jo rozmarrah ke tasks ke liye use hote hain.

A. Word Processing Software:

- **Purpose:** Documents create/edit karna.
- **Features:** Formatting, spell check, tables, printing.
- **Example:** MS Word, Google Docs

B. Spreadsheet Software:

- **Purpose:** Numerical data ko organize karna.
- **Features:** Formulas, charts, sorting/filtering.
- **Example:** MS Excel, Google Sheets

C. Presentation Software:

- **Purpose:** Slideshows for teaching/training.
- **Features:** Animations, transitions, speaker notes.
- **Example:** MS PowerPoint, Prezi

D. Graphic Design Software:

- **Purpose:** Visual content design karna (logos, charts).
- **Features:** Drawing tools, layers, text effects.
- **Example:** Adobe Illustrator, Canva