

**THE UNIVERSITY OF LOUISVILLE SCHOOL OF MEDICINE
DEPARTMENT OF ANATOMICAL SCIENCES AND NEUROBIOLOGY
GROSS ANATOMY EXAMINATION III, NOVEMBER 15, 1999**

GENERAL INSTRUCTIONS:

1. Follow directions on answer sheet for filling in your name.
2. Above your name, write Gross Exam III.
3. Check the examination booklet to make sure you have 50 questions.
4. Use a #2 pencil and fill circles **COMPLETELY** on answer sheet.

INSTRUCTIONS FOR QUESTIONS 1-34: Select the one lettered item which **BEST COMPLETES** or **MATCHES** the numbered phrase and blacken the appropriate circle on the answer sheet. A lettered item may be used **once, more than once, or not at all.**

QUESTIONS 1-6:

- | | | |
|--|----|---|
| | A. | The recurrent laryngeal nerve |
| | B. | The mandibular division of the trigeminal nerve |
| | C. | The pharyngeal branch of the vagus nerve |
| | D. | The greater petrosal nerve |
| | E. | The lesser petrosal nerve |
-
1. supplies parasympathetic fibers to the otic ganglion.
 2. innervates the palatoglossus muscle.
 3. innervates the tensor veli palatini muscle.
 4. innervates the posterior cricoarytenoid muscle.
 5. supplies parasympathetic fibers to the pterygopalatine ganglion.
 6. innervates the superior pharyngeal constrictor muscle.

QUESTIONS 7-10:

- | | | |
|--|----|----------------------------|
| | A. | The digastric muscle |
| | B. | The styloglossus muscle |
| | C. | The geniohyoid muscle |
| | D. | The stylopharyngeus muscle |
| | E. | The mylohyoid muscle |
-
7. passes between the superior and middle pharyngeal constrictor muscles.
 8. is innervated by cervical nerve fibers that accompany the hypoglossal nerve.
 9. lies immediately inferior to the sublingual salivary gland.
 10. is innervated by two cranial nerves.

QUESTIONS 11-15:

- A. The frontal sinus
 - B. The ethmoid air cells
 - C. The sphenoid sinus
 - D. The maxillary sinus
 - E. The nasolacrimal duct
11. drain(s) into the inferior nasal meatus.
 12. is (are) closely related to the roots of upper teeth.
 13. is (are) closely related to the pituitary gland.
 14. is (are) separated from the orbit by a thin lamina of bone.
 15. drain(s) into the sphenoethmoidal recess.

QUESTIONS 16-19:

- A. The torus tubarius
 - B. The fauces
 - C. The sulcus terminalis
 - D. A vallecula epiglottica
 - E. A piriform recess
16. marks the site of the cartilaginous part of the auditory tube.
 17. is bounded by the median and lateral glossoepiglottic folds.
 18. lies just posterior to the circumvallate papillae.
 19. is bounded laterally by the thyroid cartilage and thyrohyoid membrane.

QUESTIONS 20-22:

- A. The vomer bone
 - B. The palatine bone
 - C. The sphenoid bone
 - D. The temporal bone
 - E. The ethmoid bone
20. has a "perpendicular plate" that forms part of the nasal septum.
 21. bears the styloid process.
 22. forms part of the lateral wall of the bony orbit.

QUESTIONS 23-25:

- A. The anterior scalene muscle
- B. The middle scalene muscle
- C. The levator scapulae muscle
- D. The sternocleidomastoid muscle
- E. The omohyoid muscle

- 23. is pierced by the long thoracic nerve or its roots.
- 24. is innervated by the spinal accessory (XI) nerve.
- 25. lies immediately posterior to the phrenic nerve.

QUESTIONS 26-29:

- A. The petrotympanic fissure
- B. The pterygomaxillary fissure
- C. The optic canal
- D. The superior orbital fissure
- E. The inferior orbital fissure

- 26. transmits the posterior superior alveolar nerves.
- 27. transmits the infraorbital artery.
- 28. transmits the ophthalmic artery.
- 29. transmits the superior and inferior ophthalmic veins.

QUESTIONS 30-34:

- A. The second cervical spinal nerve
- B. The fourth cervical spinal nerve
- C. The fifth cervical spinal nerve
- D. The seventh cervical spinal nerve
- E. The first thoracic spinal nerve

- 30. forms the middle trunk of the brachial plexus.
- 31. contributes to the supraclavicular nerves.
- 32. contributes to the long thoracic, phrenic and dorsal scapular nerves.
- 33. contains preganglionic sympathetic nerve fibers.
- 34. supplies motor fibers to the sternohyoid muscle.

INSTRUCTIONS FOR QUESTIONS 35-39: At the point of their closest apposition, indicate the **BEST RELATIONSHIP** of the first structure to the second.

- A. Anterior
- B. Posterior
- C. Inferior
- D. Lateral
- E. Medial

- 35. The subclavian vein to the vagus nerve.
- 36. The chorda tympani to the inferior alveolar nerve.
- 37. The sphenomandibular ligament to the maxillary artery.
- 38. The origin of the occipital artery to the posterior belly of the digastric muscle.
- 39. The external carotid artery to the pharyngeal branch of the vagus nerve.

INSTRUCTIONS FOR QUESTIONS 40-50: For each question all statements are true **except one**. Select the **INCORRECT RESPONSE**.

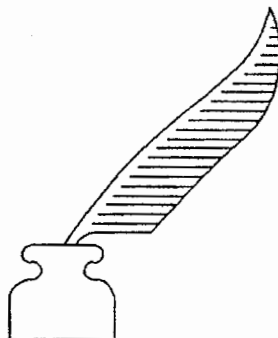
- 40. Concerning movement of the mandible,
 - A. the mandibular condyle is moved anteriorly when the jaw is opened widely.
 - B. contraction of the right medial pterygoid moves the mandible to the right.
 - C. the masseter is an elevator of the mandible.
 - D. the temporalis muscle retracts the mandible.
 - E. the anterior belly of the digastric muscle can depress the mandible.
- 41. Branches of the maxillary artery include
 - A. the infraorbital.
 - B. the middle meningeal.
 - C. the masseteric.
 - D. the ascending palatine.
 - E. the posterior superior alveolar.
- 42. The rhomboideus major muscle
 - A. arises from spines of the upper thoracic vertebrae (T2-T5 or T6)
 - B. protracts the scapula.
 - C. is attached to the medial border of the scapula below the level of the spine
 - D. elevates the medial border of the scapula.
 - E. is innervated by the dorsal scapular nerve.

DIRECTIONS: SELECT THE INCORRECT RESPONSE (continued)

43. Structures embedded in or lying immediately deep to the parotid gland include
- A. the external carotid artery.
 - B. the proximal part of the stylohyoid muscle.
 - C. the lingual nerve.
 - D. the facial nerve and its branches.
 - E. the retromandibular vein.
44. The prevertebral layer of deep fascia surrounds
- A. the longus coli muscle.
 - B. the roots of the brachial plexus.
 - C. anterior scalene muscles.
 - D. the phrenic nerves.
 - E. the ansa cervicalis.
45. To totally anesthetize the gingiva of the maxillary teeth, an oral surgeon would have to block branches of the
- A. nasopalatine nerve.
 - B. posterior superior alveolar nerve.
 - C. greater palatine nerve.
 - D. infraorbital nerve.
 - E. buccal branch of the trigeminal nerve.
46. Complete section of the right oculomotor nerve would result in
- A. drooping of the upper eyelid on the right side.
 - B. paralysis of the right inferior oblique muscle.
 - C. loss of sensation in the right conjunctiva.
 - D. an unresponsive, dilated right pupil.
 - E. paralysis of the right medial rectus muscle.
47. Cutaneous branches of the cervical plexus include
- A. the greater occipital nerve.
 - B. the lesser occipital nerve.
 - C. the transverse cervical nerve.
 - D. the great auricular nerve.
 - E. the supraclavicular nerves.
48. The superior pharyngeal constrictor muscle
- A. is attached to the pterygomandibular raphe.
 - B. is attached to the medial pterygoid plate.
 - C. is attached to the ramus of the mandible.
 - D. is covered on its internal surface by the buccopharyngeal fascia.

DIRECTIONS: SELECT THE INCORRECT RESPONSE (continued)

49. Nerves passing through the common tendinous ring (annulus tendineus) include
- A. the oculomotor.
 - B. the nasociliary
 - C. the trochlear.
 - D. the abducent.
 - E. the optic.
50. An infection in the pterygopalatine fossa could spread to
- A. the nasal cavities via the sphenopalatine foramen.
 - B. the roof of the oral cavity via the (greater) palatine canal.
 - C. the middle cranial fossa via the foramen rotundum.
 - D. the infratemporal region via the pterygomaxillary fissure.
 - E. the orbit via the superior orbital fissure.



1999 TEST III KEY

1. E
2. C
3. B
4. A
5. D
6. C
7. D
8. C
9. E
10. A
11. E
12. D
13. C
14. B
15. C
16. A
17. D
18. C
19. E
20. E
21. D
22. C
23. B
24. D
25. A

26. B
27. E
28. C
29. D
30. D
31. B
32. C
33. E
34. A
35. A
36. E
37. E
38. C
39. D
40. B
41. D
42. B
43. C
44. E
45. E
46. C
47. A
48. D
49. C
50. E