Please find the sample exam questions for the second exam (available through web-CT from Saturday 11/04 at 12 am until Monday, 11/06 midnight) below. Just like in Exam 1, we will present you two randomly selected questions from this set and you will have to choose one to answer. The questions might not be identical to the ones below, but they will be very similar. Sometimes I might add a follow-up question or will ask you to apply a theory/finding to a particular domain. Only one answer will be scored for the short answer portion – we will randomly select which one. Please make sure that your answer is concise and addresses all of the parts of the question directly.

1. Baddeley's model of working memory consists of multiple components. (a) Name the four components of Baddeley’s working memory model and briefly describe the function of each one. (b) Next, describe the idea of “selective interference” tasks theoretically. (c) Then give examples how selective interference tasks can differentiate the four components (e.g., name and describe one task each for at least three out of the four components which illustrates the specific processing characteristics of that component).

2. In the field of mental imagery, two different research findings have been very important. Stephen Kosslyn’s research is often cited as evidence that humans manipulate visual mental images in ways similar to perceiving actual physical stimuli. Similarly, Roger Shepard’s research seems to indicate that humans solve some visual tasks in ways analogous to physical operations. (a) Please give one characteristic example of a research study for each of the two research programs. (b) Discuss how the findings have been interpreted for each one and, if available, list the main criticism for the studies. (c) Finally, discuss the major differences between the two approaches and what implications these differences have theoretically.

3. Please describe in your own words the basic assumptions and predictions of Alan Paivio’s dual code theory. What are the different types of “codes” that Paivio is mainly concerned with? In this context, explain the idea of representing information in different formats and how researchers might be able to differentiate them. List a prototypical experiment that supports his theory. Finally, discuss the potential applications of the theory in instruction and education.

4. Describe Craik and Lockheart’s theory of “Levels of processing” and give a paradigmatic example of a study that tests this theory. Please provide good examples for their manipulation of depth of processing. After describing the theory, please explain the relevance of their theory and how their theory can be (and has been) applied.

5. One of the first stages of information processing involves the (very) brief storage of sensory information. Name two such elements that are used to hold information briefly for future processing and describe their important characteristics (e.g., capacity, temporal duration). Using Sperling’s (1960) experiments, describe how researchers have identified...
these characteristics using the partial report technique. Why was it necessary to come up with this technique?

6. The information processing model by Atkinson and Shiffrin has had an important impact on the field of cognitive psychology. Please describe the main stages of the model in detail. What are the main characteristics and what type of information is present at each of the different stages? How does information move from one stage to the next? Please use the serial position curve to explain how researchers can empirically differentiate important processing stages (hint – describe the serial position curve and then talk about how different parts of the curve can be manipulated experimentally).

7. Eye-witness testimony is an interesting application of basic human memory research to an important problem. To explain the “problem”, please describe the constructive nature of human memory and potential implication this phenomenon has for the validity of human eye-witness testimony. What are the factors that might influence the validity of memories of events? Present at least one classic study by Elizabeth Loftus that casts doubts on the validity of our memories.

8. Chambers and Reisberg performed a simple study investigating the ability of human participants to reinterpret the meaning of ambiguous pictures from their mental image. Please describe in detail Chambers and Reisberg’s main experiment concerning ambiguous figures. What exactly did the authors do in this study and what was the main finding? Give at least one other example that supports Chambers and Reisberg’s main claim about mental images. What is the main theoretical implication of their study?

9. In class we discussed a few different ways of testing long-term memory through testing. Please name the two major types of memory tests, explain the general differences, and give three different examples for each one. Which type of memory tests are usually used for the evaluation of students’ performance in a class? Give some examples. Please discuss the concept of perceptual fluidity. Use the study on the “false fame” effect to explain how perceptual fluidity might affect our processing of information and how it might lead to an increase in the perceived fame of a name. Make sure you describe ALL relevant aspects of the study.

10. Through the ages, people have sought out ways to improve their memory. The field of mnemonics deals with strategies to improve human memory for meaningful or sometimes meaningless information (e.g., to remember a route, to recite prose, or to remember random number sequences.) Please name four substantially different strategies to improve memory for material and how they can be applied. In which situation would you choose which strategy to improve your memory? Please estimate roughly the world record for memory for a random number sequence that is verbally presented at 1 digit per second and compare it to your estimate of the world record for memory of the number pi, which itself can be viewed as a random number sequence. What strategies do mnemonists use in these two cases? How do the situations differ from each other?