

Name: _____
Date: _____

Psychology 101 Exam KEY (February 7, 2008)
Rice University, Spring 2008

“On my honor, I have neither given nor received aid on this exam.”

Part I: Multiple Choice (40 questions worth 2 points each; answer all of them using your Scantron)

1. If Dr. Paulsen conducts research on how the home crowd affects team performance at basketball games, then she is most likely a(n) _____ psychologist.
 - a) school
 - b) personality
 - c) social**
 - d) developmental
 - e) educational

2. Which of the following is the least well-known Gestalt law?
 - a) Proximity
 - b) Closure
 - c) Continuity
 - d) Distinctiveness**
 - e) All of the above are equally well known

3. _____ bias occurs when participants or items are not chosen at random but instead are selected so that an attribute is over or under-represented.
 - a) Reliability
 - b) Validity
 - c) Response
 - d) Sampling**
 - e) Personal

4. The term _____ refers to careful observations or numerical measurements of a phenomenon.
 - a) science
 - b) data**
 - c) hypothesis
 - d) information
 - e) variable

5. All of the following were discussed as ways to lie with graphs EXCEPT:
 - a) shortening the Y-axis
 - b) using 3-D graphics
 - c) transforming data prior to plotting
 - d) using inappropriately large range of values
 - e) nonselective reporting of data**

6. Which of the following correlation coefficients represents the strongest relationship between two variables?
 - a) -.75**
 - b) .25
 - c) -.25
 - d) .50
 - e) 0

7. When the best-fitting line is fit through a set of points in a simple correlation procedure (i.e., linear regression), the best line chosen is the one that _____.
 - a) minimizes the sum of the squared horizontal distances of the points to the line
 - b) maximizes the sum of the squared horizontal distances of the points to the line
 - c) minimizes the sum of the squared vertical distances of the points to the line**
 - d) maximizes the sum of the squared vertical distances of the points to the line
 - e) None of the above.

8. From a scientific perspective, a major problem with psychodynamic theory is that
 - a) it is all wrong.
 - b) there is no unconscious.
 - c) it is impossible to test its principles.**
 - d) it focuses too much on sex.
 - e) mental processes are hidden from awareness.

9. Suppose a paper-and-pencil test of leadership ability correlates highly with poll results of actual leaders; as such, this would be an example of _____ validity.

- a) content
- b) construct
- c) criterion**
- d) face
- e) general

10. A(n) _____ psychologist ~~teaches~~ investigates changes in mental processes and behavior as people age.
- a) personality
 - b) school
 - c) educational
 - d) developmental**
 - e) social
11. The tension brought about by the debate concerning the study of unobservable mental processes versus the study of only observable behaviors was eased with the arrival of _____.
- a) structuralism
 - b) cognitive psychology**
 - c) gestalt psychology
 - d) humanistic psychology
 - e) behaviorism
12. In addition to describing and explaining mental processes and behavior, psychology also attempts to _____ these phenomena.
- a) categorize and organize
 - b) recognize and appreciate
 - c) analyze and manipulate
 - d) predict and control**
 - e) synthesize and regulate
13. A good control group _____.
- a) is identical to the experimental group
 - b) contains at least one confound
 - c) has a limited number of research participants
 - d) holds constant all variables in the experimental group except the one of interest**
 - e) has a limited number of dependent variables
14. A quasi-experimental design does not use _____.
- a) independent variables
 - b) multiple conditions
 - c) dependant variables
 - d) random assignment**
 - e) all of the above
15. Before testing a hypothesis you must first _____.

- a) collect data.
 - b) eat a good breakfast.
 - c) create operational definitions.**
 - d) decide whether to make use of the scientific method.
 - e) create a theory.
16. Systematically collecting data in real-world environments that can be replicated by others is the essence of which descriptive research method?
- a) correlational research
 - b) surveys
 - c) experiments
 - d) naturalistic observation**
 - e) case studies
17. The central nervous system is defined as:
- a) the brain and the spinal cord**
 - b) the brain and the skeletal system
 - c) the spinal cord and the skeletal system
 - d) the spinal column and the spinal cord
 - e) the brain and the skull
18. The area of the brain where fluid is stored is known as the _____.
- a) ventricles**
 - b) gyrus
 - c) sulcus
 - d) meninges
 - e) subcortical structure
19. A receptor is a site that can be found:
- a) on axons or cell bodies.
 - b) on dendrites or cell bodies.
 - c) only on dendrites.**
 - d) only on cell bodies.
 - e) only on axons.
20. If Mindy's doctor has taken a three-dimensional image of her brain using X-rays, then she has likely had a(n) _____.
- a) EEG
 - b) PET
 - c) CT**
 - d) TMS
 - e) MRI
21. Dendrite is to axon as:
- a) send is to regulate.

- b) regulate is to send.
 - c) receive is to release.
 - d) receive is to send.
 - e) **send is to receive.**
22. Brain areas that are used a lot:
- a) grow smaller.
 - b) temporarily grow smaller and then revert back to their normal size.
 - c) temporarily grow larger and then revert back to their normal size even when this heavy use continues.
 - d) are not affected whatsoever.
 - e) **grow larger.**
23. The two halves of the brain are connected by the _____.
- a) sulcus
 - b) **corpus callosum**
 - c) cerebral cortex
 - d) gyrus
 - e) cerebral hemisphere
24. The hypothalamus is associated with all of the following functions EXCEPT:
- a) eating
 - b) governing sexual behavior
 - c) **allowing new information to be stored in memory**
 - d) drinking
 - e) regulating hormones
25. Your occipital lobe is located _____.
- a) below the temples
 - b) under the corpus callosum
 - c) in between the cerebral hemispheres
 - d) **at the back of the brain**
 - e) immediately behind the forehead
26. The temporal lobe is involved in all of the following EXCEPT:
- a) processing of sound.
 - b) comprehension of language
 - c) storing new information into memory
 - d) **recognizing various visual properties such as motion**
 - e) storing visual information
27. When a brain surgeon does surgery, the first structure he or she will see under the skull will be the _____.
- a) ventricle

- b) gyrus
- c) meninges**
- d) corpus callosum
- e) sulcus

28. _____ suggests that the characteristics of objects are the same even though the sensory information striking the eyes changes.
- a) Color constancy
 - b) Retinal disparity
 - c) Stereopsis
 - d) Perceptual constancy**
 - e) Size constancy
29. If an object is _____, it seems familiar whereas if it is _____, you know additional facts about it.
- a) identified; recognized
 - b) recognized; sensed
 - c) sensed; perceived
 - d) recognized; identified**
 - e) identified; sensed
30. The classic Stroop effect involves the naming of _____.
- a) shapes
 - b) colors**
 - c) animals
 - d) cities
 - e) boys' names
31. Sensation is to perception as _____ is to _____.
- a) stimulation; recognition**
 - b) organization; interpretation
 - c) awareness; interpretation
 - d) interpretation; awareness
 - e) registration; awareness
32. Bottom-up processing is initiated by _____.
- a) knowledge
 - b) expectation
 - c) belief
 - d) the stimulus**
 - e) any of the above
33. Which of the following eye structures has the highest density of cones and, consequently, allows for the highest resolution of information?
- a) pupil

- b) retina
- c) fovea**
- d) optic nerve
- e) iris

34. Sound is best characterized as _____.
- a) a psychological and physical event
 - b) either a physical or psychological event caused by either a physical or psychological event
 - c) a physical event caused by a psychological event
 - d) a nonphysical event
 - e) a psychological event caused by a physical event**
35. Chemical senses typically include _____.
- a) smell and pain
 - b) pain and touch
 - c) smell and taste**
 - d) smell and touch
 - e) taste and movement
36. Recognize is to identify as:
- a) familiarity is to knowledge**
 - b) familiarity is to more familiarity
 - c) thought is to sight
 - d) knowledge is to familiarity
 - e) sight is to thought
37. In which of the following stages would one experience a hypnic jerk?
- a) Stage 1**
 - b) Stage 2
 - c) Stage 3
 - d) Stage 4
 - e) REM
38. Which stage of sleep has the greatest effect on memory performance?
- a) Stage 1
 - b) Stage 2
 - c) Stage 3
 - d) Stage 4
 - e) REM**
39. Your circadian rhythms impact your _____.
- a) ~~blood pressure~~ pulse rate
 - b) metabolism
 - c) blood pressure

- d) hormone levels
- e) **all of the above**

40. Snoring may be a symptom of _____.
- a) night terrors
 - b) nightmares
 - c) **sleep apnea**
 - d) insomnia
 - e) narcolepsy

Part II: Short answer (4 points each). Choose 5 out of the following 7 questions. The length of your answers should range from just a short sentence or list, if that is sufficient, to a few sentences. Write your answers on the exam pages (use the back if needed).

1. What is the key difference between the Structuralist and the Gestalt approach to psychology? **Answer: the Structuralists believed that mental processes could best be studied by analyzing perceptions and thoughts into their most elementary parts, such as sensations. The Gestaltists believed that much was lost in analyzing perceptions and thought into simple parts, because the whole is different from the sum of its parts, and critical emergent features may be lost.**

2. The typical psychology experiment yields results (data) that can be plotted on a graph. In such a graph, which aspect of the experiment appears along the abscissa (x-axis), and which along the ordinate (y-axis)? **Answer: the independent variable goes on the X, and the dependent goes on the Y.**

3. What is the difference between the reliability and the validity measurements? **Answer: reliability refers to the repeatability of measurement, i.e., whether you get the same reading each time you measure. Validity refers to whether the measurement is unbiased in assessing correctly what it is supposed to measure, i.e., that on average it's accurate.**

4. There are several research methods used in cognitive neuroscience. List three of them. **Answer: studies of stroke and accident victims; studies of individuals with functional impairments (color blindness, amnesia, etc.) , neuroimaging studies (fMRI, PET, etc.), stimulation studies (TMS, single electrode ala Penfield); drug studies.**

5. What takes place within a neuron when it fires (undergoes an action potential)? **Answer: in response to an influx of excitatory transmitter substances (overcoming any inhibitory ones) in its dendrites, the neuron begins a swift change in the permeability of its membrane, with sodium ions rushing in. Beginning at the top of the axon next to the cell body, this change propagates quickly down the axon until it reaches the terminal boutons/endfeet, which causes the release of vesicles containing more transmitter substances that then diffuse across the synaptic gap/cleft to affect subsequent neurons.**

As this process unfolds, other processes begin to clean up after the firing, pumping sodium ions back outside the cell and retrieving stray transmitter substance lingering at the synapse.

6. The lectures outlined several basic facts about perception, including that perception takes time. What is the evidence for this? Answer: the evidence comes in part from our knowledge that it takes a measurable amount of time for, say, responses in the rods and cones to be transmitted neurally through the retina and the thalamus to the occipital lobes or beyond, where perception takes place. Other evidence comes from our experience of phenomena like metacontrast masking (where a later stimulus prevents you from perceiving an earlier stimulus) and apparent motion (where we interpolate a motion path from flashes in movies and on computer screens after the fact).

7. In class we saw the McCollough Effect demonstrated where we experienced afterimages after looking for 10 minutes at a colored vertical and horizontal bars. How does the McCollough Effect differ from other color afterimages, like the reverse-colored flag version? Answer: the ME lasts much longer; it's a contingent aftereffect (what you see is contingent on the orientation of the bars during adaptation and at test); and does not depend critically on where you fixate your eyes on the display during the long adaptation period.