

**Ophthalmology Department**  
**Faculty of Medicine**  
**Tanta University**

**Physiology Exam. For MSc in Ophthalmology**  
**April 2016**  
**9-4-2016**

- All questions are to be attempted
- 10 marks for each question
- Time allowed: 3 hours

Give an account on the following:

1. Discuss the protective mechanisms of the eye and orbit
2. Discuss factors affecting corneal hydration
3. Discuss blood retinal barriers
4. Discuss reflex convergence
5. Discuss theories explaining accommodation and their clinical applications
5. ERG: components, factors affecting it and its clinical applications
6. Discuss visual acuity: components, affecting factors and measurement
7. Draw a diagram for the distribution of colour vision in the retina
8. Factors affecting critical fusion frequency

-Good Luck-

Tanta University  
Faculty of Medicine

General Surgery Exam

ماجستير طب وجراحة العيون

Exam 18 April 2016  
All questions to be answered

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1. Discuss the pathophysiology, clinical picture and management of hypovolemic shock (20 degrees)
2. What are the types, the manifestations and investigations for a case of thyrotoxicosis (20 degrees)
3. What are the precautions to avoid complications of blood transfusion? (15 degrees)
4. Enumerate the differential diagnosis of masses at midline of the neck (15 degrees)
5. What is the etiology, and the differential diagnosis of a case of ulcer in the face (15 degrees)
6. Discuss post-operative complications and how to manage them (15 degrees)

امتحان الشفوي والعملي يوم ٢٠١٥/٤/٢٠ بقسم الجراحة العامة بالمستشفى التعليمي الجديد الساعة الثامنة صباحا

Good luck

Tanta University  
Faculty of Medicine

General Surgery Exam

ماجستير ودبلوم جراحة الاتف والاذن والرمذ

Exam 6 April 2016  
All questions to be answered

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1. What are the clinical picture and management of a case of thyrotoxicosis? (10 degrees)
2. Discuss the pathophysiology, clinical picture and management of hypovolemic shock (10 degrees)
3. Discuss post-operative complications and how to manage them (10 degrees)
4. What are the precautions to avoid complications of blood transfusion? (10 degrees)
5. Enumerate the differential diagnosis of lateral neck mass (5 degrees)

امتحان الشفوي والعملي لطلاب الدبلوم يوم ٢٠١٥/٤/١٦ ولطلاب الماجستير يوم ٢٠١٥/٤/١٧  
بقسم الجراحة العامة بالمستشفى التعليمي الجديد الساعة الثامنة صباحا

Chairman of Department  
Prof Dr. Mohamed Ali Attia

Good luck



Second Part Master Degree  
April 9<sup>th</sup>, 2016  
Total Marks: 80  
Time allowed: 3 Hours

Tanta University  
Faculty of Medicine  
Ophthalmology Department

**Ophthalmic Medicine Exam**

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**Write on the Following Items:**

- I. Recent advances in optical coherent tomography imaging and its clinical applications (10 marks)
- II. Causes and management of corneal edema. (10 Marks)
- III. Recent advances in the management of retinal vascular occlusions. (10 Marks)
- IV. Anisocoria. (10 Marks)
- V. Management of low tension glaucoma. (10 Marks)
- VI. Vertical muscle imbalance. (10 Marks)
- VII. Central scotoma. (10 Marks)
- VIII. Differential diagnosis of a swollen optic nerve head. (10 Marks)

**(END OF EXAM)**

**(GOOD LUCK FOR ALL)**



Tanta University  
Faculty of Medicine  
Internal Medicine Department  
Master of Ophthalmology (First Part)  
April 2016  
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All questions must be answered  
Time allowed: 3 hours  
Total marks: 45

Give an account on the following:

- 1- Causes and complications of liver cirrhosis. (10)
- 2- Clinical picture and treatment of systemic lupus erythematosus. (10)
- 3- Causes and diagnosis of hemolytic anemia. (10)
- 4- Oculomotor nerve palsy: etiology, clinical picture and investigations. (15)

يبدأ الإمتحان الشفوى والإكلينيكي في الساعة الثامنة صباحا يوم الأحد  
الموافق ٢٠١٦/٤/١٠ بمستشفى الأمراض الباطنة.

GOOD LUCK



- 1-Intravitreal injections in diabetic macular edema (10).
- 2-Complications of lasik surgery (10).
- 3-Management of late postoperative complications of trabeculectomy (10).
- 4-Dealing with narrow pupil during phaco surgery (10).
- 5-Management of proliferative vitreo-retinopathy (10).
- 6-Surgical management of ectropion (10).
- 7-Postoperative complications of ptosis surgery (10).
- 8-Management of traumatic hyphema (10).

Good luck

Tanta University  
Faculty of Medicine  
Ophthalmology Department



Optics Examination  
Master Degree in Ophthalmology  
April 2016  
Date: 13/4/2016  
Time allowed: 3 hours  
Total assignment marks: 80 marks

**ANSWER ALL QUESTIONS**

**ILLUSTRATE WITH DIAGRAMS WHENEVER APPLICABLE**

**Discuss the following:**

1. Optical principle and significance of pinhole test. (10 Marks)
2. Apparent position of the iris and size of the pupil. (10 Marks)
3. Higher order aberrations of the human eye. (10 Marks)
4. Principles of optical correction of hyperopia using lenses at different planes. (15 Marks)
5. Optical properties of the red reflex during retinoscopy. (10 Marks)
6. Field of view of indirect ophthalmoscope. (10 Marks)
7. Optical principle and methods of slit-lamp fundus biomicroscopy. (15 Marks)

**GOOD LUCK**



Tanta University  
Faculty of Medicine  
Ophthalmology Department



Optics Examination  
Master and Diploma Degrees in Ophthalmology  
April 2016 Semester  
Date: 4/4/2016  
Time allowed: 3 hours  
Total assignment marks: 80 marks

**ANSWER ALL QUESTIONS**

**ILLUSTRATE WITH DIAGRAMS WHENEVER APPLICABLE**

**Discuss the following:**

1. Interference of light and its clinical applications. (10 Marks)
2. Uses of prisms in ophthalmology. (10 Marks)
3. Purkinje-Sanson images. (10 Marks)
4. Optical properties of the red reflex during retinoscopy. (10 Marks)
5. Amplitude of accommodation; definition, measurement, and variations with different states of refraction. (15 Marks)
6. Jackson's cross cylinder. (10 Marks)
7. Optical principles of keratometry. (15 Marks)

**GOOD LUCK**



Ophthalmology Department  
Faculty of Medicine  
Tanta University

Semester Exam.: Physiology of the Eye  
Diploma & MSc in Ophthalmology  
2 April 2016

- All questions are to be attempted
- Time allowed: 2 hours

1. Give the definition of the following:
  - a. Accommodation
  - b. Far point
  - c. Near point
  - d. Range of accommodation
  - e. Amplitude of accommodation
  - f. Depth of field
  - g. Depth of focus
2. Arrange the following events of near reflex from shorter to longer duration:
  - a. Far to near accommodation
  - b. Near to far accommodation
  - c. Reflex miosis
  - d. Convergence response
3. Arrangement of stromal lamellae contributes to corneal transparency as explained by the following theories:
  - a-
  - b-
4. Mechanisms of aqueous humour formation are:
  - a-
  - b-
  - c-

5. Aqueous humour formation rate can be measured by the following methods:

- a-
- b-
- c-

6. Facility of aqueous outflow can be measured by the following methods:

- a-
- b-
- c-

7. Explain the effect of ocular rigidity on measurement of IOP by indentation tonometry

8. Explain the principle of fixed area applanation tonometry

9. In ERG, which part in the retina is responsible for initiating:

- a- a wave:
- b- b-wave:
- c- c-wave:

10. Subnormal responses in ERG can be caused by the following diseases:

- a-
- b-
- c-

11. In EOG, Arden ration is defined as: ..... and its normal value is: .....

12. Draw a diagram for dark adaptation curve (time against object illumination)

13. Give the definition of:

- a- Minimum visible
- b- Resolution
- c- Recognition
- d- Minimum discriminable

14. Draw a diagram for distribution map of colour vision in retina

15. Critical fusion frequency is defined as:

16. Explain Hering's law and its application in paralytic squint

17. Types of reflex convergence are:

- a-
- b-
- c-
- d-

18. Grades of binocular vision are:

- a-
- b-
- c-

19. Give the definition of the following:

- a- Horopter
- b- Panum's area
- c- Fixation disparity

20. Blood retinal barriers are:

- a- Inner: composed of .....
- b- Outer: composed of .....

-Good Luck-



Handwritten signature or initials in blue ink.

Tanta University  
Faculty of Medicine  
Ophthalmology Department

5/4/2016  
Master and Diploma exam; Anatomy  
(All questions must be answered)  
Time allowed: 3 hours

1. Discuss anatomy of the 4<sup>th</sup> cranial nerve.
2. Discuss anatomy of angle of anterior chamber.
3. Discuss anatomy of the superior orbital fissure.
4. Discuss anatomy of the cavernous sinus.

❖ Choose the correct answer

1. **Equatorial lens diameter**
  - a. Is 6.5 mm at birth
  - b. Increases to 9-10 mm in the 2nd decade
  - c. Does not increase in size after the 2nd decade
  - d. All of the above
2. **Corneal innervation is derived from:**
  - a. 7<sup>th</sup> cranial nerve
  - b. 5<sup>th</sup> cranial nerve
  - c. 6<sup>th</sup> cranial nerve
  - d. 4<sup>th</sup> cranial nerve
3. **All are true about the retina except:**
  - a. Have cones and rods on its inner surface.
  - b. Contain optic disc which is lateral to the macula.
  - c. Receive blood supply from the central retinal artery.
  - d. Represent the only nervous tissue visible to the naked eye in life.

4. **inside the orbit near its apex, there is the :**
  - a. Ciliary ganglion
  - b. Otic ganglion
  - c. Sphenopalatine ganglion
  - d. Geniculate ganglion
5. **The superior orbital fissure transmits all of the following except:**
  - a. The frontal nerve.
  - b. The abducent nerve.
  - c. The trochlear nerve.
  - d. The infraorbital nerve.
6. **Trochlear nerve supplies:**
  - a. The superior oblique muscle.
  - b. The ciliary muscle.
  - c. The lateral rectus muscle.
  - d. The dilator pupillae muscle.
7. **The following structures form the medial wall of the orbit except:**
  - a. Sphenoid bone.
  - b. Frontal bone.
  - c. Lacrimal bone.
  - d. Maxillary bone.
8. **The following muscle is considered one of the muscles of facial expression:**
  - a. Lateral rectus
  - b. Muller's muscle
  - c. Orbicularis oculi
  - d. Ciliary muscle
9. **The following extraocular muscle can perform extorsion of the globe:**
  - a. Medial rectus.
  - b. Lateral rectus.
  - c. Inferior oblique.
  - d. Superior oblique.
10. **The cavernous sinuses:**
  - a. Extends from the inferior orbital fissure to the apex of the temporal bone.
  - b. Opens posteriorly into the petrosal sinuses.
  - c. Contain the internal carotid artery on its lateral wall.
  - d. Contains the abducent nerve on its lateral wall.
11. **The sixth cranial nerve:**
  - a. Innervates the lacrimal gland.
  - b. Passes through the medial wall of the cavernous sinus.
  - c. Is involved in the light reflex.
  - d. Arises from a nucleus closely related to the facial nerve.

12. Regarding the conjunctiva, all are true except:
- The superior fornix lies 5 mm from the limbus
  - The lateral fornix lies 14 mm from the limbus
  - The posterior conjunctival artery arises mainly from the palpebral arterial arches
  - Large area of the conjunctiva is supplied by the superior peripheral arterial arch
13. Muller muscle receives:
- Sensory supply
  - Parasympathetic supply
  - Motor supply
  - Sympathetic supply
14. Basal layer of corneal epithelium is attached to the underlying basement membrane by:
- Desmosomes
  - Hemidesmosomes
  - Zonula occludens
  - Zonula maculae
15. As regards the upper and lower puncti:
- Both are in the same vertical line
  - Both are equal in tear film drainage
  - The upper punctum is lateral to the lower one
  - The upper punctum is medial to the lower one
16. Corneal endothelium is characterized by:
- Progressive increase with age
  - Progressive increase with age till 50 years old and then gradually decreases
  - Corneal decompensation occurs at an endothelial cell count of 2000 cell /mm<sup>2</sup>
  - Lost cells are replaced by polymegathism and pleomorphism.
17. In the iris, all are true except:
- The sphincter pupillae muscle is 4 mm wide
  - The sphincter pupillae muscle is only found at the papillary zone
  - The dilator pupillae muscle receives sympathetic supply
  - The dilator pupillae muscle lies between the papillary zone and the periphery of the iris
18. In the choroid, all are true except:
- Thickest at the equator
  - Melanocytes are mainly found in its inner layers
  - Veins form the majority of choroidal vessels
  - Choroidal vessels are most concentrated at the macula
19. The sclera is not characterized by that:
- It is 0.6 mm thick at the equator
  - It is 0.3 mm thick just behind the insertion of recti
  - It has 4 middle apertures found 4 mm in front of the equator
  - It contains an endothelial canal called canal of schlemm

20. All the following statements about the crystalline lens are true except:

- a. Radius of curvature of the posterior surface is 6 mm
- b. It lies 3 mm behind the posterior surface of the cornea
- c. Its transverse diameter is 10 mm
- d. It has an epithelium made up of a double layer of cells

**Good luck**





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