**DV162\_36\_PAS\_On RAID**

**Possible Answers Sheet**

Q1. What is used to store large amounts of information?

Ans: Hard Drives.

Q2. What can happen to hard drives eventually?

Ans: Fail.

Q3. What can be done to ensure data remains available if a drive fails?

Ans: RAID would be good to ensure data remains available if the drive fails.

Q4. What is RAID?

Ans: RAID is a technique to ensure data remains available if drives fail.

Q5. What does RAID stand for?

Ans: RAID is an acronym for Redundant Array of independent Disks.

Q6. What is the difference between earlier versions of RAID and the current version?

Ans: Earlier version of RAID was just an acronym difference instead of Redundant Array of Independent Disks, Redundant Array of InExpensive Disks but the idea was the same.

Q7. Do all RAID levels provide redundancy?

Ans: Not all RAID levels provide redundancy.

Q8. We referred to different types of RAID as \_\_\_\_\_\_\_\_\_\_\_\_.

Ans. Different RAID Levels.

Q9. What is RAID 0 or striping?

Ans: We have at least two drives in RAID 0. Instead of writing everything to one drive or everything to the other drive, we take all of our data and we split it evenly between these two drives.

Q10. What is the benefit of splitting a single file across multiple drives?

Ans: Splitting a single file across multiple drives provides a performance increase because we only have to write or read half of the data if we have two separate drives.

Q11. What is the problem with RAID 0?

Ans: Because RAID 0 has 0 redundancy and if we lose one of the drives in RAID 0 we lose effectively half of the data that we stored.

Q12. How is RAID 1 different from RAID 0?

Ans: In RAID 1 we duplicate the data in both drives while in RAID 0 we split the data and store half in one drive and half in other drive.

Q13. What is the benefit of having duplicate drives?

Ans: If one drive loses we can still get data from duplicate drives.

Q14. What is the consequence of having duplicate drives?

Ans: We will need twice the storage while duplicate drives.

Q15. : What is RAID 5?

Ans: Is the RAID Level in which we do Striping with Parity. In RAID 5 we have an additional drive where we store Parity Information.

Q16. How does RAID 5 work?

Ans: In RAID 5 we have an additional drive where we store some parity information. That parity information allows us to rebuild this data if we happen to lose any of these physical drives. This is a much more efficient use of drive space because you have all of the data being spread across drives and then on one additional drive some parity information. So if you’re storing this on four separate drives, three of those drives can be used for data and one of those drives can be used for parity.

Q17. What is the purpose of RAID 5?

Ans: To minimize the need for double storage devices.

Q18. What happens if a single drive is lost in a RAID system?

Ans: The Data can be recovered except for RAID 0 Level.

Q19. What is RAID 10?

Ans: RAID 10, also sometimes referred to as RAID 1+0 or RAID 01, is a type of RAID configuration that combines the benefits of RAID 1 (mirroring) and RAID 0 (striping) to offer a good balance between performance, redundancy, and storage capacity.

Q20. What does a RAID 0 configuration look like?

Ans: Suppose we have RAID 0 with three separate physical drives.Then we can see that we are evenly distributing our files across all three of those individual drives. As with RAID 0, if we lose any one of these physical drives, then all of our data is inaccessible. As it is not-redundant level of RAID.

Q21. What is RAID 1 plus 0?

Ans: Also called RAID 10 or Stripe of Mirror. It combines the elements of RAID 1 (Mirroring) and RAID 0 (Striping).

Q22. What are the benefits of RAID 1 plus 0?

Ans: Suppose we have 3 pairs of drives and we are using RAID 1 plus 0. Then if we could lose three separate drives and still have access to all of our data as long as the three drives that we’re losing are part of the single pairs in each individual RAID 1 mirror.