<u>Topics</u>
Physiology
Perception
Cognitive Development
Language
Reasoning
Memory
Learning

<u>Physiology Questions</u>

100 – Q: This walnut-sized structure in the brain is central to the link between emotion and cognition.
A: amygdala (expand on it by talking about the limbic system, which it's a part of)

200 – Q: This is the name for the region of a particular shape, size, and location within the visual field to which a particular cell responds
A: receptive field for that cell (go over feature detectors, lines, movement, etc)

300 – Q: This is the name for the massive bundle of fibers connecting the two sides of the brain.
A: corpus callosum (point out that it's made of white matter, i.e., axons, while the cortex and prefrontal cortex are made of grey matter, i.e: cell bodies. Generate parts of the brain, roughly speaking)

400 – Q: The order of cells on the back of the retina, out of: (amacrine cells, bipolar cells, cones, ganglion cells, and rods)
A: rod/cone, bipolar, amacrine, ganglion. (could go over structure of the eye and why we have a blind spot, briefly)

500 – Q: The excitation threshold, in millivolts, causing the onset of an action potential.
A: -55mV (could go over the process of synaptic transmission here)

<u>Perception Questions</u>

100 – Q: This is the name for cues for depth perception that come from the image obtained with one eye alone.
A: monocular depth cues (could briefly review some important ones, like motion parallax, linear perspective, and relative size)

200 – Q: This was demonstrated in a famous experiment in which subjects were oblivious to a gorilla walking through a scene of basketball players
A: change blindness (briefly discuss that this is about attention, not vision)

300 – Q: This theory suggests that the signals from the cone receptors are recoded into pairs of opposing signals, in which excitation of one member of the pair automatically inhibits the other.
A: The opponent-process theory (discuss the pairs: red-green, blue-yellow, black-white, and how this explains some of the illusions from class)

400 - Q: The two important brain areas that receive information from the visual cortex
A: the "what" system and the "where" system (will also accept parietal and temporal cortex).

500 – Q: The formula for Fechner's Law, and its relation to Weber's Law.
A: Fechners: $S = k\log I$, where k is a constant whose value depends on the Weber fraction ($\Delta I/I$). (can go over how this means that we're sensitive to proportional differences in stimulus intensity, not absolute differences. And k is different in different sense modalities)

Cognitive Development Questions

100 – Q: This task, which measures the ability of a child to imagine a situation from someone else's point of view, would be failed by a three-year-old.
A: the false belief task (give examples, discuss egocentrism and examples where children can tell what others are thinking)

200 – Q: According to Piaget, children move from this stage when they begin to be able to manipulate and interrelate the representations that are available to them.
A: preoperational (go over how in sensorimotor they learn to represent, and preoperational is about learning to manipulate – and what ages (2-7))

300 – Q: This is a term for one's thinking about one's own mental functioning
A: metacognition (explain how children seem to lack it, and increasing memory ability may be related to the recognition that you can do things like rehearse and chunk).

400 – Q: This approach broadly compares human cognitive functioning to the complex ways in which a computer functions.
A: the information-processing approach. (contrast it with other "big picture" ideas like the stage theory of Piaget, or learning theory, to get an idea of big picture stuff)

500 - Q: This error refers to an infant's tendency to search at a place where he previously found a toy rather than a place where he has just seen a toy hidden
A: the A-not-B effect (this was used by Piaget to demonstrate that infants didn't have object permanence, but recent arguments suggest they aren't good at inhibiting their arm movements, since they *look* at the right one but reach for the wrong one)

Language Questions

100 – Q: An example of this error is when a kid says 'goed' rather than 'went'
A: Overgeneralization (go into how this shows kids are inducing rules, rather than just memorizing what they hear)

200 – Q: Two main theories of word meaning.
A: prototype and definitional are best. (also would accept exemplar and theory-theory. go over briefly what each one says)

300 – Q: According to this hypothesis, the brain of the young child is particularly well-suited to language learning, but as they grow older later language learning is much more difficult.
A: the critical period hypothesis (go over, very briefly, evidence for and against)

400 – Q: These are the smallest units of language that carry bits of meaning.
A: Morphemes. (discuss also phonemes, words, phrases)

500 – Q: This hypothesis says that linguistic differences can result in differences in thinking.
A: The Whorfian hypothesis. (discuss a few results indicating one thing or another)

Memory Questions

100 – Q: This term refers to the kind of memory in which we are affected by past experience without realizing that we are remembering.
A: implicit memory (compare to explicit memory. Discuss repetition priming)

200 – Q: these effects account for our remembering list items better if they occur at certain positions in the list.
A: primacy effect and recency effect (discuss working memory, 7 +/- 2, transfer into long term memory, chunking)

300 – Q: This is the specific term for the disorder you would be experiencing if you bumped your head in a bike accident and forgot everything that you had done for the past day.
A: retrograde amnesia (discuss trace consolidation. Compare to anterograde amnesia, where no new memories are formed but procedural memory is preserved)

400 – Q: These two factors help explain why we forget things over time.
A: decay and interference (memory trace, forgetting curve, retrieval failure, tip-of-the-tongue)

500 – Q: Because of this, our memory errors import elements of general knowledge into specific episodes, or mix-up information from multiple episodes.
A: source confusion (discuss also schemas and scripts, flashbulb memories, hypnosis/repressed memories)

Reasoning Questions

100 – Q: The Wason selection task relies on the participant performing this form of reasoning.
A: Deductive reasoning (also okay: solving syllogisms. Partial credit for conditional statements)

200 – Q: This effect demonstrates how the automaticity of reading interferes with our ability to perform other tasks such as naming colors of ink.
A: Stroop effect

300 – Q: This term describes the tendency to take evidence consistent with one's beliefs more seriously than evidence inconsistent with one's beliefs.
A: confirmation bias (availability heuristic, representativeness heuristic)

400 – Q: A person trying to solve a problem who gets stuck because of some unnoticed assumptions about the situation is being misled by this.
A: mental set (incubation, discuss also subroutines of problem solving, analogies, restructuring)

500 Q: This experiment suggests that people process mental images similarly to real images in some ways.
A: Acceptable in favor of picture-like mental images: mental rotation of letters, scanning mental maps (time proportional to distance or angle of rotation); (discuss also evidence for non-picture-like mental images: people's inability to reinterpret duck-rabbit. Also okay–spatial thinking reasoning that San Diego is west of Reno)

Learning Questions

100 – Q: In Pavlov's original experiment conditioning dogs, this was the conditioned response.
A: Salivation (identify US/CS/UR)

200 – Q: This principle of Thorndike's state's that a response which is followed by a reward will be strengthened, where as one followed by no reward or by punishment will be weakened.
A: Law of effect (discuss operant. vs classical conditioning)

300 – Q: Slot machines are an example of how high rates of response can be obtained by rewarding a subject on this kind of schedule.
A: Variable-ratio schedule (discuss fixed ratio, fixed schedule, variable schedule examples, extinction)

400 – Q: This is the main neural mechanism responsible for post-synaptic plasticity and learning.
A: Long term potentiation (spread of potentiation is activity dependent; dendrites grow new dendritic spines)

500 – Q: This claim states that all associations can be learned with equal ease.
A: equipotentiality principle (discuss counterexamples: belongingness, taste aversion)