

SOME things to think about when studying for psych 85 first exam. Book stuff not covered here could be on test but is less important.

## **Intro**

What are some characteristics of a mind?

What are the components of a representation?

What is the tri-level of analysis? Be able to compare and contrast two different solutions to a computational problem at each level (e.g. multiplication in a computer and multiplication in your head)

What is a criticism of the tri-level hypothesis?

What are the components of the structural level of analysis?

Can a computer have a mind in the same way that we have minds? What are the practical and theoretical limitations of computers?

## **Philosophical Approach**

What is the mind-body problem?

What is monism and dualism?

What is idealism?

What is physicalism/materialism?

What is eliminativism?

What are some pieces of evidence in favor of monism?

What are some criticisms of monism?

What is classical dualism?

What is the argument Descartes made in favor of dualism?

What is the flaw in this argument?

What is property dualism? What is a criticism of this idea?

What is the difference between structural and functional kinds? Give examples of both.

Be prepared to identify new instances of functional and structural kinds

What is nativism?

What is rationalism?

What is empiricism?

Can a computer have a mind in the same way that we have minds? What are the practical and theoretical limitations of computers?

## **Psychological Approach**

What is voluntarism? What was the method it used?  
What is the tri-dimensional theory of feelings? Why is this theory inadequate?  
What are some problems with introspection as a method to reveal the structure of the mind?  
How was structuralism different from voluntarism?  
What is functionalism?  
What is the difference between substantive thoughts and transitive thoughts?  
What are the visual grouping principles of the Gestalt Movement?  
According to gestalt theory, what are the stages of insight learning?  
What are some criticisms of Gestalt theory?  
According to psychoanalytic theory, how is the mind structured (two different ways)?  
What are some criticisms of Psychoanalytic theory?  
How does behaviorism view the mind?  
Describe the components of classical conditioning?  
Describe how operant conditioning works  
What were the strengths and weaknesses of behaviorism?  
How does the scientific method work? Why are statistics necessary to analyze the results of experiments?  
What is the p-value? What factors affect the p-value? How are these factors related in determining the p-value?  
What is the Bayesian approach to hypothesis testing? Give an example from class where the Bayesian approach might make sense to use.  
Understand the causality of the correlation examples we gave in class.

## **Cognitive Approach I**

How was the cognitive approach a reaction to behaviorism?  
What are four factors which influence our perception?  
Which new technologies helped the cognitive approach study the mind?  
What is the multimode theory of attention?  
Explain the motion after-effect.  
Why does template matching fail as a model of object recognition?  
What is the problem with feature matching as a model of object recognition?  
Which characteristics of an object image are viewpoint invariant and viewpoint dependent?  
How does the mode 'recognition by components' work? Include description of viewpoint invariant and viewpoint invariant properties?

## **Cognitive Approach II**

Describe visual sensory memory (include whole and partial report as a method to explore the nature of sensory memory).

What is echoic memory? How long does it last?

What is working memory? What is the average capacity? How is it often measured?

How can a person expand their working memory to 12 digits?

Explain the chunking experiment involving grand masters? What was one problem with the control condition?

Contrast working memory search with visual search?

What are the components of Baddeley's model of working memory?

What is some evidence of the phonological loop?

What is the capacity of visual working memory?

What task is used to test for central executive dysfunction?

What are two types of memory interference?

What are two main memory systems (Hint: a malfunction in one will cause classic amnesia)

Explain the experiments showing explicit and implicit memory in normal controls (hint: hot and cold)

## **Judgment and Decision Making**

Describe system 1 and system 2?

What is a heuristic judgment? What are some types of heuristic judgments? What judgment errors can be explained by the use of heuristic judgments.

What is attribute substitution?

What is scope neglect?

Explain the experiments on memory for pain.

Do we have free will? (what are some arguments for/against?).

What is subjective utility? How does it relate to choice for gains and losses? What is loss aversion? Why does it occur?

What are framing effects?

## **Mental imagery**

According to Kosslyn and Schwatrz, what are the surface and deep representations of visual imagery? What are literal and propositional encoding? Where in the brain do they exist? What are shift and blink transformations?

Explain the Shepard and Metzler 3-d mental rotation study. What are some interpretations of the results of the study?

What were some effects of demand characteristics in imagery experiments?

Describe the experiments showing support for the view that visual imagery uses perceptual areas. What are some findings that challenge the idea that visual imagery uses perceptual areas of the brain?

## **Problem Solving**

What are the components of a well-defined problem space?

What is heuristic search?

What is satisficing?

What is means-ends analysis?

How are ways in which search through the problem space is improved?

Explain how the representation of a problem can make solution easier using the example of the checkerboard?

Explain the solution to the monk on the mountain problem.

Explain McAuliffe's 5x5 checkerboard problem and how it relates to the checkerboard problem.

How does analogy assist creativity? Use an example to explain.