Section: Chapter 8: Multiple Choice

1. The incidence of red-green color blindness in the male population is:
   __ A. 5 percent.
   __ B. 7 percent.
   __ C. 10 percent.
   __ D. 12 percent.

Rationale:
   p. 279

2. At dusk colors lose their hue in what order?
   __ A. All at once.
   __ B. Red disappears before green.
   __ C. Green disappears before red.
   __ D. Red and green disappear at the same rate but yellow and blue do not.

Rationale:
   p. 279

3. Evidence would suggest that in the brain:
   __ A. visual perception is first conscious and then processed unconsciously.
   __ B. visual perception is first unconscious and then processed consciously.
   __ C. some parts of visual perception are processed consciously and others unconsciously.
   __ D. there is no unconscious visual perception.

Rationale:
   p. 280

4. Shaping of the fingers to pick up an object is a:
   __ A. visually guided conscious act.
   __ B. nonvisually guided conscious act.
   __ C. nonvisually guided unconscious act.
   __ D. visually guided unconscious act.

Rationale:
   p. 280

5. A wavelength of 700 nanometers is our representation of:
   __ A. red.
   __ B. green.
   __ C. yellow.
   __ D. blue.

Rationale:
   p. 281
6. A wavelength of 400 nanometers is our representation of:
   __ A. red.
   __ B. green.
   __ C. yellow.
   __ D. blue.
Rationale:
  p.281

7. The white part that forms the eyeball is called the:
   __ A. cornea.
   __ B. sclera.
   __ C. retina.
   __ D. choroid layer.
Rationale:
  p.281

8. The retina:
   __ A. has receptors that face the incoming light.
   __ B. receives an image that is upside down but not backward.
   __ C. receives an image that is upside down and backward.
   __ D. a and b.
Rationale:
  p.282

9. If we wear glasses that turn the image of the world upside down, the brain:
   __ A. will immediately compensate and turn the world right side up again.
   __ B. will gradually turn the world so it is right side up again.
   __ C. after several days will suddenly turn the world so it is right side up again.
   __ D. cannot compensate, but while the world is upside down we adapt our behaviour very rapidly.
Rationale:
  p.282

10. The blind spot in the retina is where the:
    __ A. blood vessels enter and leave the eye.
    __ B. axons of the retinal ganglion cells leave the eye.
    __ C. axons of the bipolar cells leave the eye.
    __ D. a and b.
Rationale:
  p.282
11. The optic disk is also known as the:
   __ A. fovea.
   __ B. yellow spot (macula lutea).
   __ C. blind spot.
   __ D. iris.
Rationale: p.282

12. Optic neuritis:
   __ A. swells the blind spot.
   __ B. causes loss of vision.
   __ C. is probably the most common neurologic visual disorder.
   __ D. all of the above.
Rationale: p.284

13. Rods are to cones as:
   __ A. day is to night.
   __ B. color is to black and white.
   __ C. night is to day.
   __ D. black and white is to color.
   __ E. c and d.
Rationale: pp.284-285

14. There is/are:
   __ A. two types of cone cells.
   __ B. three types of cone cells.
   __ C. four types of cone cells.
   __ D. one type of cone cell.
Rationale: pp.285-286

15. The peak absorption of cone cells is at:
   __ A. red, green, blue.
   __ B. red, green, yellow.
   __ C. green, blue, yellow.
   __ D. blue, green, yellow.
Rationale: p.286
16. In humans there are two types of red cone cells. Which of the following is true?
   __ A. A man can have only one type of red cone cell.
   __ B. A man can have both types of red cone cells.
   __ C. A woman can have only one type of cone cell.
   __ D. a and c.
   Rationale: p.286

17. Horizontal cells in the eye link the:
   __ A. bipolar cells to the retinal ganglion cells.
   __ B. receptors to the bipolar cells.
   __ C. bipolar cells to the amacrine cells.
   __ D. receptors to the amacrine cells.
   Rationale: p.287

18. Parvocellular cells:
   __ A. primarily receive their input from rods.
   __ B. are sensitive to light but not color.
   __ C. primarily receive their input from cones.
   __ D. a and b.
   Rationale: p.287

19. The right visual field is composed of the:
   __ A. nasal portions of each eye.
   __ B. temporal portions of each eye.
   __ C. nasal portion of the right eye and the temporal portion of the left eye.
   __ D. temporal portion of the right eye and the nasal portion of the left eye.
   Rationale: p.288

20. The pathway from the eyes to the brain is organized as follows:
   __ A. the right eye goes to the left hemisphere while the left eye goes to the right hemisphere.
   __ B. the right half of each eye goes to the left hemisphere.
   __ C. the right half of each eye goes to the right hemisphere.
   __ D. the left half of the right eye and the right half of the left eye go to the left hemisphere.
   Rationale: p.288
21. The geniculostriate system is as follows:
   __ A. retina, lateral geniculate nucleus of the thalamus, layer IV of the visual cortex.
   __ B. retina, lateral geniculate nucleus of the thalamus, layer VI of the visual cortex.
   __ C. retina, superior colliculus, thalamus, layer IV of the visual cortex.
   __ D. retina, superior colliculus, thalamus, layer VI of the visual cortex.
Rationale:
p.288

22. The superior colliculus sends its most direct connections to the:
   __ A. lateral geniculate nucleus.
   __ B. pulvinar.
   __ C. striate cortex.
   __ D. parietal cortex.
Rationale:
p.289

23. The ventral stream projects to the:
   __ A. occipital lobe.
   __ B. parietal lobe.
   __ C. temporal lobe.
   __ D. limbic lobe.
Rationale:
p.290

24. The dorsal stream projects to the:
   __ A. occipital lobe.
   __ B. parietal lobe.
   __ C. temporal lobe.
   __ D. limbic lobe.
Rationale:
p.290

25. The six layers of the LGN receive which of the following inputs from the eyes?
   __ A. Layers 2, 4, and 6 from the ipsilateral eye.
   __ B. Layers 2, 4, and 6 from the contralateral eye.
   __ C. Layers 1, 4, and 6 from the contralateral eye.
   __ D. Layers 1, 4, and 6 from the ipsilateral eye.
Rationale:
p.291
26. The primary visual cortex is also known as:
   __ A.  V1.
   __ B.  V2.
   __ C.  V3.
   __ D.  V4.
   Rationale: pp.291-292

27. Cells in the blobs found in the visual cortex are involved in:
   __ A.  form perception.
   __ B.  motion perception.
   __ C.  color perception.
   __ D.  a and b.
   Rationale: p.293

28. The receptive field of a lateral geniculate cell is:
   __ A.  larger than the receptive field of a retinal ganglion cell.
   __ B.  the same shape as the receptive field of a retinal ganglion cell.
   __ C.  composed of on-centers and off-surrounds or off-centers and on-surrounds.
   __ D.  all of the above.
   Rationale: p.296

29. In the visual cortex the fovea has:
   __ A.  less representation than the periphery because the fovea has fewer cells on the retina.
   __ B.  the same representation on the cortex as the periphery.
   __ C.  more representation on the cortex than the periphery even though it has fewer cells in the retina.
   __ D.  more representation on the cortex because the fovea has more cells than the periphery.
   Rationale: p.297

30. The corpus callosum:
   __ A.  connects the medial portions of the visual fields but not the lateral portions of the visual fields.
   __ B.  connects the lateral portions of the visual fields but not the medial portions.
   __ C.  connects the entire visual fields from the two hemispheres.
   __ D.  does not connect the two visual fields but does connect the parietal and frontal lobes.
   Rationale: p.298
31. Which of the following sequences is correct?
   __ A. rods, cones, bipolar, ganglion, lateral geniculate, simple cortical cells
   __ B. rods, cones, ganglion, bipolar, lateral geniculate, simple cortical cells
   __ C. rods, cones, bipolar, ganglion, simple cortical cells, lateral geniculate
   __ D. rods, cones, ganglion, lateral geniculate, bipolar, simple cortical cells
   
   Rationale:
   pp. 287-288

32. Cutting the optic nerve of the right eye prior to reaching the optic chiasm will result in loss of vision in:
   __ A. the right visual field.
   __ B. the left visual field.
   __ C. half of each visual field.
   __ D. the two nasal fields.
   
   Rationale:
   p. 288

33. Luminance contrast begins at the:
   __ A. lateral geniculate cell level.
   __ B. ganglion cell level.
   __ C. simple cortical cell level.
   __ D. complex cortical cell level.
   
   Rationale:
   p. 301

34. Orientation detection is first coded by:
   __ A. the lateral geniculate cells.
   __ B. simple cortical cells.
   __ C. complex cortical cells.
   __ D. hypercomplex cortical cells.
   
   Rationale:
   p. 301

35. Cells that respond to moving bars and have a strong inhibitory area at one end of the receptive field are called:
   __ A. lateral geniculate cells.
   __ B. simple cortical cells.
   __ C. complex cortical cells.
   __ D. hypercomplex cortical cells.
   
   Rationale:
   p. 302
36. Ocular dominance columns are:
   __ A. columns that respond to lines in the same orientation.
   __ B. columns that respond to lines in slightly different orientations.
   __ C. columns of input from each eye.
   __ D. none of the above.

Rationale: pp.304-305

37. Cells in the temporal lobe have been found to be sensitive to:
   __ A. faces.
   __ B. size.
   __ C. color.
   __ D. all of the above.

Rationale: p.305

38. The transition between a three-color system and a four-color system occurs between:
   __ A. the later geniculate and simple cortical cells.
   __ B. simple cortical cells and complex cortical cells.
   __ C. complex cortical cells and hypercomplex cells.
   __ D. the retina and the lateral geniculate.

Rationale: p.306

39. Color constancy is thought to occur at which layer of the visual cortex?
   __ A. V1
   __ B. V2
   __ C. V3
   __ D. V4

Rationale: p.308

40. Cells in the dorsal stream are sensitive to:
   __ A. faces.
   __ B. anesthetics.
   __ C. movement.
   __ D. b and c.

Rationale: p.308
41. Homonymous hemianopia occurs when:
   __ A. the optic nerve is cut behind the eye.
   __ B. the optic chiasm is cut.
   __ C. the lateral geniculate is cut.
   __ D. all of the above.
Rationale: p.309

42. Small blind spots in the visual field are called:
   __ A. hemianopias.
   __ B. scotomas.
   __ C. nystagmus.
   __ D. agnosias.
Rationale: p.310

43. A person with visual-form agnosia:
   __ A. cannot see objects placed in his visual field.
   __ B. can see the object, tell you what it does, but cannot name it.
   __ C. can see the object, cannot tell you what it does, cannot name it.
   __ D. none of the above.
Rationale: p.311

44. In the case of L. M., after lesions to V5, the patient could no longer:
   __ A. read.
   __ B. write.
   __ C. detect movement.
   __ D. recognize objects.
Rationale: p.312

45. The patient described as having optic ataxia could not:
   __ A. make accurate movements toward his body.
   __ B. make visually guided movements.
   __ C. walk.
   __ D. a and b.
Rationale: p.314
46. The trichromatic theory of color vision is associated with the:

___ A. retina.
___ B. lateral geniculate.
___ C. striate cortex.
___ D. temporal lobe.

Rationale:

p. 306