



**Tanta University**  
**Faculty of Medicine**  
**Department of Ophthalmology**  
**Semester Anatomy Examination MD**

**Date: August 2017**

Time allowed: 3 hours

**Answer all the following questions:**

1. Discuss the anatomy of upper lid retractors ( 5 marks )
2. Discuss the anatomy and embryology of the crystalline lens ( 5 marks )
3. Discuss the anatomy of the intraocular and intraorbital parts of optic nerve (5 marks)

**MCQ questions ( 2 marks each )**

**1. Which of the following statements about the structures passing through the annulus of Zinn are true and which are false?**

- A. Superior division of cranial nerve III
- B. Cranial nerve IV
- C. Nasociliary branch of cranial nerve V
- D. Optic nerve

**2. Which of the following statements about the embryonic tissue the human lens derived from are true and which are false?**

- A. Neuroectoderm
- B. Neural crest cells
- C. Surface ectoderm
- D. Mesoderm

**3. Which of the following statements about Meibomian glands are true and which are false?**

- A. Anterior blepharitis is characterized by Meibomian gland dysfunction
- B. The Meibomian glands lie posterior to the grey line
- C. There are approximately 150 Meibomian glands in the upper lid and 75 in the Lower
- D. They produce a mucinous secretion which is part of the tear film

**4. Which of the following statements about the optic nerve are true and which are false?**

- A. Axons arise from the retinal ganglion cells and synapse in the lateral geniculate body
- B. Myelin sheaths are formed from oligodendrocytes rather than Schwann cells
- C. There are approximately 3.7 million axons in the optic nerve
- D. The total length of the optic nerve is 4–5 cm

**5. Which of the following statements about lacrimal gland are true and which are false?**

- A. the lacrimal gland is surrounded by a capsule
- B. The lacrimal vein joins the ophthalmic vein
- C. The lymphatic drainage of the lacrimal gland is to the preauricular nodes
- D. Preganglionic parasympathetic innervations is via the lesser petrosal nerve

**6. Which of the following statements about the eyeball are true and which are false?**

- A. The normal antero-posterior diameter of the adult globe is 24 mm
- B. The globe lies infero-laterally in the orbital cavity
- C. One-third of the globe lies in front of the plane between the medial and the lateral orbital margin
- D. The antero-posterior axis of the globe passes through the optic disc

**7. Which of the following statements about the cornea are true and which are false?**

- A. The epithelium is 10% of the corneal thickness
- B. The superficial layer of cells is not more than one cell thick
- C. The basal layer consists of a single layer of tall columnar stem cells
- D. Bowman's membrane is 15-20  $\mu\text{m}$  thick

**8. Which of the following statements about the ciliary body are true and which are false?**

- A. Zonulae occludentes are not found between adjacent ciliary pigmented epithelial cells
- B. The pigmented epithelial cells contain fewer mitochondria than the non pigmented epithelial cells
- C. The non pigmented epithelial basement membrane is continuous with the internal limiting membrane of the retina
- E. capillaries in the ciliary stroma have discontinued walls

**9. Which of the following statements about the iris are true and which are false?**

- A. The sphincter pupillae muscle is 1mm wide
- B. The sphincter pupillae muscle is only found at the papillary zone
- C. The dilator pupillae lies between the pupillary zone and the periphery of the iris
- D. The posterior pigment epithelium of the iris gives rise to the dilator pupillae muscle

**10. Which of the following statements about the lens are true and which are false?**

- A. The anterior lens capsule is thicker than the posterior capsule
- B. The epithelial cells of the lens are columnar
- C. The foetal nucleus is made up of Y-shaped sutures
- D. Zonular fibers of the lens attach the capsule at the lens equator to the ciliary processes of the pars plicata as well as the pars plana

**11. Which of the following statements about the retina are true and which are false?**

- A. Retinal capillaries consist of non-fenestrated endothelium and pericytes outside the endothelium
- B. Retinal pigment epithelial cells at the macula are taller and contain more melanin than those in the retinal periphery
- C. Retinal pigment epithelial cells are attached to each other at their baso-lateral surface by zonulae occludentes and zonulae adherents
- D. Retinal arteries are two-thirds to three-quarters the diameter of the retinal veins

**which are false?**

- A. The superior rectus muscle is the longest rectus muscle
- B. The inferior rectus muscle is the shortest rectus muscle
- C. The lateral rectus have the shortest tendon length
- D. The medial rectus inserts into the sclera closest to the limbus

**13. Which of the following statements about the the oculomotor nerve are true and which are false?**

- A. The oculomotor nerve emerge from the midbrain lateral to the cerebral peduncles
- B. Section of the third nerve leads to lacrimation
- C. The oculomotor complex innervates the ipsilateral inferior rectus, medial rectus and superior rectus
- D. The nerve to the inferior oblique muscle is responsible for supplying myelinated preganglionic parasympathetic fibers to the ciliary ganglion

**14. Which of the following statements about the abducent nerve are true and which are false?**

- A. Carries parasympathetic fibers
- B. Innervates the ipsilateral lateral rectus
- C. Runs lateral to and parallel with the internal carotid artery in the cavernous sinus
- D. Receives sympathetic fibers in the cavernous sinus from the internal carotid plexus, which then leave to join the ophthalmic division of the trigeminal nerve

**15. Which of the following statements about the orbital cavity are true and which are false?**

- A. The lateral wall of the cavity is directly related to the temporal fossa
- B. The lateral wall of the orbit is made up of the zygomatic bones and the greater wing of the sphenoid only
- C. The roof of the orbit is made up of the orbital plate of the frontal bone and greater and lesser wings of the sphenoid
- D. The medial wall of the orbit is made up by the frontal process of the maxilla, the lacrimal bone, the orbital plate of the ethmoid and the orbital process of the palatine bone

**Best Wishes**