**Studytonight – CAO test 8 – Aditya Jain**

1. **The access time is composed of \_\_\_\_\_\_\_\_\_\_**a) Seek time  
   b) Rotational delay  
   c) Latency  
   **d) Both Seek time and Rotational delay**

Explanation: Access time is composed of both, the Seek time (to move to the required track) and the Rotational Latency (sector to position itself under the read-write head).

Seek Time: It is the time taken by the disk arm to position itself over the required track. It measures the time that head assembly takes on the actuator arm to travel to the disk track on which the data is either read or written. It does not include the time that head takes to read the disk directory.

Rotational Delay: It is the time taken by the required sector in the track to position itself under the read/write head. It is the delay happened for the disk rotation to bring the required disk sector under the read-write head.

1. **The \_\_\_\_\_ process divides the disk into sectors and tracks.**a) Creation  
   b) Initiation  
   **c) Formatting**  
   d) Modification

Explanation: The formatting process deletes the data present and does the creation of sectors and tracks.

1. **\_\_\_\_\_\_\_ is used to detect and correct the errors that may occur during data transfers.  
   a) ECC**b) CRC  
   c) Checksum  
   d) None of the mentioned

Explanation: Error Correcting Code (ECC) is used to both, detect as well correct the error in the data frame to be sent, whereas Cyclic Redundancy Check (CRC) is only an error detecting code (and not correcting) which is commonly used to detect accidental changes made to the raw data.

1. **The delay reduced to in the carry look ahead adder is \_\_\_\_\_\_\_**a) **5**  
   b) 8  
   c) 10  
   d) 2n

Explanation: A Carry-Look Ahead adder improves speed by reducing the amount of time required to determine carry bits.

1. **The disk drive is connected to the system by using the \_\_\_\_\_**a) PCI bus  
   **b) SCSI bus**  
   c) HDMI  
   d) ISA

Explanation: A Small Computer System Interface (SCSI) is a standard interface for connecting peripheral devices to a PC. Depending on the standard, generally it is connected to 16 peripheral devices using a single bus including one host adapter.

SCSI is used to increase performance, deliver fast data transfer transmission and provide larger expansion for devices such as CD-ROM drives, Scanners, DVD drives and CD writers.

SCSI has a controller in charge of transferring data between the devices and the SCSI bus.

1. **To distinguish between two sectors we make use of \_\_\_\_\_\_\_\_  
   a) Inter sector gap**b) Splitting bit  
   c) Numbering bit  
   d) None of the mentioned

Explanation: Inter Sector Gap is the little gap in between each sectors to differentiate between them.

1. **The final addition sum of the numbers, 0110 & 0110 is**a) **1101**  
   b) 1111  
   c) 1001  
   d) 1010
2. **We make use of \_\_\_\_\_\_ circuits to implement multiplication.**a) Flip flops  
   b) Combinatorial  
   c) **Fast adders**d) None of the mentioned

Explanation: The fast adders are used to add the multiplied numbers.

1. **The read and write operations usually start at \_\_\_\_\_\_ of the sector.**a) Centre  
   b) Middle  
   c) From the last used point  
   d) **Boundaries**

Explanation: The heads read and write data from the ends to the centre.

1. **\_\_\_\_\_\_\_ is used to deal with the difference in the transfer rates between the drive and the bus.**a) Data repeaters  
   b) Enhancers  
   c) **Data buffers**d) None of the mentioned

Explanation: The buffers are added to store the data from the fast device and to send it to the slower device at its rate, thereby ensuring uniform flow of data.

1. **In full adders the sum circuit is implemented using \_\_\_\_\_\_\_\_**a) And & or gates  
   b) NAND gate  
   **c) XOR**  
   d) XNOR

Explanation: sum = a ^ b ^ c (‘^’ indicates XOR operation).

1. **The disk system consists of which of the following:  
   i Disk  
   ii. Disk drive  
   iii. Disk controller**

a) i and ii  
**b) i ,ii and iii**  
c) ii and iii  
d) i

1. **The data can be accessed from the disk using \_\_\_\_\_\_\_\_\_**a) Surface number  
   b) Sector number  
   c) Track number  
   **d) All of the mentioned**
2. **The set of corresponding tracks on all surfaces of a stack of disks form a \_\_\_\_\_\_**a) Cluster  
   **b) Cylinder**c) Group  
   d) Set

Explanation: The data is stored in the sections called as cylinders.

1. **The carry generation function: ci + 1 = yici + xici + xiyi, is implemented in \_\_\_\_\_\_\_\_\_\_\_\_**

a) Half adders  
**b) Full adders**c) Ripple adders  
d) Fast adders

Explanation: In Full adders, the carry for the next step is generated in the previous steps operation.