**DV162\_61\_PAS On Troubleshooting Storage Devices**

**Possible Answers Sheet**

Q1. What does it mean when you see a message on the screen that says, "Cannot read from the source disk"?

Ans: It indicates a problem reading or writing information to the storage drive, possibly due to a drive failure or slow response.

Q2. What is the "click of death"?

Ans: The "click of death" refers to a loud clicking noise made by a failing hard drive, indicating a potential hardware failure.

Q3. What should be done first when troubleshooting storage problems?

Ans: Make a backup of critical data on the drive.

Q4. How can I check if my system is overheating?

Ans: Check for any signs of overheating such as constant LED access activity, unusual fan noises, or system shutdowns due to overheating.

Q5. What can a user do if their power supply does not have enough power for a storage drive?

Ans: Remove excess hardware or upgrade the power supply to provide sufficient power for the drive.

Q6. What if you’re not sure if the problem is with the drive or something outside of the storage drive?

Ans. Run hardware diagnostics provided by the drive manufacturer to check for errors.

Q7. What can the drive manufacturer provide to check the working components of a drive?

Ans: Drive diagnostics software to test all components of the drive and detect errors.

Q8. What messages may occur when you boot your system?

Ans: Messages such as "drive not recognized," "boot device not found," or "operating system not found" may occur during startup.

Q9. What lights may occur when you boot your system?

Ans: Lights indicating drive access or no access may be observed during boot.

Q10. What does it mean when an operating system is not found during startup?

Ans: It means the drive is present, but there is no operating system installed on it.

Q11. What is the first step to troubleshoot this issue when an operating system is not found during startup?

Ans. Check the physical configuration and cables to ensure they are properly connected.

Q12. The \_\_\_\_\_\_\_\_\_\_\_\_maintains the list of priorities for all of the boot devices during startup.

Ans. BIOS (Basic Input Output System)

Q13. What is the sequence for booting up in a BIOS?

Ans: The BIOS checks the storage drive at the top of the boot priority list first, then moves down the list if no operating system is found.

Q14. What should I check if my system is not booting?

Ans: Check BIOS settings, cables, and drive configurations to ensure everything is correctly set up.

Q15. What should you do if you are booting from a new storage drive?

Ans: Check data and power cables to ensure proper installation, and try different SATA interfaces if necessary.

Q16. What is a potential problem with hard drives?

Ans: Hard drives are mechanical systems prone to failure over time.

Q17. What can happen if a solid state drive fails?

Ans: A failed SSD may prevent reading or writing data, potentially leading to data loss or corruption.

Q18. What does RAID stand for?

Ans. RAID stands for Redundant Array of Independent Disks.

Q19. What is RAID?

Ans: RAID is a method of combining multiple drives for data redundancy and performance benefits.

Q20. How do you investigate a RAID controller failure?

Ans: Use the RAID manager to identify the failed drive and replace it.

Q21. What can a RAID manager tell you?

Ans: A RAID manager can list all drives in the array, their models, and status, including any failures or errors.

Q22. How many drives is required in RAID 0?

Ans. RAID 0 requires at least two drives.

Q23. What happens if a single drive failure occurs in a RAID 0 array?

Ans: A single drive failure in RAID 0 results in data loss as the entire array fails.

Q24. How many drives do you need for RAID 1?

Ans: RAID 1 requires at least two drives.

Q25. What is the minimum number of drives required for RAID 5?

Ans: RAID 5 requires a minimum of three drives.

Q26. RAID 10, which you may see written as\_\_\_\_\_\_\_\_\_\_\_\_\_\_, requires \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ drives.

Ans. RAID 1+0, four or more drives.

Q27. What is the full form of SMART?

Ans: SMART stands for Self-Monitoring, Analysis, and Reporting Technology.

Q28. What information is provided in SMART data?

Ans: SMART data provides various statistics about drive performance and health, such as spin-up time, seek error rates, and power-on hours.

Q29. How often will Mini RAID arrays perform their own checks?

Ans: Mini RAID arrays may perform their own checks daily, weekly, or monthly.

Q30. What should be done when receiving a message that a drive is failing?

Ans: Backup data and replace the failing drive as soon as possible.

Q31.What are the different parts of your computer system that can be used to retrieve or store the data?

Ans: Memory access, communication bus, storage drives (hard drives, SSDs).

Q32. What are some ways to measure the overall performance of our storage devices?

Ans. One way to measure the overall performance of our storage devices is to measure the number of IOPS (input/output operations per second).

Q33. IOPS stands for?

Ans. OPS stands for Input/Output Operations Per Second.

Q34. How much IOPS can a hard drive achieve?

Ans: A hard drive can achieve up to around 200 IOPS.

Q35. What is the IOPS of a solid state drive?

Ans: A solid state drive can achieve up to one million IOPS.

Q36. How can we troubleshoot when certain drives are missing from the File Manager? Ans: Check BIOS settings, cables, and drive configurations to ensure proper connection.

Q37. If this is an external drive that’s connected via USB, then we want to be sure we have\_\_\_\_\_\_\_\_\_\_\_\_\_ for the drive and that we’re connecting to the appropriate \_\_\_\_\_\_\_\_\_\_interface.

Ans. Power, USB.

Q38. How do we reconnect a missing network share?

Ans: Reconnect the drive once the connection is established or run the login script again to map the drive.