



**Tanta University  
Faculty of Medicine  
Ophthalmology Department**

**First Part Semester MD  
Physiology Examination**

**8/2016**

All Questions are to be answered      Time Allowed: 3Hours

**Discuss The Following:**

1. Factors Affecting Intraocular Pressure      (20 Marks)
2. Electroretinogram & its clinical uses      (20 Marks)
3. Theories and Mechanisms of Fusion      (20 Marks)

**Give an account on the following:**

1. Physiological properties of tear film      (5 Marks)
2. Hering's law of equal innervation
3. Phosphenes      (5 Marks)
4. Purkinje Shift      (5 Marks)

**These Statements are True or False:**

**1. The following are true about the lens:**

- a. the anterior capsule is 10 times thicker than the posterior capsule**
- b. the anterior surface has a greater radius of curvature than the posterior surface**
- c. during accommodation the lens moves towards the cornea**
- d. the lens is more effective in absorbing light with long than short wave-lengths**
- e. the lens is supplied by the ophthalmic nerve**

**2. The following conditions can affect the pupil size:**

- a. iris colour**
- b. fatigue**
- c. exercise**
- d. refractive error**
- e. axial length of the eyeball**

**3. True statements about saccadic eye movements include:**

- a. only occur when the patient is awake**
- b. the velocity is under voluntary control**
- c. the maximum velocity is 700 degrees / second**
- d. it has a latency of 250msec**

**e. the posterior commissure control the vertical saccade**

**4. When light fell on the eye, the pupil:**

**a. does not constrict if the optic nerve is severed**


**b. does not respond if the sympathetic system is not functioning**

**c. does not respond if the cholinergic system is blocked**

**d. does not respond if the pretectal nucleus is damaged**

**e. does not constrict if the ciliary ganglion is damaged**

**Good Luck**

<p>Tanta university faculty of Medicine Anesthesia &amp; SICU Date 15/8/2016</p>	<p>1st part of MD Physiology Time allowed 3 hours Total marks 45</p>	
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A- Three hours after start of major abdominal surgery patient temperature was 35 C°

1. Identify body temp. regulating mechanism (2 marks)
2. Describe the time frame of intra operative hypothermia (2 marks)
3. Explain hypothermia might be advantageous (2marks)
4. Demonstrate cardiovascular effect of hypothermia (2 marks)
5. Show the importance of measuring temp gradient between core and peripheral temp (2 marks)

B- Metabolic acidosis is a common problem in resuscitation

1. Explain what is anion gap and draw a diagrammatic figure of Anion gap (4 marks)
2. It's role in differentiation between types of metabolic acidosis (3 marks)
3. What is corrected anion gap ? (3marks)

C- Define and calculate oxygen content , oxygen delivery and oxygen extraction (3marks)

1. apply the formula in practice of transfusion medicine (2marks)

D- glucose is common used in daily practices identify when giving glucose is hazardous to patient and why ? (5marks)

E- In case of TBI cerebral blood flow is disturbed explain

1. Major determinant of cerebral blood flow (3marks)
2. Cerebral perfusion pressure and it's important (3marks)
3. The effect of head trauma on auto regulation (4marks)

F- lateral position has physiological effect

1. Identify physiological changes in a spontaneously breathing patient in lateral position (3marks)
2. Explain physiological changes occurring during one lung ventilation (2marks)

Good luck

Oral exam 17/8/2016