Exam 1

Answer Key

Fall 2005

Multiple Choice.

1. d
2. b
3. c
4. b
5. a
6. b
7. b
8. d
9. d
10. b
11. c

True or False.

12. T
13. F
14. T
15 T
16. T
17. F
18. T
19. T
20. F
21. F
22. F
Remember this?

23. 

These memory types are present in such different quantities, in part, because of cost. Although the speed of these memory types increases from left to right, given the sketch above, the cost also increases from left to right. Hence, there is less of the more expensive memory types.

The road to Harvard.

24. Each line (except line 17) represents a router in between the personal computer and www.fas.harvard.edu.

25. No, data does not seem to travel straight from Somerville to Cambridge in order to reach the Harvard campus. Rather, it seems to travel to Boston and New York, as lines 5 through 10 suggest.

26. 140.247.30.60, as line 17 reveals.

Who’s in cmd?

27. 00:0B:CD:82:57:E7

28. The PC obtains its IP address (and subnet mask and default gateway, among other settings) automatically on startup via DHCP rather than using hard-coded settings.

29. 192.168.1.1
Rapid Fire.

30. The magnet can rearrange the magnetic particles coating the disk, the result of which is lost or corrupted data, as those particles ultimately represent bits of data.

31. Not only could the drop result in broken parts, it could also cause the HDD’s reading head to gouge one or more of the platters, the result of which is lost or corrupted data.

32. Both faster than RAM, they’re designed to keep the data that a CPU currently needs as immediately accessible as possible, so that the CPU doesn’t have to wait for data to arrive from RAM.

33. IT GIVES THE APPEARANCE THAT YOU ARE SHOUTING, WHICH IS RUDE AND GENERALLY CONSIDERED BAD NETIQUETTE. See, don’t you feel yelled at? WELL YOU SHOULDN’T HAVE GOTTEN THIS QUESTION WRONG!

34. Cable-modem service is a shared medium, whereby neighbors often share a fixed amount of bandwidth among themselves. The more users online at once (e.g., after a day’s hard work), the less bandwidth available to each user, and the slower one’s connection.

35. Phishing is the act of baiting a user with a seemingly official or innocuous email in hopes of duping the user into disclosing personal or financial information.

36. A switch only forwards data destined for a computer connected to it via port $i$ out port $i$, whereas a hub forwards all data out all ports.

37. Dynamic routing protocols (and sometimes humans) are usually able to re-route data along alternative paths through other routers.
“I’ve lost my mobo[’s labels]!”

38. Although specification of only one piece of hardware was allowed for each connector, below are non-exhaustive lists of possible answers.

- Digital camera, external hard drive, flash drive, keyboard, mouse, printer, scanner
- Modem, NIC, sound card, TV card, video card
- CPU
- RAM
- Hard drive, optical drive
Extra Credit.

50. The size of the file to be downloaded is given to be 15 MB. Multiplying this value by 8 yields a size of 120 Mb. Multiplying that value by 1,024 yields a size of 122,880 Kb. Dividing that size by a transfer rate of 40 Kbps yields a transfer time of 3,072 seconds. Dividing that time by 60 yields a transfer time of 51.2 minutes.

51. Because “David,” “Rei,” “Dan,”, and “Roman” were already taken?