

المرقة الثانية

تشرح
در أدن



Sohag University

Faculty of Medicine

Department of Anatomy
End-year exam (11-6-2017)
(2nd year)-3 hours

الامتحان في اربع صفحات

(All 100 marks)

1- Briefly outline the following: (20 marks)

1. **Lateral spinothalamic tract**(site-function-receptors-neurons-end and lesion)
2. **Embryological basis of** (Spina bifida-Branchial cleft cyst-respiratory distress syndrome- Omphalocele- uterus didelphys)

2- Problem solving: (20 marks)

1. **A 38-year-old female patient complained of parotid pain that increased while eating. Intraoral examination detected some pus oozing from the parotid duct opening.**
 - the parotid duct pierces the muscle and its opening located at.....
 - The nerve located within the parotid gland is..... and its terminal branches are.....
 - The parasympathetic supply of the gland is from..... nucleus and relayed at ganglion.
2. **An elderly patient complains of difficulty in walking up stairs. Tests by her doctor reveal weakness in extension at her hip, but no change in hip flexion, or flexion or extension of the knee. Based upon these results**
 - The main hip extensor is..... and innervated by.....
 - Hyperextension of the hip joint is prevented by.....ligament.
 - The main hip flexor is..... and innervated by.....
 - The arterial supply of the hip joint is from.....and.....
 - The main Knee extensor is..... and innervated by.....

3- Matching the correct number: (20 marks)

I-

Functional brain area	lobe
1- Motor speech area	A- Parietal
2- Main sensory area	B- Temporal
3- Sensory speech area	C- Occipital
4- Visual area	D- Frontal

II-

Muscle	Nerve supply
1- Stapedius	A- Glossopharyngeal
2- Cricothyroid	B- Accessory
3- Palatoglossus	C- Facial
4- Mylohyoid	D- Hypoglossus
5- Stylopharyngus	E- Trigeminal
6- Hyoglossus	F- Vagus

4- True (T) or false (F): (20 marks)

1. The sinus venosus forms the smooth-walled portion of the adult left atrium
2. The medial umbilical ligament is the remnant of the left Umbilical vein
3. the **great saphenous vein** originates from the medial side of the dorsal venous arch and passes posterior to the medial malleolus
4. Abduction of toes is done mainly by the dorsal interossei muscles.
5. Pia and arachnoid mater are developed from the neural crest which is of ectodermal origin
6. The diaphragm is developed mainly from the right and left Pleuro-peritoneal membranes
7. Lesion of the corticospinal tract rostral to the motor decussation produces contralateral loss of voluntary movement.
8. General visceral afferent fibers are present in the 7th, 9th and 12th cranial nerves.
9. Basal ganglia are utilized mainly for automatic movements concerned with postural adjustment.
10. The most medial compartment of the femoral sheath is named the femoral canal

4- Multiple choice questions: (20 marks)

1. **The Embryological origin of the hyoid bone?**
 - A. The first pharyngeal arch
 - B. The first and second pharyngeal arches
 - C. The second pharyngeal arch
 - D. The second and third pharyngeal arches

2. **The midgut begins with ____ and ends with ____.**
 - a) 1/2 jejunum; 2/3 transverse colon
 - b) 1/2 jejunum; 2/3 rectum
 - c) 1/2 duodenum; 2/3 transverse colon
 - d) 1/2 duodenum; 1/3 sigmoid colon

3. **Regarding the vertebral artery, the following are true except:**
 - A. It gives anterior and posterior spinal arteries.
 - B. Its 2nd part enters foramen transversarium of the 7th cervical vertebra.
 - C. Its 3rd part pierces the posterior atlanto-occipital membrane.
 - D. Its 1st part is crossed by the thoracic duct on the left side.
 - E. It arises from first part of subclavian artery.

4. **The saphenous opening is filled with a loose connective tissue called?**
 - A)Collagen B)Cribriform fascia
 - C)Falciform margin D)Fascia lata

5. **In order to avoid injury to the sciatic nerve, intramuscular injections should be given in which quadrant of the buttock?**
 - A)upper medial B)upper lateral
 - C)lower medial D)lower lateral

6. **The fibular artery:**
 - A. supplies the muscles of the anterior compartment of the leg
 - B. passes anterior to the interosseous membrane
 - C. usually becomes the dorsalis pedis
 - D. supplies the muscles of the lateral compartment of the leg

7. **The major cutaneous innervation of the anteromedial side of the leg is provided by which nerve?**
 - a) obturator
 - b) sural

- c) superficial peroneal
- d) saphenous
- e) medial sural

8. Which of the following nuclei is associated with the 9th and 10th cranial nerves and is important in providing innervation to the voluntary muscles of the larynx, pharynx and palate?

- A. Rostral nucleus solitaries
- B. Edinger-Westphal nucleus
- C. Dorsal motor nucleus of X
- D. Nucleus ambiguus
- E. Facial nuclei

9. The cistern magna of the subarachnoid space is a name given to

- a. Interpeduncular cistern
- b. Pontine cistern
- c. Cistern of lateral fissure
- d. Cerebello-medullary cistern

10. Of the following, the one most closely associated with the vestibule in the female is:

- A. mesonephric tubules
- B. mesonephric duct
- C. paramesonephric duct
- D. genital swellings
- E. urogenital sinus

Sohag University,
Faculty of Medicine,
Physiology Department.

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دور اول

Time: 3 hours

2nd year final exam.

Answer all questions:

I- Define:

- | | |
|----------------------------|----------------------|
| A- Muscle tone. | (20 Marks) |
| C- Basal Metabolic rate. | B- Laron dwarfism. |
| E- Menopause. | D- Visual Axis. |
| G- Renal plasma clearance. | F- Anosmia |
| I- LH surge. | H- Depth perception. |
| | J- Nystagmus. |

II- Explain the following:

(12 Marks)

- A- Muscle rigidity in case of Parkinsonism.
- B- Para umbilical hernia in case of cretinism.
- C- Fever due to pyogenic infection responds to NSAIDs, while that due to sun stroke doesn't respond.
- D- The cornea is relatively dehydrated.

III- Give short notes on:

(50 Marks)

- 1- Functions of area 4
- 2- Hyperparathyroidism.
- 3- Causes of stereoscopic vision (3D vision).
- 4- Tubular transport maximum.
- 5- Heat values of food.
- 6- Functions of the otolith organs.
- 7- Role of temperature in spermatogenesis.
- 8- Human chorionic gonadotropine (site of synthesis, structure and function).
- 9- Ped sore.
- 10- Glucose homeostasis.

IV- MCOs:

13 Marks

1- In Brown Sequard's syndrome, below the level:

- A- Touch is blunted on the side of lesion
- B- Touch is blunted on the opposite side of lesion
- C- Neither A nor B
- D- A and B.

2- Symptoms of Parkinson's disease include all these EXCEPT:

- A. Dysarthria.
- B. B- Lead pipe rigidity.
- C- Pill-rolling movements.
- E- Shuffling gait.

3- **Hemiballismus is a lesion of:**

- A. Red nucleus.
- B. lenticular nucleus.
- C- Substantia nigra.
- E- Subthalamus.

4- **Which of the following stimulates Growth hormone secretion**

- A. obesity
- B. B- hypoglycemia
- C- Increase free fatty acid in blood
- F- cortisol hormone
- E- somatostatin.

5- **which of the following hormones is not secreted by the placenta :**

- A- Progesrtone
- B- hCS (human chorionic somatomammotropin)
- C- hCG (human chorionic gonadotropin)
- D- Dihydrotestetrone

6- **Endolymph in the cochlea is produced by**

- A) striavasclaris
- B) outer hair cells
- C) inner hair cells
- D) filtered from cerebrospinal fluid.

7- **Where does fertilization most often occur?**

- A. Cervix.
- B. Ovary.
- C. Oviduct.
- D. Uterus.

8- **Parasympathetic supply to the iris will result in:**

- A- Increase in Aqueous humor formation
- B- Decrease in Aqueous humor formation
- C- Constriction of the pupil
- D- Contraction of Dilator pupillae muscle

9- **Stimulation of the eye by light will lead to:**

- A- Change of the membrane potential of photoreceptor to more positive value
- B- Depolarization of photoreceptor
- C- Change of the membrane potential of photoreceptor to more negative value
- D- Hyperpolarization of bipolar cell.

10- We need a conversion table to transform the results obtained by which tonometer method into actual IOP

- A- Only Applanation tonometer
- B- Both Applanation and indentation tonometer
- C- Only Indentation tonometer
- D- Neither.

11- Auto regulation of renal blood flow depends upon the concentration at macula densa of:

- A. Sodium chloride
- B. Calcium chloride.
- C. Potassium chloride.
- D. Magnesium chloride.

12- Loop of Henle's reabsorbs:

- A. Sodium.
- B. Urea.
- C. Phosphate.
- D- All of above.

13- The set point of temperature of an adult is normally 37C. This:

- A. Is fixed at all.
- B. Increase with fever.
- C. Decreases with fever.
- D. Increases with anesthesia.

V- CASE STUDY:

5 Marks

A 21-year-old man with gastroenteritis developed severe vomiting with a loss of stomach acids. A metabolic alkalosis is present.

(1) Which of the following is most likely to occur?

- A. The plasma bicarbonate concentration will decrease.
- B. H^+ will move from the plasma into the cells.
- C. Peripheral chemoreceptors will stimulate pulmonary ventilation.
- D. Renal H^+ excretion will decrease.

(2) Mention 3 causes for metabolic alkalosis.

GOOD LUCK

N.B:

Oral exam will be held in physiology department on **1-7-2017**

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Sohag University,
Faculty of Medicine,
Medical Physiology Department.

16-8-2017

Time: 3 hours

2nd year final exam

I- Give short notes on:

(50 Marks)

- A- How the vasa recta can maintain the medullary interstitial hyperosmolality?
- B- Properties of synapse.
- C- Regulation of aldosterone hormone
- D- Near response.
- E- Functions of the middle ear.

II- Enumerate:

(20 Marks)

- A- Higher centers controlling stretch reflex.
- B- Causes of corneal transparency.
- C- Functions of sertolli cells.
- D- Endocrine functions of the kidney.

III- Explain ?

(12 Marks)

- A- Acupuncture may suppress pain.
- B- Loss of pupillary light reflex in argyl Robertson pupil.
- C- Area 4 is highly excitable.
- D- Progesterone hormone is essential for maintenance of pregnancy.

IV- Define:

(3 Marks)

- A- Receptors
- B- Retinal adaptation.
- C- Diabetes Mellitus.

V- Compare:

(15 Marks)

- A- Fast and Slow pain.
- B- Rods and Cones.
- C- Diabetes mellitus and Insipidus.

VI: MCQs

(10 Marks)

1- Concerning myopia which of the following is correct.

- A- It occurs usually in small globe.
- B- It is due to high refractive power of the optical system.
- C- The light rays focus behind the retina.
- D- Convex lenses correct it.

2- Regarding vitreous humor one of the following is correct?

- A- It is a watery fluid.
- B- Present in the posterior ocular chamber.
- C- It is formed and secreted by ciliary process.
- D- It gives support to the lens.

3- All of the followings Stimulate milk ejection EXCEPT

- A- Oxytocin
- B- Suckling
- C- Prolactin
- D- Milk let-down reflex

4- Transmitters in pain control system include all the following.

except :

- A- Serotonin
- B- acetylcholine
- C- Enkephalin
- D- endorphin

5- As a result of increased arterial blood pressure to 150 mmHg:

- A- The renal blood flow increase markedly.
- B- The GFR decrease markedly.
- C- Both RBF & GFR are kept nearly constant.
- D- None of the above is correct.

6- Regarding spermatogenesis which of the following is correct.

- A- It starts at puberty and continue till 50 years old.
- B- It is regulated by gonadotrophins.
- C- It is inhibited by testosterone hormone.
- D- It is stimulated by estrogen hormone.

7- Decreased heat production under general anaesthesia is due to:

- A- Decreased skeletal muscle tone.
- B- Decreased anterior pituitary function
- C- Vasodilatation
- D- Starvation
- E- Decreased Na⁺/K⁺ ATPase activity

8- Opening of ligand-gated Cl⁻ channels causes :

- A. inhibition of the postsynaptic neuron.
- B. depolarization of the postsynaptic neuron.
- C. initiation of an action potential.
- D. block of ligand-gated cation channels.

9- Tremor of Parkinson's disease is due to:

- A. Hyperactivity of cholinergic neurons
- B. Hyperactivity of dopaminergic neurons
- C. Both
- D. Neither

10- Hemiballismus is a lesion of:

- A. Red nucleus.
- B. lenticular nucleus.
- C. Substantia nigra.
- D. Subthalamus.

VII- Case study:-

(15 marks)

An 18 years old girl comes to the university clinic complaining of fever, chills, headache and aching joints. Prior to today, the patient has been generally healthy and is up to date on all immunizations. Vital Signs: T 39C, P 96/min, BP 105/85 mm Hg. On examination the patient has a sore throat and a non productive cough. Her skin is dry, and she appears mildly dehydrated. In this patient, a temporary drop in body core temperature would occur following:

- A- Shivering.
- B- Cutaneous vasoconstriction.
- C- Prostaglandin synthesis inhibition.
- D- Interleukin-1 production.
- E- Interferon production.

- Give short notes on body reactions on exposure to hot weather?

GOOD LUCK

NB: Oral and practical exam will be (9 AM) at **medical physiology department** on 17- 8- 2017.