ASSIGNMENT 12


12-1. The velocity transducer in a disk memory set drive unit helps control the acceleration and deceleration of which of the following parts?

1. The drive motor
2. The spindle assembly
3. The carriage assembly
4. The operating frequency of the system clock

12-2. The polarity and amplitude of the voltage induced into the velocity transducer coil by the transducer core indicates which of the following movements are occurring?

1. The speed the disk is rotating
2. The speed of the carriage assembly only
3. The direction of travel of the carriage assembly only
4. The speed and direction of the carriage assembly movement

12-3. The servo circuit used to position the read/write heads in a disk memory set is centered on the right track when the error voltage is equal to

1. -1 volt
2. 0 volts
3. +1 volt
4. +5 volts

12-4. The feedback signal in the velocity transducer servo circuit performs which of the following functions?

1. It is used to move the carriage faster
2. It tells the servo circuit when the desired location is reached
3. It opposes the position error and dampens carriage movement
4. It moves the heads by one track

12-5. If a disk has an error on its servo surface, it is possible to rewrite the servo surface.

1. True
2. False

12-6. The number of sectors per track that will be written on a disk memory set disk pack is selectable by what means, if any?

1. The sector select switch only
2. A set sector size command from the computer only
3. Either the sector select switch or a set sector size command from the computer; the result is the same
4. Not selectable, the number of sector per track is fixed
12-7. When a disk pack is formatted, the locations of the tracks are controlled by which of the following factors?

1. The prerecorded tracks on the servo disk surface
2. The smallest increment the actuator assembly can move the heads
3. An operator controlled entry of number of tracks
4. A computer command designating number of tracks per inch

12-8. When a magnetic disk set is operating normally, what is the relationship, if any, between the position of the heads and the disk’s surface?

1. The heads physically contact the disk
2. The heads are held above the disk surface by the head arm springs
3. The heads float above the surface of the disk on a cushion of air
4. None; the position of the heads does not affect disk operation

12-9. Which of the following procedures will help prevent damage to the disk pack?

1. Store the disk pack on its side
2. Store the disk pack in an area where large magnetic fields exist
3. Never reassemble the disk pack canister if it is empty
4. Never touch the disk pack’s recording surfaces

12-10. The term fixed hard disk system refers to which of the following devices?

1. A hard disk system that is not broken
2. A hard disk system in which the disk is in a sealed case and inaccessible to the user
3. A hard disk system in which the hard disk is contained in a removable cartridge
4. A hard disk system that cannot be used with a microcomputer

12-11. The head disk assembly of a fixed disk system usually contains all of the following parts except which one?

1. The heads
2. The disk platters
3. The head actuator
4. The disk controller

12-12. The maximum number of platters that a half-height, fixed disk system may contain is

1. five
2. six
3. seven
4. eight

12-13. In the manufacture of a fixed hard disk, which of the following processes for applying the magnetic material is similar to the process used in creating semiconductors?

1. Sputtering
2. Plating
3. Electroplating
4. Coating

12-14. Which of the following materials is most commonly used as a base for fixed hard disk platters?

1. Polyester film
2. Aluminum alloy
3. Iron alloy
4. Plastic

12-15. Having the thinnest magnetic media applied to the disk platters has which of the following advantages?

1. A smaller space on the disk is required to reliably store data
2. The head can fly closer to the disk
3. A smaller magnetic field strength is required to reliably store data
4. All of the above
In a magnetic disk system, reducing the flying height of the heads has which of the following advantages?

1. Requires a stronger current to accurately write on the disk
2. Reduces the signal to noise ratio, increasing the accuracy of the disk
3. Increases the signal to noise ratio, increasing the accuracy of the disk
4. Increases the physical space on the disk required to store data

The U-shaped groove in the bottom of a thin film head is used for what function?

1. To regulate the air pressure and control the flying height of the head
2. To direct the magnetic field from the head onto the disk when writing
3. To channel the magnetic field from the disk to the head when reading
4. To hold the erase head

The mechanical system that moves the heads across the disk surface is known as the

1. head drive system
2. head arm
3. head actuator
4. disk drive motor

A motor that moves in precise detents when a drive signal is applied is known as a

1. voice coil motor
2. stepper motor
3. servo motor
4. synchro

Which of the following actuators could suffer a loss of data because of variations in temperature?

1. Voice coil
2. Stepper motor
3. Servo motor
4. Synchro

For proper positioning of the heads, which of the following actuators requires a dedicated servo surface or servo signal embedded in the sector gaps?

1. Voice coil
2. Stepper motor
3. Servo motor
4. Synchro

The speed of the spindle motor in a fixed disk is controlled by which of the following devices?

1. An optical sensor
2. A tachometer only
3. A feedback loop only
4. A tachometer and feedback loop

Timing and synchronization between a fixed disk drive and the drive controller are accomplished by which of the following means?

1. A clock on the controller
2. A clock on the disk drive logic board
3. Special timing signals on the disk
4. Data and flux reversal pulses

Which of the following data encoding methods is NOT used with fixed disk drives?

1. Modified frequency modulation
2. Frequency modulation
3. Run length limited
4. Non-return-to-zero indiscrete
12-25. A fixed disk system that uses frequency modulation to encode data would store the byte 10100001 as which of the following codes (P=pulse, N=no pulse)?

1. PPPPNPNPNPPPNP
2. PPPNPPNPNPNPNPP
3. NPPPNPPPPPPPPNP
4. NNPNPNPNNPNNNPNP

12-26. Which of the following data encoding methods groups bits together and uses a table to determine what code is written on the disk?

1. Non-return-to-zero
2. Frequency modulation
3. Modified frequency modulation
4. Run length limited

12-27. A fixed disk system using modified frequency modulation will encode a logic ZERO that is preceded by a logic ONE in which of the following ways?

1. No pulse followed by a pulse
2. A pulse followed by no pulse
3. Two no-pulse periods
4. Two pulses

12-28. Which of the following encoding methods will increase by 50 percent the data density and transfer rate of a fixed disk system?

1. Run length limited
2. Non-return-to-zero
3. Frequency modulation
4. Modified frequency modulation

12-29. The encoding method used to write data on a fixed disk is determined by which of the following means?

1. The application software installed in the computer
2. The disk operating system (DOS) installed in the computer
3. The disk controller
4. The manufacturer of the disk drive

12-30. The run length limited encoding method can be used with any fixed disk drive.

1. True
2. False

12-31. A fixed disk’s interleave factor is the relationship between what two items?

1. The physical sectors and the logical sectors of a track
2. The disk drive and the disk controller
3. The disk drive and the encoding method used to store data
4. The disk drive and the computer

12-32. Interleaving a fixed disk has which of the following effects?

1. Increases data density on the disk
2. Decreases data density on the disk
3. Increases data retrieval and transfer time
4. Decreases data retrieval and transfer time

12-33. On a fixed disk with nine sectors per track and an interleave factor of 4:1, which of the following would be the physical sector numbering?

1. 1,9,7,5,3,2,8,6,4
2. 1,8,6,4,2,9,7,5,3
3. 1,2,3,4,5,6,7,8,9
4. 1,4,8,3,7,2,6,5,9
12-34. Which of the following interleave factors would provide the fastest data transfer rate?

1. 4:1
2. 3:1
3. 2:1
4. 1:1

12-35. Which of the following drive interfaces is a smart interface that can disconnect itself from the computer while it processes computer requests?

1. ST-506/412
2. IDE
3. ESDI
4. SCSI

12-36. Which of the following interfaces requires that a set-up program in the computer be run to describe the fixed disk drive’s characteristics?

1. ST-506/412
2. IDE
3. ESDI
4. SCSI

12-37. Which of the following interfaces has the data encoder/decoder on the controller card?

1. ST-506/412
2. IDE
3. ESDI
4. SCSI

12-38. Which of the following interfaces could damage a disk if a low-level format is attempted?

1. ST-506/412
2. IDE
3. ESDI
4. SCSI

12-39. Which of the following interfaces is actually a host adapter, capable of interfacing up to eight devices?

1. ST-506/412
2. IDE
3. ESDI
4. SCSI

12-40. Which of the following interfaces is capable of formatting a drive up to 60 sectors per track and can support a 1:1 interleave?

1. ST-506/412
2. IDE
3. ESDI
4. SCSI

12-41. Which of the following interfaces is now being manufactured on the motherboards of personal computers?

1. ST-506/412
2. IDE
3. ESDI
4. SCSI

12-42. While performing a low-level format on a fixed disk system, which of the following operations are executed by the format program?

1. Checks for bad tracks and marks them with a checksum code
2. Writes the sectors and tracks on the disk
3. Both 1 and 2 above
4. Divides the disk into DOS partitions
12-43. Write precompensation helps eliminate data errors by what method, if any?

1. Increasing the number of bytes per sector as the heads move toward the inner tracks of the disk
2. Decreasing the number of bytes per sector as the heads move toward the inner tracks of the disk
3. Changing the spacing of the magnetic fields as the heads move toward the inner tracks of the disk
4. None; write precompensation does not help eliminate data errors

12-44. Decreasing the amount of current used to write data on the inner tracks of the disk is known as

1. write precompensation
2. reduced write current
3. low-level disk format
4. disk partitioning

12-45. Write precompensation and reduced write current are necessary for which of the following reasons?

1. The inner tracks of the disk are larger than the outer tracks
2. The inner tracks of the disk are smaller than the outer tracks
3. The disk spins faster when reading the inner tracks
4. The disk spins slower when reading the inner tracks

12-46. Running the DOS FDISK program on a fixed disk in a personal computer performs which of the following functions?

1. Prepares the DOS boot sector on the disk
2. Creates the file allocation table on the disk
3. Writes the sectors on the disk
4. Creates the root directory

12-47. When you erase a file on a disk in a personal computer, which of the following operations does DOS perform?

1. Finds the file and writes all ZEROS to the sectors on the disk that the file occupied
2. Finds the file and writes all ONES to the sectors on the disk that the file occupied
3. Changes the code in the FAT to indicate the clusters the file occupied are available for data storage
4. Changes the code in the root directory to indicate the file is erased

12-48. A virus may only infect your personal computer if it loaded in which of the following types of files?

1. A .COM or .EXE file only
2. A data file only
3. The master boot record only
4. Any file loaded when doing a low-level disk format

12-49. Which of the following viruses embeds itself into other programs and may contain other types of viruses?

1. Worm
2. Trojan horse
3. Logic bomb

12-50. Which of the following viruses tries to endlessly copy itself on a fixed disk, tying up the computer and eventually overloading your disk?

1. Worm
2. Trojan horse
3. Logic bomb

12-51. Which of the following viruses only executes itself if a certain set of conditions is met?

1. Worm
2. Trojan horse
3. Logic bomb
12-52. Which of the following viruses is generally the most destructive to a system?

1. Worm
2. Trojan horse
3. Logic bomb

12-53. Which of the following is NOT a precaution in preventing virus infections?

1. Making regular back-ups
2. Using only authorized software
3. Periodically checking the size of the COMMAND.COM file
4. Using software from an unauthorized source

12-54. It is usually possible to recover some data from a fixed disk even after a severe head crash.

1. True
2. False

12-55. In caring for a fixed disk, which of the following precautions is NOT recommended?

1. Limit the number of times the system is turned on and off
2. Avoid eating, drinking, and smoking around computer systems
3. Clean the fixed disk on a regular basis
4. Perform the low-level format of a fixed disk in the position and temperature that the disk will be used

12-56. A multimedia CD-ROM is a disc that contains which of the following types of information?

1. Data files only
2. Digitized audio only
3. Digitized video only
4. Data files, digitized audio, and digitized video

12-57. Data is stored on a CD-ROM by which of the following methods?

1. Magnetizing spots on the disc
2. Etching tiny ones and zeros on the disc
3. Punching tiny holes through the disc
4. Etching pits between lands on the disc

12-58. The diameter of a compact disc is

1. 120 mm
2. 130 mm
3. 140 mm
4. 150 mm

12-59. The data area of a CD-ROM consists of which of the following sections?

1. The table of contents, the lead-out area, and the clamping area
2. The table of contents and the program area only
3. The table of contents, the program area, and the lead-out area
4. The lead-out area and the clamping area

12-60. CD-ROM storage has all of the following advantages except which one?

1. Fast access time
2. Storage capacity of over 540 megabytes of information
3. Extremely durable
4. Can store a mixture of digital information

12-61. Data is stored on a CD-ROM disc in which of the following ways?

1. In a series of separate tracks only
2. In a series of separate tracks divided into sectors
3. In a continuous spiral track divided into sectors
4. In a continuous spiral sector divided into tracks
12-62. Which of the following is a description of the operation of a drive that uses constant linear velocity?

1. The speed of the disc decreases as the read head moves toward the outer edge of the disc
2. The speed of the disc increases as the read head moves toward the outer edge of the disc
3. The speed of the disc remains constant throughout the range of the read head
4. The physical sizes of the sectors on the spiral track increase toward the outer edge of the disc

12-63. Sectors on a CD-ROM are accessed by which of the following address forms?

1. Track, sector, head
2. Minute: second: sector
3. Hour: minute: sector
4. Cylinder: sector

12-64. When a CD-ROM disc is manufactured, the data is written on the disc in which of the following formats?

1. Eight-to-fourteen modulation
2. Modified frequency modulation
3. Run length limited 2,7
4. Non-return-to-zero

12-65. The laser used in the optical head of a CD-ROM drive emits light in which of the following bands?

1. Ultraviolet
2. Visible spectrum
3. Infrared
4. White

12-66. The collimating lens in a CD-ROM drive’s optical head is used to perform which of the following functions?

1. To focus the laser beam on the disc
2. To reduce the divergence of the laser beam
3. To focus the laser beam on the photodector circuit
4. To reduce the intensity of the laser beam

12-67. The final step in focusing the laser beam on the disc is accomplished by which of the following items?

1. Optical head
2. Objective lens
3. Collimating lens
4. Plastic coating on the disc

12-68. Splitting the reflected laser beam and directing the split beams to a set of photodiodes is used in which of the following functions?

1. Ensuring the disc is rotating at the proper speed
2. Maintaining proper tracking and focus
3. Detecting data on the disc
4. Both 2 and 3 above

12-69. The control section decodes the eight-to-fourteen data read from a disc using what method, if any?

1. Checking the data for parity errors
2. Using the data to address a ROM for the proper byte
3. Adding the data to a set value to find the proper byte
4. None; the data does not need to be decoded
12-70. The turntable must rotate so that the data track passes over the optical head at which of the following speeds?

1. 1.3 meters per second
2. 1.5 meters per second
3. 1.7 meters per second
4. 1.9 meters per second

12-71. The interface section provides control for which of the following functions?

1. The transfer of data from the CD-ROM drive to the computer
2. The receipt of data from the computer to be written on the disc
3. Both 1 and 2 above
4. The transfer of data from the disc to the control section of the drive

12-72. Storing information on a large database on CD-ROM has which of the following advantages?

1. Reduces the amount of paper storage required
2. Enables the information to be quickly retrieved
3. Allows the information to be quickly cross-referenced
4. All of the above

12-73. In a multimedia or CD-I application, the different types of data are distinguished by which of the following methods?

1. The control section analyzes the data to determine what it is
2. All data is sent to the computer and the computer determines what it is
3. A code is written at the start of each sector to identify the type of data
4. The disc is divided into specific areas to store audio, video, and program information