Part 1: Short Questions (16 pts)
In your exam notebook write TRUE or FALSE:

1. In Chapanis’s studies, adding an audio channel to a distributed meeting-scheduling task significantly improved user performance.  (TRUE / FALSE)

2. When considering group dynamics alone, electronic meeting systems can offer no advantages over unmediated face-to-face discussion.  (TRUE / FALSE)

3. User error rate is independent of interface response time.  (TRUE / FALSE)

4. Consider two interactive systems, A and B. In A, response time varies with load, whereas in B, response time is artificially kept constant by introducing a delay whenever the load is light. T/F: System B could yield higher user satisfaction rate than System A. (TRUE / FALSE)

5. Sparser displays always yield better user performance than denser displays. (TRUE / FALSE)

6. In a certain naval command and control interface, ships are represented as small white exes (X) over a standard map (water depicted in blue). During a design brainstorming session, it was suggested to color these vessel markers in red for greater emphasis. T/F: This is a good idea. (TRUE / FALSE)

7. The object-action interface (OAI) model suggests that training novice users could be streamlined by teaching them domain tasks directly in terms of interface objects and actions. (TRUE / FALSE)

8. Dynamic queries are a form of direct-manipulation on queries. (TRUE / FALSE)

Part 2: Collaboration (12 pts)

1. The roommates of a certain townhouse track their common expenses by logging them on a shared laptop. For instance, suppose a roommate bought cleaning supplies, he/she will record the expense so that at the end of each month everyone knows how much they owe each other. Explain which type of collaborative interface it is with respect to space/time categorization.

2. Name and explain two benefits of electronic meeting systems.

Part 3: Quality of Service (8 pts)

3. When discussing user error rate as a function of system response time, the function graph was shown to be U-shaped. As response time increased, the error rate initially diminished until reaching some minimum, and then gradually increased. Explain why the error rate was high when response time was short and when it was long.
Part 4: Function and Fashion (28 pts)

4. The Internet allows frustrated users to publicize their dissatisfaction with poor user interfaces. Users on blogs such as www.IHateLotusNotes.com go as far as writing that having to use a particularly bad interface at work played a role in their decision to quit it.

In order to encourage software companies to put greater emphasis on user experience, you would like to design a central website for posting usability bugs, which we will call Hindrances. Users will vote on the most pressing issues.

Design (i) a posting screen, and (ii) a search results screen. Each post has to include the name of the product and the version used, a screen grab or a video showing the problem, a textual description of the issue, a ranking determined by user votes, and optional poster contact email. Draw and describe your design, and explain its main features.

5. In order to evaluate the interface, you will conduct a week-long usability study with 30 participants. Describe two tasks and two questions you will ask and what you expect to learn through them.

Part 5: Manuals and Help (16 pts)

6. Describe one advantage and one disadvantage of each of the following help resources: printed manual, online help, context-sensitive help, and animated tutorial.

Part 6: Search and Visualization (20 pts)

The Office of Sustainability at the University of Maryland has commissioned your services to design an information visualization tool to study energy use in student dorms. You have been provided with a database of students including gender, age, major, and residence hall. In addition, the January-March energy use of each student is stored as a single aggregate value.

7. One aspect they would like to study is the distribution of electricity use by gender, residence hall, and major. Draw and describe your design, and explain how to use it.

8. Another aspect they wish to explore is how energy use varies across the country. A claim was made that there are distinguishable clusters of wasteful and energy efficient campuses on a regional basis where publicity might be greater. Draw and describe a design, and explain how it can be used to confirm or refute the claim.

Good luck! ☺☺ ☺☺