Sensation and Perception Unit Exam
AP Psychology
Mr. Beward

Multiple Choice (30 questions, 60 points)—Please provide the BEST answer to each of the following questions.

1. The cochlea is responsible for
    a. Protecting the surface of the eye
    b. Transmitting vibrations received to the eardrum by the hammer, anvil and stirrup
    c. Transforming vibrations into neural symbols
    d. Coordinating impulses from the rods and cones in the retina
    e. Sending messages to the brain about the orientation of the head and the body

2. The blind spot in our eye results from
    a. The lack of receptors at the spot where the optic nerve connects to the retina
    b. The shadow the pupil makes on the retina
    c. Competing processing between the visual cortices in the left and right hemisphere
    d. Floating debris in the space between the lens and the retina
    e. Retinal damage from bright light

3. What is the principal difference between amplitude and frequency in the context of sound waves?
    a. Amplitude is the tone or timbre of sound, while frequency is the pitch
    b. Amplitude is detected in the cochlea, while frequency in detected in the auditory cortex
    c. Amplitude is the height of the sound wave, while frequency is a measure of how frequently the sound passes a given point
    d. Both measure quality of sound, but frequency is a more accurate measure since it measures the shapes of the waves rather than the strength of the waves
    e. Frequency is a measure for light waves, while amplitude is a measure for sound waves

4. Weber's law determines
    a. Absolute threshold
    b. Focal length of the eye
    c. Level of subliminal messages
    d. Amplitude of sound waves

e. Just-noticeable difference

5. If you had sight in only one eye, which of the following depth cues could you NOT use?
    a. Texture gradient
    b. Convergence
    c. Linear perspective
    d. Interposition
    e. Shading

6. Which of the following best describes the relationship between sensation and perception?
    a. Sensation is a strictly mechanical process, while perception is a cognitive process
    b. Perception is an advanced form of sensation
    c. Sensation happens in the senses, while perception happens in the brain
    d. Sensation is detecting stimuli, perception is interpreting stimuli detected
    e. Sensation involves learning and expectations, and perception does not

7. What behavior would be difficult without our vestibular sense?
    a. Integrating what we see and hear
    b. Writing our name
    c. Repeating a list of digits
    d. Walking a straight line with our eyes closed
    e. Reporting to a researcher the exact position and orientation of our limbs

8. The part (s) of the body with the most sensory receptors is (are) the
    a. Lips
    b. Feet
    c. Thighs
    d. Neck
    e. Wrists

9. Over which of the following functions does the right hemisphere of the brain have the most control?
    a. Language
    b. Logical reasoning
    c. Movement of the right side of the body
    d. Algebra

e. Art and music appreciation

10. The intensity of light that needs to exist for you to first notice that the houselights are being turned on following the end of your movie is called your
    a. Just-noticeable difference
    b. Light quotient
    c. Absolute threshold
    d. Stimulation tolerance
    e. Sensitivity

11. All information coming from our senses (except olfactory sensations) pass through which brain structure?
    a. Hypothalamus
    b. Sensory Cortex
    c. Brain stem
    d. Thalamus
    e. Corpus callosum

12. Retinal disparity is
    a. A monocular vision cue
    b. A vision condition resulting from partially detached retinas
    c. The slight difference in focal length between each eye
    d. The distance from the fovea to the optic nerve
    e. A binocular vision cue

13. The term transduction refers to
    a. Neural impulses moving from the spinal cord to the best of the brain
    b. The different effects of hormones in different parts of the body and brain
    c. Neural impulses traveling from the peripheral nervous system to the central nervous system
    d. Changing sensory stimuli from energy or chemical signals into neural impulses
    e. Changing neurotransmitter signals into electrical impulses

14. An animal with only one eye would not be able to use which of the following cues for depth?
    a. Retinal disparity

b. Relative size
c. Texture gradient
d. Interposition
e. Motion parallax

15. The order of the bones in the middle ear are
    a. Anvil, hammer, stirrup
    b. Stirrup, hammer, anvil
    c. Stirrup, anvil, hammer
    d. Hammer, stirrup, anvil
    e. Hammer, anvil, stirrup

16. The part of the ear responsible for translating information into neural impulses is the
    a. Pinna
    b. Cochlea
    c. Hair cells of the basilar membrane
    d. Tympanic membrane
    e. Anvil

17. The part of the brain responsible for coding visual information is the
    a. Temporal lobe
    b. Somatosensory cortex
    c. Hypothalamus
    d. Occipital lobe
    e. Frontal lobe

18. The part of the brain responsible for coding auditory information is the
    a. Temporal lobe
    b. Occipital lobe
    c. Somatosensory cortex
    d. Frontal lobe
    e. Hypothalamus

19. A cue used for to understand distance is
    a. Pragnanz

b. Linear perspective
c. Ponzo illusion
d. Good continuation
e. Proximity

20. Visual illusions are used to help us understand perception because they show us ways that our visual system is fooled. The reason we typically see illusions is that
    a. The size of the retinal image remains constant
    b. Motion parallax tends to make objects appear larger
    c. Afterimages distort the real image
    d. We use prior knowledge to interpret sensory information
    e. The size of the retinal image is increasing

21. If you look at a flag that has green, black and yellow colors and then look at a white screen, you will see the American flag with its proper colors. This is due to
    a. Opponent-process theory
    b. Tri-color theory
    c. Place theory
    d. Frequency theory
    e. Gate theory

22. Depth perception is obtained by a variety of cues in the environment. Which of the following cues is based on the different image we get from our eyes because of their location in our heads?
    a. Interposition
    b. Linear perspective
    c. Context
    d. Localization
    e. Retinal disparity

23. Two pins are placed so close to each other on a subject's finger that they are perceived as a single point. This is because the pins have not reached the
    a. Absolute threshold
    b. Just noticeable difference
    c. Threshold
    d. Action potential
    e. Gate theory of pain

24. The “blind spot” refers to
    a. The area of the retina that contains only rods and no cones
    b. The area of the retina that contains only cones and no rods
    c. The area where the optic nerve exits the retina
    d. The place in the optic chiasm where the optic nerves cross
    e. The area on the cornea where an astigmatism occurs

25. Taste receptors are sensitive to all of the following taste qualities EXCEPT
    a. Bitter
    b. Sweet
    c. Salty
    d. Spicy
    e. Sour

26. When struck by light energy, cones and rods in the retina generate neural signals that then activate the
    a. Parietal lobe
    b. Ganglion cells
    c. Bipolar cells
    d. Ciliary muscle
    e. Optic nerve fibers

27. Climbing an irregular set of stairs is more difficult for an individual who wears a patch over one eye primarily because
    a. Some depth perception is lost
    b. Half of the visual field is missing
    c. The ability to perceive interposition is lost
    d. The patch disrupts the functioning of the vestibular system
    e. The patch alters the ability of the open eye to compensate

28. Which of the following occurs when a neuron is stimulated to its threshold
    a. The movement of sodium and potassium ions across the membrane creates an action potential
    b. The neuron hyperpolarizes
    c. Neurotransmitters are released from the dendrites

d. The absolute refractory period of the neuron prevents it from responding
e. The neuron's equilibrium potential is reached

29. Which of the following parts of the brain is most active in decision-making?
    a. Reticular formation
    b. Corpus callosum
    c. Hypothalamus
    d. Cerebral cortex
    e. Pituitary gland

30. One suspected cause of schizophrenia is the abnormal increase of which of the following neurotransmitters in the brain?
    a. Acetylcholine
    b. Somatotropin
    c. Dopamine
    d. Norepinephrine
    e. Serotonin

Free Responses (Write both, 20 points each)

1. A researcher designs a study to investigate the effect of feedback on the perception of incomplete visual figures. Each participant stares at the center of a screen while the researcher briefly projects incomplete geometric figures one at a time at random positions on the screen. The participant's task is to identify each incomplete figure. One group of participants receives feedback on the accuracy of their responses. A second group does not. The researcher compares the mean number of figures correctly identified by the two groups.
    a. Identify the independent and independent variables in the study
    b. Identify the role of each of the following psychological terms in the context of the research
        i. Visual cues
        ii. Feature detectors
        iii. Gestalt principle of closure
    c. Describe how each of the following terms relates to the conclusions that can be drawn based on the research
        i. Random assignment
        ii. Statistical significance

2. Transduction is an essential part of human sensation. Describe the process of transduction and give an example for each of the following senses:
    a. Sight
    b. Hearing
    c. Taste
    d. Touch
    e. Vestibular
    f. Smell