Computer Systems Administration
TE2003

Januari 5th 2010

0900-1300

IDE, Halmstad University

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Grades: Part 1, 75%   => 3

Part 2, 75%   => 4

Part 3, G   => 5

For the grade 4 it is required that you get grade 3,

for the grade 5 it is required that you get both grade 3 and 4.

Allowed tools:

Pencil and eraser.

Tools according to the central regulations.

Important! Read the instructions on next page carefully before you start!

INSTRUCTIONS

Answers are marked with pencil in the answer form.

Selections is marked with a X in the correct box, from corner to corner. Incorrect marks are <u>erased</u>. Numbers in personal ID and number answers are written as numbers and then coded as follows (number in clear text in top most box and code in the lower):

Please note:

Note down your answers in the questionnaire. When you are finished you transfer the answers to the answer sheets.

All answer sheets must be handed in. The questionnaire is kept or discarded.

Write and code personal ID on every answer sheet. Empty ones too.

Don't forget to code number answers. Empty squares are filled out with zeroes by default.

The course responsible will visit the exam approximately 1 hour after start.

An example is given on next page.

T and N in your personal ID are coded as 1.

Example:

Your personal ID is 981236-T392

1. Which number is number 2?

   A. 0
   B. 1
   C. 2
   D. 3

2. Rank the following 1-4 in order of increasing size.

   A. Mouse.
   B. Horse.
   C. Elephant.
   D. Dog

Good luck!

1. To be able to use your newly installed Windows over time you have to:

A. Activate.
B. Register and activate.

C. None of the above.
D. Register.

2. A(n) _____ is a collection of user accounts that share the same access capabilities.

A. root
B. group

C. heap
D. user

3. What is a FRU?

A. Free Reigning Usability
B. Failed Removable Unit

C. Field Replacable Unit
D. Fire Reduction Utility

4. Level 1 in OSI is:

A. the transport level.
B. the traffic level.

C. the application level.
D. the physical level.

5. Convert BIN 0001 to DEC.

A. 2
B. 1

C. 0
D. 5

6. What is the default subnet mask for Class C addresses?

A. 255.0.0.0
B. 255.255.255.0

C. 255.255.0.0
D. 255.255.255.255

7. Where does most USB devices get their power?

A. From the USB bus.
B. Self powered by AC.

C. USB devices does not need power.
D. Self powered by DC.

8. What is the command to copy a file in the windows command shell?

A. cp
B. copy

C. c
D. cop

9. What is the name of the super user account in Windows?

A. root
B. toor

C. Administrator
D. Superuser

10. What is POST?

A. The last stage of the boot process.
B. Error messages.

C. Log messages.
D. The initial stage of the boot process.

11. The MP3 format is:

A. all of the answers.
B. properitary.

C. a lossy format.
D. compressing data.

12. How will unpartitioned space show up in FAT32?

A. As an ordinary file in the root.
B. As a drive with the last available drive letter (Z:, Y:, X:...)

C. As an ordinary file on the desktop.
D. It will not show.

13. What is a benefit of a slower CPU?

A. Faster.
B. Slower.

C. Hotter.
D. Cooler.

14. Which of the following statements about disk utilities is incorrect?

A. FDISK provides disk partitioning functions.

B. CHKDSK checks the physical disk for problems.

C. Disk Defragmenter takes fragmented data and puts it back together, giving free disk space.
D. None of the answers.

15. How do you remove an empty folder C:\test?

A. C:\test del /r
B. rd C:\test

C. C:\test rd
D. del /r C:\test

16. Where is the partition table found?

A. In all answers.
B. In the registry.

C. In the MBR.
D. In the VBR.

17. Why <u>not</u> cool harddrives?

A. Fans add sound and noise.

B. Harddrives are supposed to work at an even temperature.

C. Harddrives are supposed to work at a higher temperature.

D. Fans add magnetics fields.

18. What voltage does the power supply typically supply?

A. 12 V
B. 5 V

C. All of the answers.
D. 3.3 V

19. What is correct for a laser printer?

A. It contains a 1000V power supply.

B. The color comes from solid wax sticks that are melted.

C. The printing process is very similar to the ink jet printing process.

D. Laser printers cannot print ascii characters so they use the ascii-L character set instead.

20. A laptop is advertised to have a weight of 2.1 kg. This includes:

A. The PC excluding the removable drives.
B. The PC excluding battery and removable drives.

C. The PC including the battery and removable drives.
D. The PC excluding the battery.

21. Which of the following statements about file systems is incorrect?

A. NTFS supports user quotas.
B. NTFS is compatible with systems using old windows versions such as Windows 95, 98, and Me.

C. NTFS supports file compression.
D. NTFS support file sizes greater than 4GB.

22. Which of the following statements about RAM is incorrect?

A. SRAM does not need periodic refresh.

B. DRAM does not need periodic refresh.

C. Parity and ECC are methods for error checking in RAM.
D. RAM is sensitive to electrostatic discharge.

23. After entering IPCONFIG at a command prompt, you notice you are using an IP address in the 169.254.0.1 to 169.254.255.254 address range. What is most likely the reason you were assigned one of these addresses?

A. The DNS server is down.
B. IPv4 adresses are not available.

C. IPv6 adresses are not available.
D. The DHCP server is down.

24. What is the smallest storage unit for a file on a hard disk drive?

A. Track.
B. Sector.
C. Cluster.
D. Cylinder.

25. Which of CD, DVD and BlueRay has the largest form factor?

A. DVD
B. CD
C. They are all the same.
D. BlueRay

26. Where is BIOS firmware updates stored?

A. In CMOS.
B. In ROM.
C. In EEPROM.
D. In RAM.

27. You connect to the site https://www.example.com. What is the meaning of https?

A. That the connection is wireless (WAP SSID)
B. Data is transferred using a secure connection.
C. A more efficient variant of http.
D. Simply http misspelled.

28. You are having problems with the speed of the network. When you look at the switch you notice that for each cable connected to the switch there is a little blinking light. For some of the cables this light is green and for some it is yellow. What does this indicate?

A. That the link latency is higher.

B. That the link latency is lower.

C. There is no functional difference. The lights just indicate different physical ports.
D. That the links are communicating at different speed.

29. Which device contains the most mechanical parts?

A. Optical mice and ball mice contain the same amount of mechanical parts.
B. A ball mouse.

C. Neither optical mice or ball mice contain mechanical parts.
D. An optical mouse.

30. What does "soft power" mean?

A. The ability to control the power consumption in small increments.
B. A PSU that consumes less energy.

C. The ability to switch off the power from software

D. A PSU that smoothes out power spikes.

31. The location of a file is called its:

A. folder
B. file
C. root
D. path

32. What represents a clean install?

A. Using a non-pirated installation media AND a non-pirated license key.
B. Using a non-pirated installation media.
C. Starting from an empty partition.
D. An installation that is performed correctly without errors.

33. SSID is:

A. an unique storage identifier.
B. a storage (disk) with no moving parts.
C. the "name" of a wireless networks accesspoint.
D. a network protocol.

34. What does excessive disk access most likely indicate?

A. Excessive RAM capacity.
B. Excessive disk space.
C. Insufficient RAM capacity.
D. Insufficient disk space.

35. The LCD is extremely dark. You can barely spot moving objects.The most likely problem is:

A. no signal.
B. damaged back light.
C. broken lcd panel.
D. no power.

36. When you issue a ping to a host and get a number back, such as 11ms, you can tell that:

A. the target system is alive.
B. there is a link to the target
C. there is a link to the target system and that the target system is alive.
D. none of the above.

37. Which of the following interfaces is mainly used for video signals?

A. eSata
B. FireWire
C. VGA
D. USB

38. Which of the following would prove more damaging to a CD-RW?

A. Power failure during reading.
B. Scratching the bottom.
C. Power failure during writing.
D. Scratching the top.

39. Which technique allows modern CPU's to conserve power or/and avoid overheating?

A. Dual Core
B. Clock-multiplying CPU

C. CPU throttling
D. Wait state

40. What is the memory latency?

A. The width of a memory bank.
B. The capacity of a memory bank.

C. The delay of a memory bank.
D. The speed of a memory bank.

41. How many magnetic discs are there in the typical SSD drive (=produced after 2005)?

A. 0
B. 2

C. 4
D. 1

42. What technology is used to reduce cost in laptop computers?

A. Dual processors.
B. Dual video cards.

C. Shared memory.
D. USB memory.

43. Random Access Memory means that

A. the delay for accessing sequential memory cells are constant.
B. the delay for accessing memory cells are random.

C. memory cells must be accessed in sequential order.
D. memory cells can be accessed in random order in constant time.

44. In what order should hardware and drivers be installed?

A. As described in the manual.
B. Driver first, hardware last.

C. None of the above.
D. Hardware first, driver last.

45. When a user tries to logon to the system this can be seen in the event viewer:

A. in the systems log.
B. in the logon log.

C. in the application log.
D. in the security log.

46. A(n) _____ is a fix for a single problem in the operating system.

A. driver
B. update

C. patch
D. service pack

47. What is the purpose of S.M.A.R.T.?

A. Monitoring.
B. Increasing performance.

C. Reducing energy consumption.
D. Controlling.

48. Boot device order is set where?

A. Registry
B. BIOS

C. PCI
D. Startup

49. What is required to be able to boot from USB?

A. It is not possible to boot from USB.
B. BIOS support and a bootable USB device.

C. BIOS support only.
D. A bootalble USB device only.

50. When receiving email yo can use:

A. IMAP
B. Neither POP3 or IMAP

C. POP3 or IMAP
D. POP3

PART 2 – GRADE 4 – 75% TO PASS – USE FORM 3 AND 4 TO GIVE ANSWERS

1. Rank the following 1-4 according to increasing capacity.
A   BlueRay Disc
B   DVD
C   CD
D   2 GB USB-stick

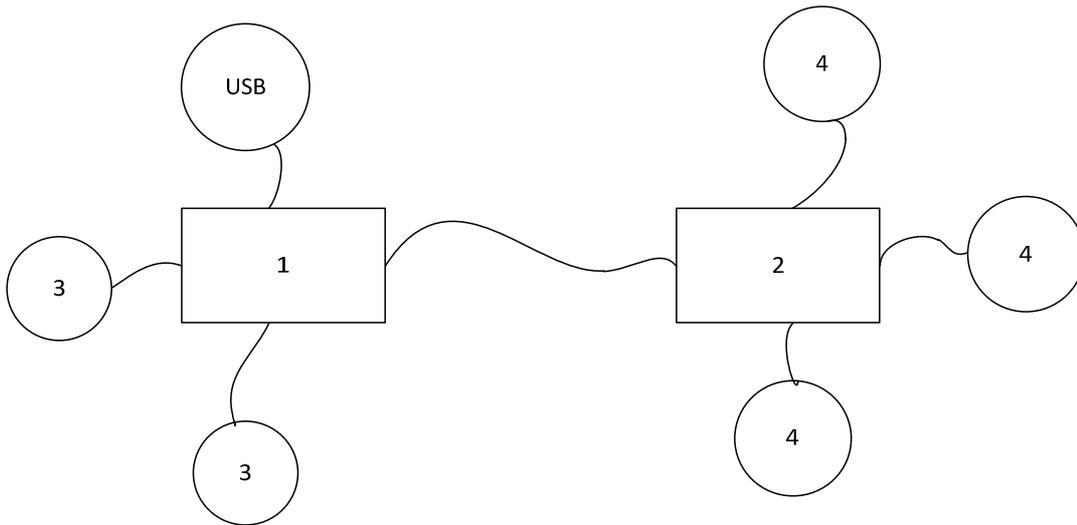2. Rank the following 1-4 according to increasing file size for 10 seconds of a given song.
A   MIDI
B   MP3
C   FLAC
D   WAV

3. Rank the following 1-4 in order of increasing security.
A   WPA 2
B   WPA
C   Open network.
D   WEP

4. Rank the following 1-4 in order of increasing bandwidth.
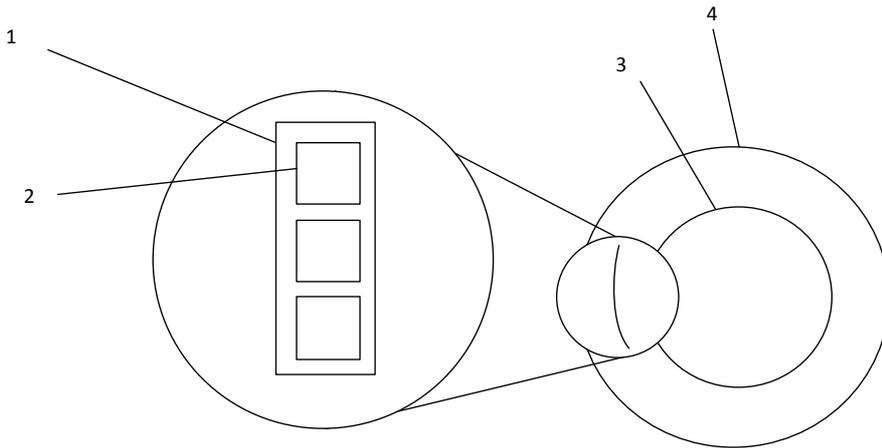A   USB
B   RS-232 serial link
C   Gigabit Ethernet
D   SATA

5.
Match the labels with the correct titles. To get you started I filled in USB at the right position.

A. AGP
B. CPU
C. South bridge
D. RAM

6. Rank the following 1-4 in order of increasing number of maximum nodes.
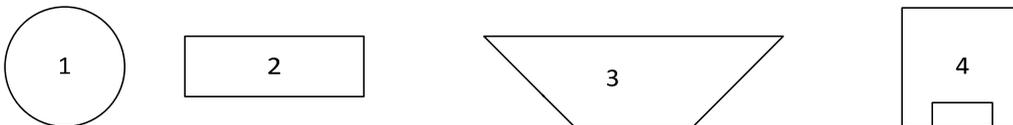A   SATA
B   SCSI SPI
C   USB
D   PATA

7.

  Match the following artifacts.
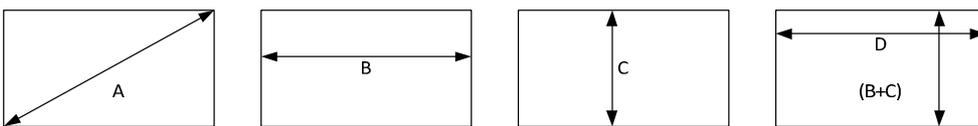
A. Disc
B. Cluster
C. Sector
D. Track

8. Rank the following 1-4 in order of increasing power consumption.
A   USB stick
B   Mouse
C   CPU
D   500W PSU at full load
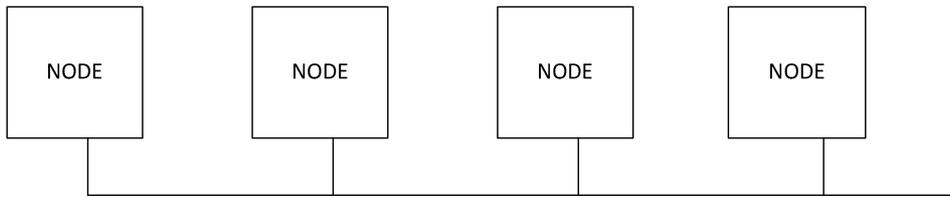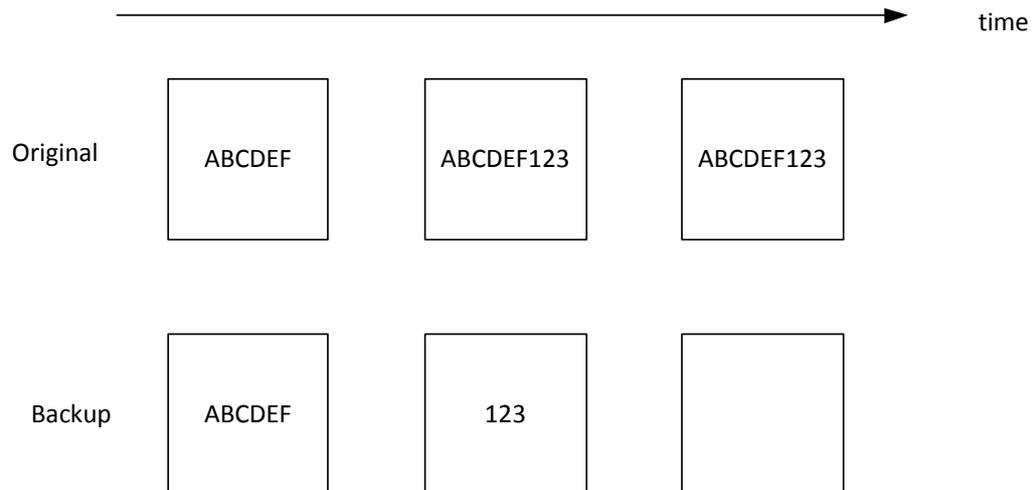

9.

  Match the connectors with the correct label.

A. P/S 2
B. RJ45
C. DSUB
D. USB

10.

A certain moitor is 19". What illustration represents that measurement?

11.
This is:

A. a ring topology.
B. a mesh topology.

C. a bus topology.
D. a star topology.

12. What is the largest file size that could be used under FAT32?

A. 4 GB
B. 2 GB

C. 5 GB
D. 3 GB

13. Approximately how long will it take to download 1400 MB using a 4 MBit/s connection at full speed?

A. 5 minutes
B. 90 minutes

C. 45 minutes
D. 15 minutes

14. The following is taken from ipconfig /all:

?: 00-50-56-C0-00-01
X: No
?: 192.168.244.144
?: 192.168.244.1
Y: 255.255.255.0

 X is "DHCP is enabled", what is Y?

A. Default gateway
B. IP-adress

C. Subnet mask
D. MAC-adress

	time →		
Original	ABCDEF	ABCDEF123	ABCDEF123
Backup	ABCDEF	123	

15.
 The illustration shows:

A. Recursive backup.
B. Incremental backup.

C. Differential backup.
D. Full backup.

16. How can you tell that a component has been in contact with a ESD?

A. You feel a discharge.
B. You see a flash.

C. You hear a click.
D. You cannot know.

PART 3 – GRADE 5 – USE FORM 5 TO GIVE ANSWER

REQUIREMENTS: TO GET THE GRADE 5 YOU MUST BE ABLE TO SHOW A DEEP UNDERSTANDING OF THE SUBJECT AND BE ABLE TO DISCUSS AND ARGUE AROUND THE TOPIC USING THE CORRECT TERMS AND CORRECT JUDGEMENT. IN OTHER WORDS: BEING CORRECT IS NOT ENOUGH TO PASS THIS PART – YOU ALSO HAVE TO CONVIENCE THAT YOU POSSESS A DEEP UNDERSTANDING OF THE SUBJECT.

Instructions: Pick one of the topics below and write a relevant statement of no more than 1120 characters, white space included, one character in each square. Write a sketch first, then transfere it to the answer sheet.

1. The benefits of SSD.

2. Network problems.

3. The purpose of a video processor.

4. Differen types of audio processors and audio interfaces.

5. Ink jet printing.

6. Optical disc storage.

7. System and processor cooling.

8. External buses.

9. Benefits and drawbacks of different display types.

10. Where do we find computers in our day to day life and how do they compare to an ordinary PC?