1. **Conscious proprioception of the leg is carried by the**
   A. Fasciculus cuneatus
   B. Fasciculus gracilis
   C. Spinothalamic tract
   D. Ventral spinocerebellar tract
   E. Dorsal spinocerebellar tract

2. **In which of the following ascending pathways or tracts do the secondary neurons decussate within the spinal cord?**
   A. Fasciculus Cuneatus
   B. Posterior Spinocerebellar Tracts
   C. Fasciculus Gracilis
   D. Spinothalamic Tracts
   E. None Of Above

3. **Decussation of ascending spinal pathways occurs mainly within the**
   A. Midbrain and medulla oblongata
   B. Pons and medulla oblongata
   C. Spinal cord and medulla oblongata
   D. Spinal cord only
   E. None of above

4. **The fasciculus gracilis on each side of the spinal cord is located in the**
   A. Dorsal column.
   B. Lateral column.
   C. Posterior horn.
   D. Ventral column.
   E. None of above

5. **Ascending tracts of the spinal cord occur in the**
   A. Columns.
   B. Gray commissure.
   C. Horns.
   D. Roots.
   E. None of above

6. **Which of the following tracts conducts sensory impulses for pain and temperature from various levels of the spinal cord to the thalamus?**
   A. Anterior spinothalamic tracts
   B. Fasiculus cuneatus
   C. Fasiculus gracilis
   D. Lateral spinothalamic tracts
   E. None of above

7. **Which tract(s) decussates at the Medulla?**
   A. The Dorsal Column tracts
   B. The Spinothalamic
   C. The Rubrospinal
   D. The Lateral Corticospinal
   E. A & D

1. B	2. D	3. C	4. A	5. A	6. D	7. E

8. **During a play-off game, a college hockey player is struck hard on the back of his neck with a hockey stick. A CT scan reveals a bone fragment lodged into the medial aspect of his dorsal columns in the cervical spinal cord. Which of the following functions will most likely be affected given this patient's presentation?**
   A. Touch, pressure, vibratory sense from ipsilateral leg
   B. Pain and temperature sense from contralateral leg
   C. Pain from ipsilateral face
   D. Pain and temperature sense from contralateral arm
   E. Touch, pressure, vibration of ipsilateral arm

9. **In which of the following funiculi would you find in the dorsal columns?**
   A. Lateral Funiculus
   B. Trigeminal Funiculus
   C. Anterior Funiculus
   D. Medial Funiculus
   E. Cuneate Funiculus

10. **Which of the following 2nd order neurons is involved with relaying pain and temperature information to the VPM from the face?**
   A. Principal (main) sensory nucleus of V
   B. Spinal nucleus of V
   C. Motor nucleus of V
   D. Nucleus cuneatus
   E. Ventral horn neurons

11. **A 22-year-old athlete is complaining of a loss of touch and pressure sense from his left lower limb. You know that axons carrying this type of information are found in which of the following spinal cord regions?**
   A. Dorsal funiculus of the spinal cord
   B. Ventral horn of the spinal cord
   C. Lateral funiculus of the spinal cord
   D. Dorsal horn of the spinal cord
   E. Anterior funiculus of the spinal cord

12. **A 25-year-old female accidentally drops of a suitcase that she did not realize was too heavy. Which of the following pathways are most likely to be directly responsible for transmitting unconscious proprioception?**
   A. Neospinothalamic
   B. Spinoreticular
   C. Spinocerebellar
   D. Dorsal column-medial Lemniscus
   E. Spinomesencephalic

13. **Lesion in the medial lemniscus causes:**
   A. Contralateral loss of pain and temperature sensation.
   B. Contralateral loss of sense of movement.
   C. Ipsilateral loss of discriminative touch.
   D. Ipsilateral loss of pain and temperature sensation.
   E. Ipsilateral loss of sense of movement

8. A	9. E	10. B	11. A	12. C	13. B

14. Clarke's nucleus transmits the following sensation:

A. Pain and temperature sensation.
B. Sense of movement of the upper limb to the cerebellum.
C. Sense of movement of the upper limb to the cerebral hemisphere.
D. Sense of movement of the lower limb to the cerebellum.
E. Sense of movement of the lower limb to the cerebral hemisphere.

15. In lesions of the left cuneate tract, one of the following is INCORRECT:

A. Loss of sense of movement of the left shoulder joint.
B. Loss of sense of flexion of the left index finger.
C. Loss of sense of movement of the right elbow joint.
D. Intact sense of extension of the right knee joint.
E. Intact sense of pain from the left upper limb.

16. Lesion in the gracile tract causes all of the following in the ipsilateral side EXCEPT:

A. Loss of sense of movement of the thumb.
B. Loss of sense of movement of the big toe.
C. Loss of discriminative touch from the region of the umbilicus.
D. Loss of sense of vibration over the medial malleolus.
E. Loss of tactile localization over the front of the thigh.

17. Unconscious proprioception is mediated through:

A. Dorsal spinocerebellar tract.
B. Spino-thalamic tract.
C. Ventral spinocerebellar tract.
D. All of the above.
E. A and c only.

18. The following tract mediates pain and temperature sensations from the body:

A. Gracile tract.
B. Ventral spinothalamic tract.
C. Lateral spinothalamic tract.
D. Ventral spinocerebellar tract.
E. Dorsal spinocerebellar tract.

19. The tract mediating unconscious proprioception from upper limb to cerebellum is:

A. Gracile tract.
B. Dorsal spinocerebellar tract.
C. Ventral spinocerebellar tract.
D. Cuneocerebellar tract.
E. Lateral spinothalamic tract.

20. Sense of movement of the knee joint is mediated by:

A. Gracile tract.
B. Cuneate tract
C. Lateral spinothalamic tract.
D. Ventral spinothalamic tract.
E. Cuneocerebellar tract.

14. D	15. C	16. A	17. A	18. C	19. D	20. A

21. The following nuclei not project their axons to the cerebellum:

A. Arcuate nucleus.
B. Clarke's nucleus.
C. Red nucleus.
D. Accessory cuneate nucleus.
E. Inferior olivary nucleus.

22. Lesion in the spinal lemniscus causes:

A. Contralateral loss of pain and temperature sensation.
B. Contralateral loss of sense of movement.
C. Ipsilateral loss of discriminative touch.
D. Ipsilateral loss of pain and temperature sensation.
E. Ipsilateral loss of sense of movement.

23. The tracts of the spinal cord:

A. Proprioception (kinesthesia) is carried by the ventral column tracts.
B. Pain and heat sensations are carried by the ventral spinothalamic tract.
C. Discriminative touch sensation is carried by the gracile tract.
D. Crude touch sensation is carried by the lateral spinothalamic tract.
E. Lateral spinothalamic tract relays in the VPM nucleus of the thalamus.

24. Discriminative touch sensation from the body is mediated by:

A. Lateral spinothalamic tract.
B. Ventral spinothalamic tract
C. Dorsal spinocerebellar tract.
D. Ventral spinocerebellar tract.
E. Medial lemniscus.

25. Regarding the axon of the second-order neuron in the pathway for conscious awareness of fine, discriminative touch and vibratory sensation from the upper limb, which of the following is correct?

A. Ascends the brainstem in the medial lemniscus
B. Decussates in the ventral white commissure of the spinal cord
C. Has its cell body in the nucleus gracilis
D. Is found in the dorsal funiculus of the spinal cord
E. Terminates in the nucleus cuneatus

26. Second-order neurons of the dorsal (posterior) spinocerebellar tracts are located in which of the following?

A. Deep cerebellar nuclei
B. Dorsal root ganglion
C. Nucleus cuneatus
D. Nucleus dorsalis (Clarke's nucleus)
E. Rexed's lamina IX of the spinal cord

21. C	22. A	23. C	24. E	25. A	26. D