



Examination for February Semester
Master Degree
Physiology of The Eye
23/2/2021

Time allowed: 3 hours
Total marks: 30 marks
All questions to be attempted

A) Answer the following questions:

(3 points, 5 marks for each point)

1. Factors affecting drug permeability in the cornea
2. Discuss Horopter, Panum's area and fixation disparity
3. Effect of drugs on ocular circulation

B) MCQ: Choose only one answer:

(15 points, 1 marks for each point)

- 1) The following is present in higher concentration in the tear than in the serum:
 - a) Sodium
 - b) Potassium
 - c) IgG
 - d) Glucose
- 2) The following fact is true about human tears:
 - a) The pH of tears is 6.0
 - b) The pH of tears is 7.4
 - c) Tears do not contain ammonia
 - d) Tears do not contain albumin

- 3) **Glucose metabolism in the lens principally occurs by:**
- Anaerobic glycolysis
 - Aerobic metabolism
 - Hexose monophosphate shunt
 - Sorbitol pathway
- 4) **When produced, aqueous humor passes out through the membranes of:**
- Trabecular meshwork
 - Corneal endothelial cells
 - Non-pigmented cells of the ciliary body
 - Pigmented cells of the ciliary body
- 5) **The principle of IOP measurement is defined by:**
- Schwalbe's equation
 - Poiseuille's law
 - Imbert-Fick principle
 - Holladay's equation
- 6) **The corneal stroma is mainly composed of:**
- Keratan sulphate
 - Chondroitin sulphate
 - It is acellular
 - Chondroitin phosphate
- 7) **Arrangement of stromal lamellae contributes to corneal transparency can be explained by:**
- Maurice theory
 - Schwalbe's equation
 - Imbert-Fick principle
 - Holladay's equation
- 8) **Which of the following is NOT a function of RPE?**
- Secretion of mucopolysaccharide
 - It plays a role in the embryological development of photoreceptors
 - Absorption of stray light
 - Adherence to other RPE cells via zona adherens to form the blood retinal barrier
- 9) **In phototransduction, activation of rhodopsin occurs via:**
- Isomerization of retinol
 - Glycosylation of transducing
 - Opening of GLUT-1 receptors
 - Unfolding of opsin

- 10) A number of corresponding points on the retina that projects to a definite single point in space:**
- a) The Auberg phenomenon
 - b) A horopter
 - c) Panum's area
 - d) The Pulfrich phenomenon
- 11) Which is the minimum threshold of Vernier hyperacuity?**
- a) 1 second of arc
 - b) 10 seconds of arc
 - c) 20 seconds of arc
 - d) 1 minute of arc
- 12) All of the following are true about amino acids content of the lens except:**
- a) Lens contains all types of amino acids
 - b) Concentration of amino acids are higher than vitreous
 - c) Not affected by aging, fasting or feeding protein-free diet
 - d) Actively transported inside the lens by lens epithelium
- 13) In EOG, the normal Arden ratio is:**
- a) 1.35
 - b) 1.45
 - c) 1.55
 - d) 1.65
- 14) In cortical cataract, there is:**
- a) Increased protein content & increase in water insoluble fraction
 - b) Increased protein content & decrease in water insoluble fraction
 - c) Decreased protein content & increase in water insoluble fraction
 - d) Decreased protein content & decrease in water insoluble fraction
- 15) Regarding VEP, which of the following statements is NOT accurate?**
- a) VEPs are a measure of the response of the occipital cortex to visual stimulation
 - b) VEPs can be used to assess crossover of visual pathway fibers at the optic chiasm
 - c) An amblyopic eye will usually have an abnormal pattern and flash VEP
 - d) VEPs can be used to approximate the visual acuity

-- Good Luck --

Examination for Master degree in orthopedic
Course Title: Histology
Date: 21/3/2021
Term: August and September
Time Allowed:
Total Assessment Marks: 30 marks



Tanta University
Faculty of Medicine
Department of:
Histology

Answer the following Questions (illustrate your answers with diagrams):

Questions Number	Marks
Q1 – Enumerate membranous and non membranous organelles and describe the histological structure of one of each type.	6 marks
Q2 –Compare between different types of cartilage.	6Marks
Q3- Describe histological structure of bone cells.	6 Marks
Q4- Write a short note on the histological structure of erythrocyte?	6 marks
Q5- Describe the histological structure of parathyroid gland?	6 marks

NB: The oral exam will be after the written exam at 1:00 PM.

GOOD LUCK

Tanta University

Master and diploma in Orthopedic surgery

Faculty of Medicine

Anatomy Examination

Human Anatomy & Embryology Dep.

Number of Questions: 6

21/3/2021- Time Allowed: 3 Hours

Total: 30 Marks



ORTHOPAEDIC SURGERY

All questions to be answered

Illustrate your answer with diagram whenever possible:

- 1- **Discuss** the course and branches of median nerve in the forearm. **Mention** the effects of its injury above the elbow. (5 marks)
- 2- **Discuss** the ligament and movements of elbow joint. (4 marks)
- 3 - a- **Discuss** the joints of lumber region of the vertebral column. (5 marks)
b- **Mention** the development and congenital anomalies of the limbs. (4 marks)
- 4- **Mention** the course and branches of the common peroneal nerve and **outline** the effect of its injury. (5 marks)
- 5- **Outline** the arterial anastomosis around the knee joint. (4 marks)
- 6- **Define** the blood supply of the bones. (3 marks)

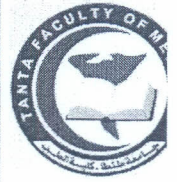
END OF EXAM.

Best Wishes

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Oral Examination: 4/4/2021 at 10am. in the Anatomy Department (Second floor)

Committee of the Exam: Prof. Dr. Amal Halawa, Prof. Dr. Maysa Fahmy, Assist. Prof. Dr. Rabab Amer

Tanta University -----Internal Medicine Exam
Faculty of Medicine -----Master of Science in Ophthalmology
Internal Medicine Department ----- No. of Questions: 10 MCQ, 5 short essay questions
Date: 21/3/2021 ----- Time allowed: 3 hours
(4 Pages)



All questions must be answered

(10 MCQ, 1.5 marks each)

1. The recommended antibiotic for treatment of spontaneous bacterial peritonitis in cirrhotic liver patients is:
 - A. First generation cephalosporins.
 - B. Macrolides.
 - C. Amoxicillin
 - D. Third generation cephalosporins.
 - E. Metronidazole

2. A 56-year-old woman presents with a two-month history of jaundice. Associated symptoms include lethargy and polyarthralgia. Her LFTs reveal a bilirubin of 5 mg/dL, AST 200, ALT 175, ALP 104. On examination, the patient is jaundiced and her abdomen is soft and there is a smooth hepatomegaly. Prior to her onset of symptoms, the patient has been fit and well. Viral serology is normal and anti-soluble liver antigen (SLA) is detected. The most appropriate treatment is:
 - A. Liver transplantation
 - B. Methotrexate
 - C. Prednisolone
 - D. Cyclosporin
 - E. Antivirals

3. Treatment of hyperkalemia in chronic kidney disease includes all the following options except:
 - A. Salbutamol
 - B. Insulin and Glucose 25%
 - C. IV Magnesium sulfate
 - D. Furosemide
 - E. Calcium resonium

4. A 55-year-old woman has a ten-year history of type 2 diabetes treated with glibenclamide. Her blood pressure is 148/93 with new onset proteinuria, her serum results show elevated lipid levels, glycated haemoglobin of 5.5 per cent and fasting glucose of 110 mg/dL. The most appropriate management is:
- A. Increase oral hypoglycaemic dosage
 - B. Start beta-blockers
 - C. Start cholesterol lowering therapy
 - D. Start ACE inhibitors
 - E. Add Aspirin
5. Patients with Conn's syndrome are presented with:
- A. Hypotension and Hypokalemia
 - B. Hypotension and hyperkalemia
 - C. Hypotension and Hyponatremia
 - D. Hypertension and hypokalemia
 - E. Hypertension and hyperkalemia
6. A 49-year-old man has recently been diagnosed with type 2 diabetes and is being carefully monitored. He has been advised to maintain a healthier diet and lifestyle, he attends a follow-up clinic and claims to have been following the diet stringently since his last appointment three months ago. The most appropriate investigation is:
- A. Random plasma glucose
 - B. Fasting plasma glucose
 - C. Urine dipstick
 - D. Glycated haemoglobin
 - E. Weight measurement
7. A 16-year-old boy presented by epistaxis and bleeding per gum. On examination you noticed he has some skin bruises. A blood test showed a prolonged bleeding time and activated partial thromboplastin time (APTT), while platelet count and prothrombin times are all normal. The most likely diagnosis is:
- A. Von Willebrand disease
 - B. Liver disease
 - C. Disseminated intravascular coagulation
 - D. Congenital afibrinogenaemia
 - E. Glanzmann's thrombasthenia

8. Which investigation would differentiate between hypersplenism and aplastic anaemia?
- A. Reticulocyte test
 - B. Direct Coombs test
 - C. Metabisulfite test
 - D. Ham's test
 - E. Osmotic fragility test
9. A 47-year-old man has had fever, weight loss, arthralgias, pleuritic chest pain, and midabdominal pain for the past 2 months. One week ago he noticed difficulty dorsiflexing his right great toe. Blood pressure is 150/95 mmHg (he has always been normotensive), and laboratory studies reveal anemia of chronic disease, high ESR, and polymorphonuclear leukocytosis. The chest x-ray is clear. The most likely diagnosis is
- A. giant cell arteritis
 - B. allergic granulomatosis
 - C. Wegener's granulomatosis
 - D. polyarteritis nodosa
 - E. hypersensitivity vasculitis
10. Which of the following is the most specific antibody for SLE?
- A. Anti-Ro antibodies
 - B. Anti-Smith antibodies
 - C. Anti-dsDNA antibodies
 - D. Anti-histone antibodies
 - E. Anti C1q antibodies

(5 short essay questions, 6 marks each)

1. Enumerate clinical manifestations of liver cell failure and mention predisposing factors and investigations of hepatic encephalopathy.
2. Mention causes, clinical manifestations and investigations of hemolytic anemia.
3. Enumerate chronic complications of diabetes mellitus.
4. Differential diagnosis of unilateral optic neuritis.
5. Clinical picture of cerebellopontine angle tumor.

Best Wishes

Clinical and Oral Exam: Saturday 3/4/2021 – 8 am

At Internal Medicine Hospital – 6th floor