1. How do interaction designers attempt to understand users’ needs?

2. How does making a phone call differ when using a cell phone versus a public pay phone (I am, of course, assuming you even know what this is!)? Consider the kinds of users, types of activities, and context of use.

3. What is meant when we say that a goal of interaction design is to develop usable products? What do we mean by “usable?”

4. What are some of the disciplines associated with interaction design?

5. What are benefits and disadvantages of multidisciplinary design teams?

6. What do we mean by “the user experience?”

7. What is involved in the process of interaction design?

8. What are the core characteristics of interaction design?

9. Why do you think that the Apple iPod has been universally accepted by people from all parts of the world, whereas with many websites users from different cultures react differently (e.g. negatively) to them?

10. Identify six key usability goals.

11. How do usability goals differ from user experience goals?

12. There are five common design principles that are relatively commonly promoted: visibility, feedback, contraints, consistency, and affordance. Describe and give examples of each.

13. What is an assumption? A claim? Give examples of each.

14. What are the key components of a conceptual model? What conceptual model underlies most websites that support online purchases?

15. What is an interface metaphor? Give an example.

16. What are the benefits of an interface metaphor? What are the problems with interface metaphors?
17. Define the four basic types of interactions. Give examples of each.

18. What’s the difference between an interaction type and an interface type?

19. Give three examples of new paradigms.

20. List six categories of cognitive processes.

21. How is attention relevant to interaction design? Can you give an example?

22. What are some design implications for attention?

23. What are some design implications of Weller’s experiment with color shading and bordered text boxes? What other design implications are there related to perception?

24. Memory involves both encoding and retrieving knowledge. What are the three levels of memory used in encoding? How does knowledge move from one level to the next?

25. What role does context play in the memorability of some bit of information, i.e. with respect to recall? Give an example of how context can affect what we see.

26. Give examples that illustrate the differences between recognition and recall, with respect to memory.

27. Some designers attempt to use Miller’s research (The Magic Number 7 +/- 2) to suggest that a menu should have at most 7 items in it. Is this a good use of this research? Why or why not?

28. What are some design implications to what we know about memory?

29. Long-term memory consists of several distinct subtypes. Describe them in detail.

30. Give several examples of ways that we attempt to augment our memories using external mechanisms.

31. One of the most difficult things we ask of users is to learn to use a new piece of software. What can designers do to help users during this stage?

32. Reading, speaking, and listening are separate but highly related activities. Compare these three activities, especially between reading text versus listening to someone read text. What applications might this knowledge have with respect to either voice generation or voice recognition systems?

33. What is a mental model? What do people do with mental models? Give an example of a shallow mental model versus a deep one.
34. Norman describes two key “gulfs” that often exist between users and interfaces. Describe these two gulfs. Give an example of each. What implications do these gulfs have on the concept of transparency?

35. Gestalt psychology suggests that we organize things into meaningful units in five different ways. What are these ways? Give an example of each.

36. We tend to prefer that text be lined up along the left edge of a paragraph. This is an example of what gestalt principle?

37. When looking at control widgets, we tend to think of those widgets that are the same shape (e.g. rectangles vs. ovals) as being related to one another in some way. This is an example of what gestalt principle?

38. Describe 10 different interface types.

39. The interface used for our classroom instructor’s computer uses what interface type in addition to what is typical of most computers? How does this additional interface make this system especially useful for an instructor?

40. There are instances when a command-based interface is preferable to a graphical user interface. Describe when this might be so; include examples.

41. What are some research and design issues related to GUIs? Describe these with respect to the four main elements of most GUIs.

42. What are some of the difficulties associated with virtual reality systems?

43. The Geopod project presents several elements from our discussions about interfaces. For instance, what metaphors are being used within the system? What interface type(s)?

44. The World Wide Web is an enhanced version of what was originally called hypertext. It has also become a multi-media delivery system. Explain these statements.

45. There are three key questions that systems such as the Web must help the user address. What are they? Give examples of how these questions might be addressed in a web page design.

46. What makes designing an interface to a consumer product challenging?

47. Apple’s iPhone creates an entirely new user experience, one that has resulted in one of the largest paradigm shifts in either consumer products or general computing. Discuss this point.

48. What are some of the significant challenges of mobile computer-based devices? What impact do these challenges have on research and design issues?
49. Companies such as airlines are increasingly relying on automated phone systems to handle customer inquiries of a wide variety. Discuss how such systems are typically implemented from an interface perspective (e.g. which type(s)). How are such systems able to handle such a wide range of users when their speech patterns are often significantly different?

50. Touch screens have become the standard for mobile devices. What are the pros and cons of such interfaces?

51. What are some of the concerns about gestural (air-based) interfaces?

52. What are haptic systems useful for? What are the difficulties of such systems?

53. What are tangible interfaces? Give an example? What are some of the benefits to tangible interfaces? What are some research and design issues?