



**Tanta University
Faculty of Medicine
Ophthalmology Department**

**First Part Master and Diploma
Physiology Examination**

10/2016

All Questions are to be answered Time Allowed: 3Hours

Discuss The Following:

1. Physiological principles of the pupillary light reflex and its clinical significance (20 Marks)
2. Theories of Colour Vision and its clinical applications (20 Marks)

Give an account on the following:

3. Dark Adaptation (10 Marks)
4. Corneal Transparency (10 Marks)
5. Effects of drugs on aqueous outflow (10 Marks)
6. Mechanisms of Suppression and Amblyopia(10 Marks)

7. Write True or False

1. The blink reflex:

- a-is a spontaneous centrally controlled reflex
- b-not affected by corneal dryness
- c-is associated with synkinetic co-contraction of the extraocular muscles
- d-is abnormal in CL wearers
- e-mediated only by the palpebral portion of orbicularis oculi

2. The following are physiologic factors that maintain retinal attachment:


- a-outer ends of photoreceptors cells interdigitates with processes on the inner surface of RPE cells
- b-MPS containing matrix
- c-active ions and water transfer by RPE
- d-oncotic pressure gradient
- e-specialized ultrastructural attachment called zonula occludens and zonula adherens between RPE and retinal photoreceptors cells

3. EOG is best to diagnose :

- a-Best disease
- b-Stargardt disease
- c-Retinitis pigmentosa
- d-choroidemia
- e-gyrate atrophy

4. The following are characteristic of the contrast sensitivity:

- a. Pelli-Robson chart tests the contrast sensitivity
- b. is a measure of the ratio of brightness to darkness
- c. a contrast of 1 means that there is no contrast
- d. is highest at middle range frequencies
- e. is reduced in macular degeneration but not in cataract



5. The following are true or false:

- a. depth of perception only occurs in patients with normal visual acuities in both eye
- b. Hering's law states that increased innervation to an extraocular muscle is accompanied by a decrease in innervation to its antagonists.
- c. objects on the Panum's area fall on simultaneous areas of the retina
- d. objects outside of the Panum's area are perceived as double
- e. objects on the horopter are seen as single

Good Luck