Chapter 4: System Troubleshooting
Short Question from the Chapter "System Troubleshooting":

EXERCISE Short Question with Answers

1. What is the first step in the systematic process of troubleshooting, and why is it important?

Ans: The first step is **identifying the problem**. It is important because without knowing the exact issue, we cannot find the correct solution. Example: noticing that a computer does not start when the power button is pressed.

2. After identifying a problem, what is the next step in troubleshooting, and how does it help in resolving the issue?

Ans: The next step is **establishing a theory of probable cause**. It helps by suggesting possible reasons for the problem so that testing can confirm the actual cause. Example: suspecting a dead battery when a laptop won't power on.

3. Describe the importance of testing a theory during the troubleshooting process. Provide an example.

Ans: Testing a theory confirms whether the suspected cause is correct or not. Without testing, we may waste time on wrong fixes. Example: testing if a faulty charger is the reason a laptop is not charging.

4. Explain what the "Implement the Solution" step entails in troubleshooting.

Ans: This step means applying the chosen fix to solve the problem. It could involve replacing faulty hardware, updating drivers, or removing viruses. Example: installing a new printer driver to fix printing errors.

5. Why is it necessary to verify full system functionality after implementing a solution?

Ans: Verification ensures that the problem is completely solved and no new issues have appeared. This confirms the system is stable and working correctly. Example: checking if a computer boots normally after fixing its power supply.

Additional Short Question with Answers

1. Introduction to Troubleshooting

Q1. Define troubleshooting in simple words.
Ans. Troubleshooting is the process of finding and fixing problems in a computer system to restore it to normal working condition.

Q2. Why is troubleshooting important for computer systems?
Ans. It ensures that computers work smoothly, saves time, and prevents system failures.

Q3. Give one real-life example of troubleshooting.
Ans. Checking why a mobile phone does not charge and then fixing the charger or battery.

Q4. What is the main goal of troubleshooting?
Ans. The main goal is to quickly find the cause of a problem and solve it efficiently.

Q5. How does troubleshooting improve productivity?
Ans. It reduces downtime and keeps systems available for continuous work.

2. System Troubleshooting Process

Q1. What comes after identifying the problem?
Ans. After identifying the problem, we establish a theory of probable cause to guess what might be wrong.

Q2. Why is it important to document troubleshooting steps?
Ans. Documentation helps future users or technicians solve similar problems faster.

Q3. What does "verify functionality" mean in troubleshooting?
Ans. It means checking if the system is fully working after applying the solution.

Q4. Why do we test the theory of cause?
Ans. To confirm whether the suspected issue is the actual reason for the problem.

Q5. Give an example of implementing a solution.
Ans. Replacing a faulty mouse to restore proper input to the computer.

3. Common Hardware Problems

Q1. Mention one common problem of input devices.
Ans. Keyboard keys not working properly is a common input device problem.

Q2. What is a common problem with monitors?
Ans. A blank or flickering screen is a common output device problem in monitors.

Q3. How can we fix a "paper jam" problem in printers?
Ans. By carefully removing the stuck paper and checking the rollers.

Q4. What problem occurs if the power supply fails?
Ans. The computer will not start or boot properly.

Q5. Give one example of a storage device issue.
Ans. Hard disk not detected by the system.

4. Common Software Problems

Q1. What is a driver in a computer system?
Ans. A driver is a program that helps the operating system communicate with hardware devices.

Q2. What happens when a driver is missing?
Ans. The related device, like a printer or sound card, may not work properly.

Q3. Give an example of a software problem.
Ans. An application crashing while working is a software problem.

Q4. How can viruses affect a system?
Ans. Viruses slow down systems, damage files, and sometimes steal data.

Q5. How can we fix an operating system error?
Ans. By updating, repairing, or reinstalling the operating system.

5. Troubleshooting Tools

Q1. Name one hardware tool used in troubleshooting.
Ans. A multimeter is used to measure voltage, current, and resistance.

Q2. Which tool is used to check running programs?
Ans. Task Manager is used to monitor and close running applications.

Q3. How does antivirus help in troubleshooting?
Ans. Antivirus detects and removes viruses, keeping the system secure.

Q4. Why are spare parts useful in troubleshooting?
Ans. They can replace faulty components to check whether they caused the problem.

Q5. Give one software tool for diagnosing problems.
Ans. Diagnostic software helps identify hardware and software issues.

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6. Maintenance and Safety Precautions

Q1. Differentiate between preventive and corrective maintenance.
Ans. Preventive maintenance avoids problems before they occur, while corrective maintenance fixes problems after they occur.

Q2. Why should we turn off a system before repairing it?
Ans. To prevent electric shocks and avoid damaging components.

Q3. How does dust affect a computer system?
Ans. Dust can block airflow, cause overheating, and damage parts.

Q4. What is static electricity, and why is it dangerous?
Ans. Static electricity can damage sensitive computer components like chips and memory.

Q5. Give one safety rule for handling computer hardware.
Ans. Always handle components with dry hands and proper grounding.