

Psych 1001: Exam 2 Study Guide

Fall 2007

General notes: The second exam will consist of 50 total points, all of which are in multiple choice format and worth one point each. You will have the full class period to complete the exam.

Sensation and Perception

1. What are sensation and perception? Why do we say that perception is NOT an exact replica of the outside world?

- a. Define transduction. Make sure you understand how this is achieved in each of the five senses, and look for similarities between the systems, particularly vision and hearing.
- b. Define top-down and bottom-up processing. Be prepared to identify whether a sensory effect is a product of top-down or bottom-up processing, and be familiar with the examples of these processes for the sensory systems we discussed in class.
- c. What are the goals of psychophysics? What methods do researchers in this area use to understand perception? Be able to define and describe absolute thresholds, difference thresholds sensory adaptation, and the four responses measured in signal detection theory.
- d. What do the terms "priming" and "subliminal" mean, and what do they tell us about sensation and perception in general?
- e. For each of the five senses, be prepared to provide the stimulus input, the major structures of the sensory organ, and the method of transduction.

Vision:

- a. What are rods and cones, and how are they distributed around the retina? What is the pathway that visual information travels after it leaves the retina and heads towards visual processing regions? What is interesting about this pathway (think about what happens at the optic chiasm)? How does serial and parallel processing relate to the different stages of visual processing?
- b. What are the Young-Helmholtz trichromatic theory and opponent-process theory of color vision? What observations have been essential in the formation of these theories?

c. Be prepared to discuss the methods of feature and form detection and why they are important. Be prepared to discuss depth perception and the cues that we use to determine depth in the real world. Make sure you understand which of these cues are binocular or monocular, and which require motion. Be prepared to identify ways that these cues can mislead our perception, and understand how the Ames room makes use of these cues. Make sure you understand the cliff illusion study, and what it tells us about the development of vision.

d. What is inattention blindness? What does it tell us about vision and our attentional capacity. Be familiar with the examples we saw in class from the basketball movie, the movies, and the laboratory.

Hearing:

a. What are the main sensory units of the ear, and what does each of these receptors specialize in? What are some of the ways that we can locate the source of a sound?

b. What is the McGurk effect, and what does it tell us?

c. What is the vestibular sense, and why is it important?

d. What happens to the remaining senses in people what have lost a sensory organ? What changes take place in their brains when they are missing a sensory system? What is the phantom limb phenomenon? How do the changes in the brains of those with phantom limbs relate to those that lack a sense?

Touch: What are the 5 main somatosensory receptor types? What is 2-point discrimination, and how does it relate to the somatosensory area of the parietal lobe? What are the factors influencing pain?

Taste & Smell: what are the main stimulus inputs and methods of transduction? What is interesting about these two systems (think about damage to the receptors and interactions between senses).

Learning

1. What are associative and non-associative learning, and what are some examples of each?

a. What is classical conditioning? How was the theory of classical conditioning first examined? Be very familiar with the unconditioned stimulus, conditioned stimulus, unconditioned response, and conditioned response, and be able to identify each in examples. Understand the major conditioning processes and how and when they are observed (acquisition, extinction, spontaneous

recovery, generalization, discrimination.) Why are these conditioning processes important?

b. What kinds of learning is classical conditioning best able to explain? In which circumstances does it not work as well in humans and animals, and why?

c. What is operant conditioning? What is the major principle of this form of learning? What were the contributions of Skinner and Thorndike in operant conditioning research?

d. What do positive / negative and reinforcement / punishment refer to in operant conditioning research? What are examples of each category of operant conditioning? Be prepared to identify the form of reinforcement or punishment that is being administered in examples. Also, be prepared to discuss the ways that punishment and reinforcement can be effective or can fail.

e. What is a discriminative stimulus? What is shaping?

f. Be prepared to discuss the reinforcement schedules, provide examples of each, and understand how they relate to learning in the real world.

g. Be prepared to discuss the main differences between classical and operant conditioning.

h. What is social learning, and how does it relate to operant learning? What are the key processes that make this form of learning possible? What are some of the experiments we discussed that relate to this form of learning? Be able to identify examples of social learning.

i. What is non-associative learning, and what do studies on latent learning and habituation tell us about learning in general?

Memory

1. What is the 3-stage model of memory? Be able to define and describe encoding, retrieval, attention and rehearsal, and how these are important factors in this model. What do patients like H.M. tell us about the processes above?
2. What is the sensory store, and what are the basic features of this stage of memory? What are some examples of the sensory store in action?
3. What is short-term memory? What is the capacity of this stage of memory, and how can "chunking" be used to use STM more effectively? What are serial order effects, and how are both observed in experimental settings (think about the experiments we did in class)

4. What is long-term memory? What is it used for, the capacity, and the duration of these memories? What are explicit and implicit memories? What are examples of each? What are episodic and semantic memories, and what is an example of each? What are priming and procedural memories? If you understand the entire LTM diagram, you'll be in good shape.
5. What is working memory? Why is this process an important addition to the 3-stage memory model? What are the major components of the working memory system, and what are their proposed functions?
6. What structures are associated with memory in the brain? What does is the amygdala's role in memory recall and storage? In general, how does the concept of plasticity apply to memory?
7. What are the main factors that lead to false memories? Be prepared to identify and describe the main case study and experiments dealing with false memories, and the reasons why false memories were created in each case.
8. What are the main theories of forgetting? How do these theories differ in their explanation of forgetting stored information?