Skin, Breast, Back, Shoulder and Upper Extremity

Use the following letters to indicate your answer:

A: Only I is true
B: Only II is true
C: Both are true
D: Both are false

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1. I. The epidermis, which is a nonvascular tissue, is thickest in the soles of the feet and palms of the hands.

II. Superficial fascia is located between the hypodermis and deep fascia.

2. I. Three types of fascia are present in the body, as was defined in your notes: 1) superficial fascia; 2) deep fascia; and 3) intermuscular fascia.

II. There is a space between superficial fascia and deep fascia called the fascial cleft. This space allows the two layers to glide upon one another with minimum resistance.

3. I. The lactiferous duct, which opens up into a nipple, drains many glandular lobes.

II. Cooper's ligament of the breast passes from the deeper portion of the superficial fascia to anchor into the dermis of the skin.

4. I. Sensory branches of intercostal nerves 4 - 6 supply sensation to the breast.

II. If a surgeon accidentally cuts the long thoracic nerve, the patient will have some sensation loss to her breast.

5. I. Subscapular lymph nodes are a part of the lymphatic drainage system of the breast and are located in the axilla.

II. Parasternal nodes empty into the internal thoracic artery, which is deep to the sternum.

6. I. The lumbar curve of the spine is an example of a secondary curvature.

II. The human spine contains 8 cervical vertebra, 12 thoracic vertebra, 5 lumbar vertebra, 4-5 sacral vertebra and 3-4 coccyx vertebra.

7. I. All cervical vertebrae have transverse foramen, all of which contain the vertebral vein.

II. The odontoid process is found on the second cervical vertebra and

extends into the intervertebral foramen of the first vertebra.

8. I. The sacral canal is a continuation of the vertebral canal and contains the caudal portion of the spinal cord.

II. The spinous processes of the thoracic vertebrae are angled in an oblique fashion.

9. I. The tubercle of a rib articulates with an articular facet of a vertebra. That facet is a part of the vertebral transverse process.

II. Not all ribs have a tubercle.

10. I. A typical human has 12 pairs of ribs. Ribs 2 and 3 articulate with two adjacent thoracic vertebrae and ribs 1 and 10 articulate with one thoracic vertebra each.

II. Rib 1 articulates with the sternum at the sternal angle therefore connecting with both the manubrium and body of the sternum.

11. I. Hilton's law indicates that the radial nerve and median nerve innervates the elbow joint.

II. The articulation of the rib and intercostal cartilage and the articulation between vertebral bodies are considered synarthroses.

12. I. The posterior longitudinal ligament is more narrow at the lumbar region of the spine compared to the cervical spine.

II. Ligamentum flavum, which is superficial to the posterior longitudinal, checks the flexion of the vertebral column.

13. I. All cervical, thoracic and lumbar vertebrae have vertebral disks between them.

II. The first and seventhcostosternal joints are synarthroses. The others are diarthroses.

14. I. Synovial tendon sheaths are a type of bursa.

II. Rhomboid muscles are innervated by the dorsal primary rami.

15. I. Thoracolumbar fascia is superficial to epaxial muscles.

II. Serratus posterior superior connects the transverse processes of vertebrae to ribs.

16. I. The serratus posterior muscles are superficial to the epaxial muscles.

II. The erector spinae muscle attaches to the sacrum and iliac regions.

17. I. The longissimus muscles are lateral to the spinalis muscles.

II. The obliquus capitis superior muscle is superficial to the splenius capitis muscle.

18. I. The splenius cervicis muscles attach to the thoracic transverse processes.

II. Rotator muscles are best developed in the lumbar region of the spine.

19. I. Semispinalis muscles are superficial to the multifidus muscles.

II. Semispinalis muscles insert primarily on the mastoid processes.

20. I. The transversospinal muscle group is made of the semispinalis, multifidus and rotator muscles.

II. There are 5 pairs of lumbar nerves.

21. I. Thoracic nerve 10 egresses from the spinal column rostral to thoracic vertebra 10.

II. Filum terminale is attached to the conus medullaris.

22. I. A typical lumbar puncture will be between spinal cord segments L3 and L4 or L4 and L5.

II. The dorsal root ganglia contain sensory neurons and can be found in the vertebral foramen.

23. I. The ventral root of the spinal cord can contain both motor and sympathetic axons.

II. The white ramus is more distal than the gray ramus relative to the spinal cord.

24. I. The dorsal primary rami innervate epaxial muscles.

II. The ligamentum denticulatum is an extension of the arachnoid membrane that attaches to the dura and helps hold the spinal cord in place.

25. I. The internal plexus of veins in the spinal column is found in the subarachnoid space.

II. Dural sleeves are continuous with the epineurium of the spinal nerves.

26. I. Nipples are typically at dermatome level T4.

II. Usually 2 adjacent spinal cord levels must be lost before a sensory deficit in a dermatome is significant.

27. I. The dura mater of the spinal cord ends at the S4 level.

II. The intervertebral foramen at the lumbar level are larger than the intervertebral foramen at the cervical level.

28. I. The blood supply of the spinal cord comes from two anterior spinal arteries and one posterior spinal artery.

II. Radicular arteries can be found on both the dorsal and ventral roots of the spinal cord.

29. I. The anterior external plexus of the venous system of the spinal column is anterior to the spinal cord but posterior to the vertebral bodies of the vertebrae.

II. The sympathetic neurons of the spinal cord can be found in the intermediolateral cell column at vertebral levels T1-L2.

30. I. The cell bodies of the parasympathetic system found in the brain stem are associated with cranial nerves 10, 7, 5 and 3.

II. The sympathetic nervous system involves both acetylcholine and norepinephrine whereas the parasympathetic nervous system uses mostly norepinephrine.

31. I. The greater splanchnic nerve arises from the intermediolateral cell column of spinal cord levels T5-T9 and terminates on the celiac ganglion.

II. Two ligaments make up the coracoclavicular ligament: the coracoid ligament and trapezoid ligament.

32. I. The trapezius muscle can both protract and rotate the scapula.

II. The pectoralis minor can depress the scapula. It is attached to ribs 3-5 and the coracoid process of the scapula.

33. I. The subscapularis attaches to the subscapular fossa of the scapula and to the greater tubercle of the humerus.

II. The infraspinatus muscle externally rotates the humerus and the teres major

internally rotates the humerus.

34. I. The pectoralis major muscle adducts, flexes and externally rotates the humerus.

II. The long head of the biceps brachii attaches at its proximal end onto the infraglenoid tubercle of the scapula.

35. I. All three heads of the triceps attach at their proximal ends (i.e., the origin) onto the humerus bone.

II. The annular ligament helps hold the head of the humerus bone into the glenoid fossa.

36. I. The flexor carpi ulnaris can adduct the hand.

II. The tendons of the flexor carpi radialis, flexor digitorum superficialis, flexor digitorum profundus are deep to the flexor retinaculum. The tendon of the flexor pollicis longus is superficial to the flexor retinaculum.

37. I. The flexor digitorum profundus inserts on the middle phalanges.

II. The extensor digitorum inserts on the middle and distal phalanges.

38. I. The anconeus helps supinate the forearm.

II. The extensor pollicis brevis and extensor indicis are deep to the extensor retinaculum.

39. I. The abductor pollicis brevis, flexor pollicis brevis but not the opponens pollicis attach to the flexor retinaculum.

II. The dorsal interossei muscles originate on all five metacarpals.

40. I. The left subclavian artery is a branch off the arch of the aorta.

II. The axillary artery changes its name to the brachial artery on the distal border of the teres minor muscle.

41. I. The axilla is a pyramidal shaped region with its apex directed toward the clavicle. The medial border is the latissimus dorsi and subscapularis.

II. The subscapular artery is a branch off the third part of the axillary artery.

42. I. The radial artery can be found on the anterior side of the radius bone.

II. The pronator teres forms the lateral border of the cubital fossa.

43. I. A small branch from the ulnar artery anastomoses with a large branch from form the deep palmer arch artery.

II. Branches from the suprascapular artery anastomose with the circumflex humeral arteries.

44. I. The cephalic vein empties into the brachial vein at the deltopectoral triangle.

II. The dorsal scapular nerve is a branch off the superior trunk.

45. I. The long thoracic nerve innervates the serratus anterior and levator scapulae.

II. The suprascapular nerve originates from the superior trunk and innervates the infraspinatus muscle. It passes anteriorly through the suprascapular notch.

46. I. In the brachial plexus, there are 3 posterior divisions and 3 anterior divisions. All 3 posterior divisions converge to form the posterior cord.

II. The thoracodorsal nerve runs posterior to the medial cord.

47. I. The lower subscapular nerve innervates the teres minor muscle.

II. Cutting all 3 posterior divisions would leave the latissimus dorsi paralyzed.

48. I. The ulnar nerve innervates the ulnar half of the flexor carpi ulnaris and all of the flexor digitorum.

II. The radial nerve passes anterior to the lateral epicondyle of the humerus bone.

The following scenario is to be applied to questions 49 and 50.

Two guys got into an argument over the affection of a young lady at a local cinema on a Friday night. One guy pulled a knife on the other and stabbed him in the neck with an off-center anterior approach. You are the chief resident in the ER at UMC when the ambulance brings the guy in. You find that no major arteries or veins are cut.
But you discover that roots 5, 6 and 7 of the brachial plexus are transected completely.
You expect the following neurological pathologies.

49. I. The patient will not be able to abduct his arm.

II. The patient will be able to abduct digits 4 and 5.

50. I. The patient's forearm will be hyperextended.

II. The patient's pectoralis major will be completely paralyzed.

Key:

1	A	26	A
2	B	27	B
3	B	28	B
4	A	29	D
5	A	30	D
6	A	31	A
7	A	32	B
8	B	33	B
9	C	34	D
10	A	35	D
11	C	36	A
12	C	37	B
13	B	38	B
14	A	39	B
15	A	40	A
16	C	41	B
17	A	42	A
18	D	43	A
19	A	44	D
20	C	45	D
21	B	46	C
22	D	47	B
23	C	48	B
24	A	49	C
25	B	50	A

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