AP Psychology: Final Exam Review 1 2016-7—Learning Objectives Ch. 1-8

CHAPTER 1:Introduction and Research Methods

1. Define psychology, and discuss the issues that shaped psychology’s evolution over the past century and a half, including the influence of philosophy and physiology.

2. Describe the roles played by Wilhelm Wundt and William James in the establishment of psychology as a separate scientific discipline.

3. Identify the founders of structuralism and functionalism, and compare and contrast their key ideas and goals.

5. Identify the founder of psychoanalysis, and describe the key ideas of this school of psychological thought.

6. List three key scientists in the development of behaviorism, and describe behaviorism’s basic assumptions and goals.

7. Identify two advocates of humanistic psychology, and note how humanistic psychology differs from behaviorism and psychoanalysis.

8. List and describe the eight major perspectives in contemporary psychology.

9. (Culture and Human Behavior) Explain the importance of cross-cultural psychology, and distinguish between individualistic and collectivistic cultures.

10. Explain the basic assumptions of the evolutionary perspective.

11. List the specialty areas in contemporary psychology, describe the focus of each, and distinguish between psychology and psychiatry.

12. List the four goals of psychology, and explain the scientific assumptions and attitudes of psychologists.

14. Describe the scientific method, list the four steps involved, and explain what empirical evidence is. Specify the difference between a hypothesis and a theory, and explain the importance of operational definitions, replication, and statistics. Define meta-analysis, state what it is used for, and explain what a statistically significant finding is.

16. Define descriptive research, and describe how naturalistic observation and case studies are conducted.

17. Describe survey research, and list the criteria that must be met for survey results to be valid.

18. Define correlation coefficient, explain the difference between positive and negative correlations, and describe the functions and limitations of correlational research.

19. Discuss the process in the experimental method. Define and explain the function of the independent variable, dependent variable, extraneous variable, experimental controls, experimental group, and placebo group in an experiment.

20. Define placebo, placebo effect, main effect, and explain the purpose of random assignment, the double-blind technique, the control group or control condition, and how demand characteristics and practice effects can influence experimental results.

23. (Focus on Neuroscience) Name and describe the major imaging techniques used to study the brain, and list their limitations

24. Describe the major provisions of the APA’s code of ethics for research with human participants and nonhuman animal subjects.

25. List and discuss the issues related to the use of animals in psychological research.

CHAPTER 2:Neuroscience and Behavior

2. Describe the functions of neurons and glial cells, and distinguish among the three types of neurons.

3. Identify the basic characteristics of the neuron, describe the action potential, and explain the processes that take place within the neuron when it is activated.

4. Explain how information is communicated between neurons, and distinguish between excitatory and inhibitory messages.

5. Describe how neurotransmitters affect synaptic transmission, identify six important neurotransmitters, and explain their effects on behavior.

7. Identify and explain several ways in which drugs can affect brain activity by interfering with synaptic transmission.

8. Describe the functions of the two major components of the central nervous system, and explain how spinal reflexes work.

9. Identify the divisions and subdivisions of the peripheral nervous system, and describe their functions.

10. Describe the general functions of the endocrine system, and explain how hormones influence human behavior.

11. Identify the functions of the major endocrine glands, and explain the relationship between the hypothalamus and the endocrine glands.

14. Discuss the importance of neural pathways in the brain , distinguish between functional and structural plasticity, and explain neurogenesis.

16. Identify the structures of the brainstem, and describe their functions.

17. Identify the four lobes of the cerebral cortex and discuss the functions of each. Discuss the influence of the brain’s association areas on behavior.

18. Identify the structures that comprise the limbic system, discuss the specialized roles of each and their impact on behavior.

20. State what cortical localization is, and explain how the findings of Broca and Wernicke provided early clinical evidence for lateralization of function, the development of different types of aphasia, and language specialization in the left hemisphere.

21. Describe the work of Roger Sperry, discuss the split-brain operation, and explain how it provided evidence for the differing abilities of left and right hemispheres.

23. Describe the research findings from studies on enriched versus impoverished environments using both nonhumans and humans, and list some of the practical implications of this research.

CHAPTER 3: Sensation and Perception

1. Distinguish between sensation and perception, giving examples of each.

2. Explain the process of transduction.

3. Discuss the idea of sensory thresholds, defining absolute and difference thresholds and explaining the significance of Weber’s law.

4. (Science Versus Pseudoscience) Define subliminal perception and the mere exposure effect, and discuss research on the effects of subliminal presentations on perception.

5. Explain the process of sensory adaptation.

7. Describe the visual process, identifying each key structure of the eye and its function, and contrast the functions of rods and cones.

8. Explain how visual information is transmitted to and processed in the brain, including the role of the blind spot, optic nerve, optic chiasm, ganglion and bipolar cells, feature detectors, and visual pathways.

10. Compare the trichromatic and opponent-process theories of color vision, and discuss how each theory explains different aspects of color vision.

11. Describe the nature of sound, and list the physical properties of sound waves.

12. Explain the process of hearing, noting the role played by different parts of the ear, and describe how auditory sensations are transmitted from the inner ear structures to the brain.

13. Distinguish between place and frequency theory and describe how each theory explains the sensation of pitch.

14. Describe the process of olfaction, including the transmission of olfactory information to the brain.

16. Explain how taste sensations are produced and identify the basic taste categories.

17. Discuss the role played by the skin in the sensation of touch, including the types and distribution of sensory receptors in the skin.

18. Define pain and identify the sensory receptors that are involved in the sensation of pain.

19. Explain the gate-control theory of pain, listing factors that influence pain “gates,” and describe the effects of pain sensitization and its relationship to phantom limb pain.

20. Discuss the role of the kinesthetic and vestibular senses in body position, balance, and equilibrium.

21. Distinguish between bottom-up and top-down processing, and the role each plays in perception.

24. Describe the school of Gestalt psychology, figure–ground relationships, and the Gestalt principles of organization.

25. List and describe the monocular and binocular cues used in depth perception, and give examples of each.

26. Identify the sources of information that influence motion perception, and describe induced and stroboscopic motion.

27. List and describe two forms of perceptual constancy.

28. Discuss perceptual illusions, and explain the Müller-Lyer illusion and the moon illusion.

CHAPTER 4: Consciousness and Its Variations

1. Define consciousness, and discuss the history of psychological research on consciousness.

2. Define attention, describe how attention is limited in capacity and how attention is selective, and indicate how selectivity can lead to inattentional blindness and change blindness.

3. Define circadian rhythms, and explain the roles of melatonin and the suprachiasmatic nucleus (SCN) on sleep and wakefulness patterns.

4. Explain the role of sunlight and darkness, clocks, and other environmental time cues, in regulating the sleep-wake cycle.

5. Discuss the influence of environmental cues, like sunlight, on sleep patterns. Discuss what happens when these patterns are disrupted, (i.e., jet lag).

6. Discuss the significance of the electroencephalograph on modern sleep research.

7. Distinguish between REM sleep and NREM sleep, and describe the typical sequence of sleep stages, including sleep onset.

9. Describe how sleep patterns change over the lifespan.

11. Compare and contrast the characteristics associated with dreams and sleep thinking.

16. Compare and contrast Freud’s theory of dreams as wish fulfillment, the activation–synthesis model of dreaming, and the neurocognitive theory of dreaming.

18. Define dyssomnia; list and describe the characteristics of the three dyssomnias discussed.

19. Define parasomnia; list and describe the characteristics of the five parasomnias discussed.

20. Define hypnosis, describe the characteristics of the hypnotic state, and list the characteristics of people who are most responsive to hypnosis.

21. Explain the effects of hypnosis, describe post-hypnotic suggestion, and explain the relationship between hypnosis and memory.

22. Describe the applications and limitations of hypnosis.

24. List and describe the most common techniques used in meditation, and explain their effects on brain functioning.

26. Identify the common properties of psychoactive drugs, and specify the factors that influence the effects, use, and abuse of psychoactive drugs.

29. Name and describe the characteristics and effects of the most common depressants, stimulants, opiates, psychedelic drugs, and designer or “club” drugs.

CHAPTER 5: Learning

1. Define learning and conditioning, and name the various forms of conditioning.

2. Describe what led to Ivan Pavlov’s discovery of classical conditioning, and the procedures he developed to create a classically conditioned response.

3. Define and provide examples of each of the following: unconditioned stimulus, unconditioned response, conditioned stimulus, and conditioned response.

4. Identify factors that can affect the strength of a classically conditioned response, and give examples of generalization and discrimination, higher-order conditioning, extinction, and spontaneous recovery in classical conditioning.

5. Discuss John Watson’s views on the nature of psychology and describe the basic principles of behaviorism.

6. Describe Watson and Rayner’s famous “Little Albert” study, and explain how emotional responses can be classically conditioned.

9. Describe Robert Rescorla’s research and how it demonstrated the role of cognitive processes in classical conditioning.

10. Discuss John Garcia’s research on taste aversions, and explain how taste aversions appeared to violate key aspects of the classical conditioning model.

12. Discuss Edward Thorndike’s contributions to the study of learning, and define the law of effect.

13. Discuss B. F. Skinner’s views regarding behaviorism, including his beliefs about the proper subject matter of psychology.

14. Describe the basic principles of operant conditioning, giving examples of positive and negative reinforcement, primary and conditioned reinforcers, and discriminative stimuli.

15. Explain the difference between negative reinforcement and punishment, and give examples of punishment by application and of punishment by removal.

17. Explain what a discriminative stimulus is and how it relates to Skinner’s findings that behavior is not determined by conscious decision.

19. Discuss shaping, explain the difference between continuous and partial reinforcement, and describe and give examples of each of the four schedules of reinforcement.

21. Discuss how Edward Tolman’s research demonstrated the role of cognitive factors in operant conditioning, and explain cognitive maps and latent learning.

22. Explain the phenomenon of learned helplessness, noting how it provided additional evidence for the role of cognitive factors in learning, and describe how learned helplessness can be overcome.

24. Describe Albert Bandura’s classic studies on observational learning, and identify factors that increase the likelihood of imitation occurring.

25. (Focus on Neuroscience) Explain what mirror neurons are, and discuss research on the role of mirror neurons in imitation and observational learning in humans and other animals.

CHAPTER 6: Memory

1. Define memory, and explain the processes of encoding, storage, and retrieval.

2. Describe the stage model of memory, and describe how each of the three stages functions.

3. Discuss the function, duration, capacity, and types of sensory memory, and explain how George Sperling’s experiment advanced the understanding of sensory memory.

4. Describe the function, duration, and capacity of short-term memory, and explain the usefulness of chunking.

5. Explain the functions of the different components in Baddeley’s model of working memory.

6. Give examples of maintenance rehearsal and elaborative rehearsal, and explain why one is more effective in encoding long-term memories.

7. Describe the types of information in long-term memory, and explain the differences between implicit memory and explicit memory.

9. Discuss the organization of information in long-term memory.

10. Define retrieval, noting how retrieval cues work, and describe what happens when retrieval fails, as in a tip-of-the-tongue (TOT) experience.

11. Compare and contrast recognition and recall in terms of retrieval. Describe free recall versus cued recall. How do these factors influence the serial position effect.

12. Discuss the context effect and mood congruence as different forms of the encoding specificity principle, and evaluate the accuracy of flashbulb memories.

13. Discuss Hermann Ebbinghaus’s studies of forgetting, noting the basic pattern of the forgetting curve.

14. Describe how each of the following explanations account for forgetting: encoding failure, decay theory, interference theory, and motivated forgetting.

16. Explain how the misinformation effect and source confusion can contribute to distorted or false memories.

19. Explain how research by Karl Lashley and by Richard Thompson demonstrated that memories can be both localized and distributed in the brain.

21. Define long-term potentiation, and discuss how Eric Kandel’s research on Aplysia demonstrated the physical changes associated with forming a new long-term memory.

22. Define memory consolidation, retrograde amnesia, and anterograde amnesia.

23. Summarize what has been learned about memory from the famous case of H.M., including Brenda Milner and Suzanne Corkin’s work with this patient.

25. Describe the roles of different brain structures in normal memory.

26. Describe the underlying causes and typical course of Alzheimer’s disease, including the progressive destruction of brain tissue.

CHAPTER 7: Thinking, Language, and Intelligence

1. Define cognition and thinking, and describe how mental images and concepts are involved in thought processes.

4. Identify and describe three major problem-solving strategies, and discuss the advantages and disadvantages of each.

5. Describe insight and intuition, and explain the two-stage model of intuition.

6. Explain how functional fixedness and mental set can interfere with problem solving.

7. Describe three cognitive strategies used in making decisions.

8. Explain how people use the availability heuristic and the representativeness heuristic to estimate the probability of events.

9. Know how confirmation bias lead people to persist in unwarranted beliefs.

11. (Culture and Human Behavior) Describe the ideas of linguist Benjamin Whorf, define the linguistic relativity hypothesis, and discuss the results of cross-cultural research on the influence of language on thinking and perception.

14. Define intelligence, and discuss the history of the development of intelligence testing, noting the contributions and differing beliefs of Binet, Wechsler, and Terman.

16. Describe the purposes of aptitude and achievement tests, and explain the importance of standardization, reliability, validity, and the normal curve in intelligence testing.

17. Describe the key issues in the debate on the nature of intelligence, and compare and contrast the intelligence theories of Spearman, Thurstone, Gardner, and Sternberg.

19. Discuss the interaction of genetics and environment in intelligence, and explain how twin studies have been used to measure the relative influence of heredity and environmental factors.

20. Define heritability, and explain why heritability estimates cannot be used to explain group differences in IQ or other characteristics.

21. (Culture and Human Behavior) Discuss the idea of stereotype threat, and explain how it has been shown to affect performance on tests of intelligence and other abilities.

CHAPTER 8: Motivation and Emotion

1. Define motivation, and describe the three characteristics associated with motivation.

2. Discuss the major theories of motivation, and specify the limitations of each theory.

3. Describe energy homeostasis and discuss the influence of insulin and glucose on this process.

7. Explain what the body mass index (BMI) is and state what percentage of adults and children in the United States are either overweight or obese.

11. Explain how Abraham Maslow’s hierarchy of needs accounts for motivation, and describe the qualities that characterize self-actualized people.

12. Describe the key ideas of Edward Deci and Richard Ryan’s self-determination theory, and discuss the differences between intrinsic and extrinsic motivation.

13. Compare and contrast competence and achievement motivation.

14. Identify the three components of emotion, and discuss the functions of emotions.

15. Identify the basic emotions.

16. Discuss the role of the sympathetic nervous system in the experience of intense emotions, including the fight-or-flight response.

22. Compare and contrast the major theories of emotion.