

## 9.00 Exam 1 – Solutions Key

### Questions from Lecture and the Oliver Sacks book:

1. In a social psychology experiment, white participants either *forecasted* (imagined) or actually *experienced* how they would feel and how they would behave towards a white stranger who made a racial slur about a black stranger. The findings were:
  - A) both forecasters and experiencers felt negative feelings towards the white stranger and were less likely to select the white stranger as a partner for performing a task (relative to a control condition without any slur being made)
  - B) neither forecasters nor experiencers felt negative feelings towards the white stranger and both groups were likely to select the white stranger as a partner for performing a task (relative to a control condition without any slur being made)
  - C) forecasters felt negative feelings towards the white stranger and were less likely to select the white stranger as a partner for performing the task; experiencers felt negative feelings towards the white stranger but were as likely to select the white stranger as a white stranger in a control condition without any slur being made
  - D) forecasters felt negative feelings towards the white stranger and were less likely to select the white stranger as a partner for performing the task; experiencers did not have negative feelings towards the white stranger and were as likely to select the white stranger as a white stranger in a control condition without any slur being made
  
2. Experiments have shown that which manipulations can enhance one's feelings or positive actions towards another person?
  - A) holding a warm drink relative to a cold drink just before evaluating another person
  - B) not thinking about money
  - C) rotating from table to table at a speed dating event
  - D) all of the above
  
3. Empirical evidence supports which one conclusion?
  - A) hypnosis is effective in highly hypnotizable people
  - B) the Rorschach inkblot test is a valid clinical test
  - C) medical school interviews are effective for identifying which applicants will perform well in medical school classes
  - D) praising a child's intelligence helps them perform well on a challenging task
  
4. For a typical split-brain (= callosotomy) patient, if a picture of a pencil is presented in the right visual field and a picture of a hammer is presented to the left visual field and the patient is asked to identify what had been presented
  - A) the patient would say "pencil" and would pick out a hammer from an array of unseen objects with the left hand
  - B) the patient would say "hammer" and would pick out a pencil from an array of unseen objects with the left hand
  - C) the patient would say "hammer" and would pick out a hammer from an array of unseen objects with the left hand
  - D) the patient would say "pencil" and would pick out a pencil from an array of unseen objects with the left hand

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5. Evidence from patients indicates that the \_\_\_\_\_ hemisphere is specialized for local (vs. global) features of a visual object, and the \_\_\_\_\_ hemisphere is specialized for the appearance (vs. function) of a visual object, and that injuries to the \_\_\_\_\_ hemisphere result in associative (vs. apperceptive) agnosia.
- A) left; left; right
  - B) right; left; right
  - C) left; right; left
  - D) right; right; left
6. At what point in the human visual system are neurons or axons that code for the same visual field from the two different eyes first brought together anatomically?
- A) rods and cones
  - B) retina
  - C) optic chiasm
  - D) primary visual cortex
7. In a brain imaging study of empathy, men and women played a financial game with two partners, a fair player and an unfair player. In a brain imaging study of empathy, men and women played a financial game with two partners, a fair player and an unfair player. \_\_\_\_\_ showed activation in the insula when they received pain, and also when they saw the fair player receive pain. \_\_\_\_\_ showed insula activation when the unfair player received pain. \_\_\_\_\_ showed nucleus accumbens activation when the unfair player received pain. \_\_\_\_\_ reported a stronger desire for revenge against the unfair player.
- A) Both men and women; Both men and women; Men; Men
  - B) Women; Women; Men; Men
  - C) Women; Both men and women; Women; Women
  - D) Both men and women; Women; Men; Men
8. There are two major visual cortical pathways, the “what” and “where” pathways. The “where” pathway travels through the \_\_\_\_\_ lobe, and lesions to it impair the ability to get food rewards on the basis of \_\_\_\_\_.
- A) temporal; object shape
  - B) parietal; object shape
  - C) temporal; object location
  - D) parietal; object location
9. The parvocellular visual pathway, relative to the magnocellular visual pathway,
- A) has many more cells, is wavelength sensitive, and has slow, sustained responses
  - B) has many fewer cells, is wavelength insensitive, and has rapid, transient responses
  - C) has many fewer cells, is wavelength insensitive, and has slow, sustained responses
  - D) has many more cells, is wavelength sensitive, and has rapid, transient responses

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10. When people name line drawings or read words naming *animals* or *tools* while their brains are being imaged functionally
- A) there is greater activation for animals than tools in visual (occipital) cortex, visual-motion cortex, and motor cortex associated with hand actions
  - B) there is greater activation for tools than animals in visual (occipital) cortex, visual-motion cortex, and motor cortex associated with hand actions
  - C) there is greater activation for animals than tools in visual (occipital) cortex, and greater activation for tools than animals in visual-motion cortex and motor cortex associated with hand actions
  - D) there is greater activation for tools than animals in visual (occipital) cortex, and greater activation for animals than tools in visual-motion cortex and motor cortex associated with hand actions
11. Which of these aspects of face perception is NOT true for infants?
- A) human infants have better memory for faces from their family's racial group
  - B) human infants prefer top-heavy facial configurations
  - C) human infants have similar memory for human and monkey faces
  - D) monkey infants prefer seeing photographs of faces than photographs of objects the first time they see a face
12. We read about
- A) 2 letters at a time
  - B) 7 letters at a time
  - C) 12 letters at a time
  - D) 22 letters at a time
13. When shadowing a verbal passage in one ear, which of the following is NOT noticed in the other, unattended ear?
- A) if a voice is present
  - B) if a voice changes from a man to a woman
  - C) if a voice changes from one language to another
  - D) if a voice changes to a tone
14. In visual search, attentive search has all but which one of the following properties?
- A) it is prone to illusory conjunctions
  - B) it guides identification of features
  - C) it produces the subjective "pop-out" effect
  - D) it exhibits a steep slope in relation between search time and set size of the display
15. In an experiment with infants who were cortically blind in one visual field due to hemispherectomies, the infants saw a central target, and then a peripheral target in either the good or bad visual field. In the Competition condition, the central target remained on while the peripheral target was shown. In the Non-Competition condition, the central target disappeared

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when the peripheral target was shown. The infants were tested at several times as they developed. The key findings were that:

- A) as they developed, the infants usually looked at the peripheral targets in the blind field in the Non-Competition condition, but less and less often in the Competition condition
  - B) as they developed, the infants usually looked at the peripheral targets in the blind field in the Competition condition, but less and less in the Non-Competition condition
  - C) infants seldom looked at the peripheral targets in the blind field in either the Competition or Non-Competition conditions
  - D) infants almost always looked at the peripheral targets in the blind field in both the Competition and Non-Competition conditions
16. A variety of results, including results from a spatial cuing task from Posner, indicate that patients with spatial neglect due to right posterior lesions have a primary deficit in
- A) engaging attention to the right field
  - B) engaging attention to the left field
  - C) disengaging attention from the left field
  - D) disengaging attention from the right field
17. “Negative contrast” refers to the finding that rat performance in a maze is worst at the end of the experiment for rats who
- A) receive a large reward throughout the experiment
  - B) receive a small reward throughout the experiment
  - C) initially receive a large reward and then are switched to a small reward
  - D) initially receive a small reward and then are switched to a large reward
18. Which finding or findings below do NOT challenge the claims of behaviorism that conditioning could relate any conditioned stimulus to any conditioned response?
- A) evidence that rats on their own would relate nausea to taste and shock to lights and sounds
  - B) evidence that Little Albert transferred learned fear conditioning to multiple animals but not wooden blocks
  - C) evidence for latent learning in rats
  - D) evidence for the partial-reinforcement effect
19. Sacks describes two women, Mrs. O'C and Mrs. O'M, with "musical epilepsy" in which the women experienced hearing songs due to pathology in which lobe?
- A) occipital
  - B) frontal
  - C) parietal
  - D) temporal
20. Sacks describes the case of Donald, who could not remember killing his girlfriend while under the influence of PCP. After contusions to what brain regions did Donald appear to recover memory for the murder?
- A) parietal

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- B) temporal
- C) occipital
- D) frontal

### Questions from the Textbook Reading:

21. Which one of the following descriptions of the *structuralism* approach to psychology is FALSE?
- A) Its primary research tool was introspection.
  - B) It focused on the idea that the whole is more than the sum of its parts.
  - C) It tried to discover the elements of the mind and rules for combining them.
  - D) It was the first organized school of thought in psychology.
- (p7)
22. You are a research participant in a psychology study about superheroes. After you read a story about how Iron Man saves the world from dementors, you are asked about your feelings and mental processes as you were reading. This is an example of:
- A) introspection.
  - B) insight illumination.
  - C) inductive recall.
  - D) interactionism.
- (p7)
23. When you watch dogs play in the park or watch how your professors conduct their classes, you are engaging in a form of:
- A) experimental research
  - B) naturalistic observation.
  - C) survey research.
  - D) psychometric study.
- (p24)
24. Which school of psychology studies why thoughts, feelings, and behavior occur and how mental events adapt to help people survive in the natural world?
- A) behaviorism.
  - B) functionalism.
  - C) Gestalt psychology.
  - D) humanistic psychology.
- (p8)
25. You can use \_\_\_\_\_ to eliminate experimenter expectancy effects.
- A) random assignment
  - B) the placebo effect
  - C) response normalization
  - D) double-blind designs
- (p32)

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26. Deceiving participants in a psychological study is:
- A) never allowed.
  - B) not addressed as an issue of concern by most institutional review boards.
  - C) allowed so long as participants will not be harmed and the knowledge gained clearly outweighs the use of dishonesty.
  - D) allowed so long as participants will not be harmed regardless of the value of the knowledge to be gained.
- (p34)
27. The best approach to distinguish psychology from pseudopsychology is to:
- A) follow the scientific method and carefully analyze the results.
  - B) gather anecdotes and survey information in support of ESP.
  - C) employ critical thinking techniques.
  - D) compile a series of case studies.
- (p32)
28. What is the basic unit of the nervous system?
- A) neuron
  - B) action potential
  - C) neurotransmitter
  - D) sensory fiber
- (p43)
29. Pick the correct analogy:
- A) Primary motor cortex : movement :: primary somatosensory cortex : hearing
  - B) Primary somatosensory cortex: movement :: primary motor cortex: touch
  - C) Primary motor cortex : movement :: primary somatosensory cortex : touch
  - D) Primary somatosensory cortex: movement :: primary motor cortex: hearing
- (p56)
30. Which one of the following is true of split-brain patients?
- A) They are a small subset of multiple personality disorder patients
  - B) Their corpus callosum has been cut.
  - C) They see objects in the left visual field on the left side of the brain.
  - D) They are twice as smart as the normal person.
- (p56)
31. Phineas Gage became a famous figure in neuroscience because:
- A) He performed revolutionary field work in the 19<sup>th</sup> century on multiple personality disorders.
  - B) He was the first living split-brained patient able to be studied.
  - C) We learned from him that the temporal lobe may be involved with planning and reasoning.
  - D) We learned from him that the frontal lobe may be involved with planning and reasoning.
- (p57)
32. Which one of the following brain areas is associated with regulating body temperature, blood pressure, and hormones?

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- A) Thalamus
  - B) Hypothalamus
  - C) Hippocampus
  - D) Amygdala
- (p59)

33. How can you create half of an action potential?

- A) Manually stimulate a neuron twice, back to back, so that each stimulation will result in half of one action potential.
- B) Inject the neuron with GABA (an inhibitory neurotransmitter) and then stimulate the neuron so that it is only halfway activated.
- C) The all-or-none law says that this is impossible.
- D) Stimulate the neuron on either end so that the action potentials will meet in the center so that only half is activated.

(p45)

34. Which of the following is a principal difference between EEG and fMRI?

- A) EEG has poor spatial resolution while fMRI has excellent spatial resolution
- B) EEG has poor temporal resolution while fMRI has excellent temporal resolution
- C) EEG uses magnetic properties while fMRI uses electrical properties
- D) EEG is considered invasive, while fMRI is noninvasive.

(pp65-67)

35. Which one of the following statements is TRUE about the amygdala?

- A) The amygdala responds more to horizontal lines than to vertical lines.
- B) The amygdala responds more to motion than to still images.
- C) The amygdala responds more to neutral faces than to joyful faces.
- D) The amygdala responds more to fearful faces than to neutral faces.

(p60)

36. Which one of the following statements is TRUE about the auditory system?

- A) Our perception of pitch refers to the strength of a sound.
- B) Our perception of loudness refers to how “high” or “low” a sound seems.
- C) Pressure waves with greater frequency produce the experience of a sound with lower pitch.
- D) Hair cells are responsible for turning sound waves into neural signals.

(p106)

37. Which one of the following statements is the best definition of the *cocktail party phenomenon*?

- A) Hearing different stimuli presented separately to each of the two ears, and listening only to sounds presented in one ear.
- B) Not being aware of other people’s conversations until your name is mentioned, when you suddenly hear it.
- C) Hearing an entire word, even though part of the word was actually missing (e.g., replaced by a cough).
- D) Retaining information only briefly after perception.

(p108)

38. Take a look at the following figure. If you close your left eye and focus on the × while slowly

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moving the paper away from your face, what will happen and why?

×



- A) The picture will disappear because it will only be seen by the periphery of your eye, which includes only rods and no cones, and rods are unable to detect images like a picture.
- B) The picture will disappear when it lands on the part of your eye where ganglion cell axons come together to form the optic nerve, because there are no photoreceptors there.
- C) The picture will disappear when it lands on your fovea, because there are only cones in the fovea and cones cannot detect a picture that is in black and white.
- D) The picture will appear to move, because it will be seen by the rods in the periphery of your retina, and rods are more sensitive to motion.
- (p88)
39. What is the name for the theory of color vision which states that, for some pairs of colors, if one of the colors is present, it inhibits cells from sensing the complementary color in that location?
- A) The trichromatic theory of color vision.
- B) The opponent process theory of color vision.
- C) The figure-ground theory of color vision.
- D) The perceptual constancy theory of color vision.
- E) (p112)
40. Pavlov noticed that dogs would salivate at the sound of his footsteps in anticipation of food. The sound of footsteps are an example of:
- A) Acquisition
- B) Unconditioned stimulus
- C) Conditioned stimulus
- D) Conditioned response
- (pp122-123)
41. *Extinction* in classical conditioning occurs when the:
- A) The stimulus is associated with contrapreparedness.
- B) The experimenter is unable to train the animal with a conditioned stimulus.
- C) The conditioned stimulus is paired with the unconditioned stimulus after training.
- D) The conditioned stimulus is presented without the unconditioned stimulus after training.
- (p125)
42. Garcia and colleagues discovered *taste aversion* in rats because
- A) The taste of the water in plastic bottles was associated with sickness from radiation.
- B) The taste of radiation was associated with sickness.
- C) The radiation box was associated with sickness.
- D) Rats prefer glass bottles to plastic bottles.
- (p130)
43. *Operant conditioning* differs from the traditional *classical conditioning* because:



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- A) Operant conditioning does not involve a stimulus.
  - B) Operant conditioning is too difficult for animals and only humans can achieve operant conditioning.
  - C) The experimenter must operate mechanical device during the experiment to give a stimulus.
  - D) **The animal must operate something to receive the stimulus.**
- (p133)

### 44. *Negative punishment:*

- A) Is when a negative consequence is applied to an animal after a response to punish the animal.
  - B) **Is when a pleasant object or stimulus is removed to punish the animal.**
  - C) Is more effective than positive reinforcement.
  - D) Increases the likelihood of the associated response in the future.
- (pp138-139)

### 45. An animal is rewarded 2 food pellets for every 15 correct responses in an operant conditioning task. This is an example of a/an:

- A) Variable ratio schedule.
  - B) Negative reinforcement.
  - C) **Fixed ratio schedule.**
  - D) A secondary reinforcer.
- (p143)

### 46. If an animal is learning, but is not showing any behavioral signs of learning, this is called:

- A) Insight learning.
  - B) **Latent learning.**
  - C) Discrimination.
  - D) Spontaneous recovery.
- (p148)

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### Short-Answer Questions

**Please choose 5 of the following 9 questions, and provide your responses on the provided sheet. Only answers written on the response sheet will be graded. If you answer more than 5 questions, only the first 5 will be graded.**

1. Which type of psychologist best corresponds to each scenario? Choose each response from among the following possibilities:

|                            |                            |  |
|----------------------------|----------------------------|--|
| Clinical psychologist      | Cognitive psychologist     | Human factors psychologist             |
| Clinical neuropsychologist | Social psychologist        | Industrial/organizational psychologist |
| Counseling psychologist    | Personality psychologist   | Sport psychologist                     |
| Developmental psychologist | Physiological psychologist | Educational or school psychologist     |

- A) Mary is trained to help people deal with issues that arise during the course of everyday life, but she has a limited knowledge of therapeutic techniques. She talks with her patients about topics such as choosing a career, marrying, raising a family, and performing at work. Mary is a(n) \_\_\_\_\_.
- B) Bob recommends to lawyers which potential jurors should be chosen or excluded from a jury, depending on the defendant and other details of the case. In his spare time, he teaches a class on how people think and feel about themselves and other people as well as how groups function. Bob is a(n) \_\_\_\_\_.
- C) Harry is working with the Boston Red Sox to help their pitchers concentrate better, deal with stress, and practice more efficiently in preparation for their game against the New York Yankees. Harry is a(n) \_\_\_\_\_.
- D) The Fisher Price toy company has just created a new board game, and they have hired Jane to see how children from ages 3 to 5 play with the new board game. Jane is a(n) \_\_\_\_\_.

Answers:

(a) counseling psychologist; (b) social psychologist; (c) sport psychologist; (d) developmental psychologist (p. 15 – 19, Table on p. 19)

2. There the types of cells in the brain which create circuits are called (1). When one of these “fires,” there is a shifting change in the electrical charge that moves down the (2). This firing is also known as an (3). At the terminal buttons, chemicals can be released into the space between neurons, called a (4).

Answers (Pages 43-45):

(1) neurons; (2) axon; (3) action potential; (4) synapse

3. List the four lobes of the brain and for each lobe, list one of their functions.

Answers (Page 53, Recitation Slides) :

- (1) Frontal Lobe – cognition, planning, reasoning
- (2) parietal lobe – sensation, spatial-motor mapping, attention
- (3) Temporal Lobe – hearing, object/face recognition
- (4) Occipital Lobe – Vision

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4. Being paid weekly is a \_\_\_\_\_ schedule. Being paid \$10 for every 20 widgets you make is a \_\_\_\_\_ schedule. If you play the lottery 100 times and win on the 15th, 27th, 52nd, and 88th time this is a \_\_\_\_\_ schedule. If you are paid on average every 14 days, but sometimes it is shorter or longer than 14 days this is a \_\_\_\_\_ schedule.

Answers: (1) Fixed Interval; (2) Fixed Ratio; (3) Variable Ratio; (4) Variable Interval

5. Give an example of each of the following: Positive reinforcement, Negative reinforcement, Positive punishment, Negative punishment

Answers will vary.

6. Use terms from classical conditioning to complete the following story:  
When arriving to 9.00 lecture you hear music playing throughout the lecture hall. The music suddenly ends and you get out your notebook. The music ending is an example of \_\_\_\_\_. Getting your notebook out is an example of \_\_\_\_\_. After getting a very high grade on your 9.00 exam you are rewarded with an A. This is an example of \_\_\_\_\_. After finishing your exam and returning to Simmons Hall (if you live there) you discover that someone made a mess of the dorm hallway with the balls from the ball pit. No one in the dorm is allowed to use the ball pit for one week. This is an example of \_\_\_\_\_.

Answers: (1) Conditioned Stimulus; (2) Conditioned Response; (3) Positive Reinforcement; (4) Negative Punishment.

7. Lesions and recording (imaging) are two major methods by which scientists discover the functional organization of the human brain. For each kind of method, name one strength and one weakness.

Answers:

Lesions:

Strength: causal, dramatic, counterintuitive, dissociations

Weakness: hard to localize, variability, degeneration, recovery, limited view of normal

functions

Imaging:

Strength: temporal or spatial resolution, normal function, widely available, many tasks

Weakness: correlational, limited temporal or spatial resolution, costs

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