



ALL QUESTIONS TO BE ANSWERED:

- I. Give short note on: (5 marks each)
- Types of DNA?
  - Polyunsaturated fatty acids?
  - Chromatin organization?
  - Essential amino acids?
  - Mutarotation?
  - Rancidity?
- II. Illustrate with structure formula only the followings: (5 marks each)
- Tryptophan?
  - Sucrose?
  - Tyrosine?
  - Hyaluronic acid?
- III. Compare between: (5 marks each)
- Competitive & non- competitive enzyme inhibition?
  - Sucrose & invert sugar?
  - Glycogen, cellulose & starch?
- IV. Give an account on biochemical reactions of monosaccharides? (10 marks )

*N.B. oral examination will be at 9 am, 7<sup>th</sup>, June 2018*

*Good luck*



Aswan university - faculty of medicine  
Medical Biochemistry & Molecular Biology Dep  
1<sup>st</sup> Year Final Exam (September-2018)  
Time allowed: (2 hours)      Total marks: (80 )



**All questions to be answered:**

**All questions in one page:**

**1. Give definition for the followings:**

**(4 degree each)**

- a. Mutarotation?
- b. Isoelectric point?
- c. Epimers?
- d. Rancidity?
- e. Apoenzyme?

**2. Illustrate with structure formula only the followings:**

**(5 degree each)**

- a. Dextrose?
- b. Galactose?
- c. Tryptophan?
- d. Linolenic acid?
- e. Heparin?

**3. Give short notes on the followings:**

**(7 degree each)**

- a. Sugar acids?
- b. Types of DNA?
- c. PUFAs?
- d. Replication?
- e. Regulation of enzyme activity?

GOOD LUCK

Aswan University  
Faculty of Medicine  
Dep.of Medical Physiology  
Tuesday, 22/5/2018

First Year medical Students  
Final Medical Physiology Exam.  
Time allowed: 3 Hours  
Total Marks: 125

The Examination is composed of **TWO** pages.

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**Answer all the following questions:**

**1- Cardiovascular (1): (25 Marks)**

- a- Define cardiac reserve and mention its mechanisms and limitations? (10 Marks)
- b- Define vagal tone and explain its mechanism? (10 Marks)
- c- Draw and describe the pulse pressure curve? (05 Marks)

**2-Cardiovascular (2): (20 Marks)**

- a- Give an account on the types of second degree heart block ? (10 Marks)
- b- Mention FIVE factors affecting the capillary permeability? (05 Marks)
- c- Discuss the local effects of muscular exercise ? (05 Marks)

**3- Respiratory system: (30 Marks)**

- a- Discuss factors affecting the gas diffusion across the respiratory membrane? (10 Marks)
- b- Define lung compliance and discuss: (10 Marks)
  - factors affecting it?
  - factors causes its abnormalities ?
- c- Define Haldane effect and mention its importance? (05 Marks)
- d- Enumerate FIVE causes of cyanosis? (05 Marks)

**4- Gastrointestinal: (20 Marks)**

- a- Mention Five functions of HCL? (05 Marks)
  - b- Describe the mechanism of chewing reflex? (05 Marks)
  - c- Compare between secretin and cholecystokinin hormones(stimulus of release and functions)? (10 Marks)
-

**5- Blood:** write an account on functions of: **(17 Marks)**

a- blood platelets? (07 Marks)

b- red blood cell membrane? (05 Marks)

c- reticuloendothelial system? (05 Marks)

**6-Nerve and Muscle:** **(04 Marks)**

Describe the excitation contraction coupling in skeletal muscle?

**7- Autonomic Nervous System** **(06 Marks)**

What are the function of parasympathetic supply to the pelvic viscera?

**8-Biophysics :** **(03Marks)**

Explain the mechanism of facilitated diffusion?

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Good Luck .Prof.Mahmoud Raafat and Exam Committee.





Date: 20/6/2018  
Time: 3 hours  
Number of pages: 16  
Name:

Aswan university  
Faculty of medicine  
Anatomy department  
Mark: 125

## Final anatomy examination for the first year medical student

### Complete the followings:

I-Lower limb (30 marks) as follows

(A---- +B---- +C---- +D---- +E---- +F---- + G----=----):

A-The superficial inguinal lymph nodes are divided into ..... and .....group. The .....group lie just below and parallel to ..... . The ..... lie along both sides of the ..... . These groups of lymph nodes receives afferent lymph vessels from; .....

The efferent of these nodes pass through the .....opening to join the .....that lie along side of the .....

The efferent of these nodes pass through ..... canal to join ..... nodes. (3 marks)

**B- The deep fascia of the thigh** is called ..... It is very thick.....to form along strong band called ..... which stretches from the ..... to the ..... The iliotibial tract receives the insertion of ..... The function of the iliotibial tract is ..... The deep fascia of the thigh shows a gap 4 cm below and lateral to the pubic tubercle is called ..... It transmits ..... The lower lateral margin of it is ..... and is called ..... It is covered by loose connective tissue called ..... (3 marks)

**C- The femoral artery** begins behind the .....ligament at the .....point (midway between ..... ) as a continuation of ..... It descends through the upper two thirds of the thigh. It ends at in the opening in the ..... muscle through which it passes into ..... to become ..... The upper half of the femoral artery is in the .....triangle while the lower half lies in the .....canal. The surface anatomy of the femoral artery corresponds to .....

**The branches of the femoral artery are:**

- I- Branches in femoral triangle are:a-.....  
b-.....c-.....  
d-.....e-.....
- II- Branches in the adductor canal are.....

(4 marks)

**D- The knee joint** is the largest and most complicated joint in the body. Its type is ..... joint of .....variety. Its articular parts are.....

• **Ligaments of the knee joint are:**

**I-extracapsular ligaments are:**

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

**II-intracapsular ligaments are:**

.....

**Movements of the knee joint are:**

- a-..... proved by.....
- b-..... proved by.....
- c-..... proved by.....
- d-..... proved by.....

**(4 marks)**

**E- The sciatic nerve** arises within ..... from ..... plexus Its root values are..... It enters the gluteal region through ..... foramen below ..... The surface marking for its entry in the gluteal region is ..... It enters the top of the back of the thigh at a point ..... It descends in the back of the thigh to a point about the ..... of the thigh where it ends by dividing into.....

Along its course the ..... lies on its back. The sciatic nerve can be represented by a line drawn from a point ..... to a point .....

**(4 marks)**

**F- The superior extensor retinaculum is** ..... It is attached medially to ..... , It is attached laterally to ..... Its function is to.....

- **Structure pass deep to the superior extensor retinaculum** from medial to lateral are:

- a-..... b-.....
- c-..... d-.....
- e-..... f-.....

- **Structure pass superficial to the superior extensor retinaculum** are:

- a-..... b-.....



- **The flexor retinaculum of the leg is** .....  
It is attached to ..... superiorly and .....  
inferiorly.

**The structures under cover the flexor retinaculum arranged from medial to lateral are:**

a-..... b-..... c-.....  
d-..... e-.....

- **The superior peroneal retinaculum is** .....  
It is attached superiorly to ..... and inferiorly to .....  
Structure pass deep to it are.....

(6 marks)

**G- The bones of the foot are arranged to form 3 arches:**

- ..... is higher and more resilience than .....

Its keystone is ....., Its anterior pillar is formed by .....

Its posterior pillar is formed by .....

- The ..... arch is lower and more solid than .....

Its keystone is ....., Its anterior pillar is formed by .....

Its posterior pillar is formed by .....

- The ..... arch is an incomplete arch reach the ground. When the medial border of the two feet are placed together a ..... dome is formed. It is formed by .....

- **Factors maintain the arches of the foot are:**

a-..... b-.....

c-..... d-.....

- **Functions of the arches of the foot are:**

a-..... b-.....

c-..... d-.....



- The flat foot (pes planus) is .....
- Its symptom is ..... due to .....

(6 marks)

## II-Pelvis (15 marks) as follows

(A---- + B---- + C---- + D---- + E---- = ----):

**A- The male urethra** is about ..... long. It posses the following parts:

- The ..... part which is about ..... long.
- The .....part which is about.....long.
- The .....part which is about .....long.

- The female urethra is much ..... , ..... and ..... than male urethra, being about ..... long.

- The pelvic part of the ureter is about the same length as the abdominal part, each of which being ..... long. (3marks)

**B-The prostate** is a ..... organ. It surrounds the

..... The lobes of the prostate are:

.....

- The prostate has the following capsules: ..... and ..... The prostatic venous plexus lies .....

- The internal iliac artery begins medial to ..... muscle and anterior to ..... joint, at the level of ..... as one of the two terminal branches of ..... The posterior trunk of the internal iliac artery gives: ..... , ..... and ..... While its anterior trunk gives ..... , ..... , ..... and .....

(3 marks)

**C- The anatomical support of the uterus** is through the followings:

- a-Its normal position which is ..... b-The ..... muscle.  
c-The followings strong cervical ligaments: .....  
.....

- **Each uterine tube** is about..... long. It lies in the free margin of.....
- **The anterior wall of the vagina** is ..... long, while its posterior wall is ..... long, ie. Its anterior wall is shorter due to .....
- **The vagina is anatomically supported as follows:**
  - a- Its upper third is supported by .....
  - b- Its middle third is supported by.....
  - c- Its lower third is supported by.....

(3 marks)

**D- The ischioanal fossa** is a ..... shaped space that has the following boundaries:

- a- Anteriorly, the fossa is bounded by .....
- b- Posteriorly, is bounded by .....
- c- Its apex is formed by .....
- d- Its base is formed by .....
- e- Its medial wall is formed by .....
- f- Its lateral wall is formed by .....

- **The fossa contains** the followings:.....of fat,  
.....canal and .....
- **The internal anal sphincter** surrounds .....while the  
external anal sphincter surrounds ..... (3 marks)

**E-The rectum** begins as a continuation of..... on the pelvic surface of ..... It is about ..... long.

- The peritoneal covering of the rectum is as following:

a-.....  
b-.....  
c-.....

- Its arterial supply is through the following arteries:

a-..... arises from .....  
b-..... arises from .....  
c-..... arises from .....

(3 marks)

### III-Abdomen (30 marks) as follows

(A---- + B---- + C---- + D---- + E---- = ----):

**A-The inguinal canal has the following boundaries:**

a- the anterior wall is formed by .....  
b- the posterior wall is formed by.....  
c- the roof is formed by .....  
d- the floor is formed by .....

- Structures pass through the inguinal canal in male are .....  
while in female are .....

- The wall of the scrotum consists of the following layers:

a-.....  
b-.....which contains ..... muscle,  
c-..... fascia which is a prolongation of .....  
d-..... fascia which is a prolongation of .....  
e-..... fascia which is a prolongation of .....

- Lymphatics from the wall of the scrotum drain into .....
- lymphatics of the testis drain into .....

- The arterial supply of the testis is ..... artery, which is a branch of .....



- **The veins arising from the testis** form ..... plexus of veins which form ..... that is drained into .....in case of the right testis and .....in case of left testis.
- **The vas deferens can be palpable by**.....

(6 marks)

**B-The portal vein** is formed by union of .....vein and .....vein, behind the ..... , and ascends in the free border of .....to reach .....of the liver where it ends by dividing into .....

- **The followings are the sites of portosystemic anastomosis :**
  - a- **At the lower end of the** .....there is anastomosis between .....that drains into .....(systemic) and .....that drains into.....portal). In case of portal hypertention , these anastomosis becomes enlarged and tortuous forming ..... Rupture of these varices leads to vomiting of ..... , condition called .....
  - b- **Around the umbilicus** where there is anastomosis between .....(systemic) , and .....(portal).in case of portal hypertention , these anastomosis become dilated and tortious radiating from the umbilicus , a condition known.....
  - c- **At the junction of the upper and lower halves** of the ..... where there is an anastomosis between ..... (systemic) and .....( portal ).
  - d- **In case of portal hypertention** , these anastomosis become dilated and tortious , acondition known.....and ..... Rupture of these anastomosis leads to .....

(6 marks)



**C-The spleen** is a large ..... mass lies in the..... region.

- **The surface marking of the spleen** can be indicated as follows:

The upper border of the spleen lies opposite.....rib.

The inferior border of the spleen lies opposite .....rib.

The long axis of the spleen lies opposite.....rib.

The medial end of the spleen is at.....

The lateral end of the spleen is at .....

- **The splenic pedicle** consists of:

- a- ..... which contains .....
- b- ..... which contains .....

- **Each kidney has the following capsules (coverings):**

- a- .....
- b- .....
- c- .....

- **The surface marking of the kidney** from behind (Morris parallelogram) can be drawn as follow .....

- **The posterior surface of each kidney** is related superiorly to..... and inferiorly is related to the following three muscles:
  - a-.....medially.
  - b-.....intermediate.
  - c-.....laterally.

- **Each kidney receives its arterial supply** from .....artery  
The venous drainage of the kidney is through .....vein which drains into ..... The left renal vein receives ..... and .....  
(6 marks)

**D-The aorta** enters the abdomen through ..... in front of ..... vertebrae. It descends on the bodies of ..... till it reaches ..... where it ends by dividing into ..... Branches of the abdominal aorta are:

- **Anterior visceral branches:**

- i-.....artery arises at the level of .....
- ii-..... artery arises at the level of .....
- iii-..... artery arises at the level of.....

- **Lateral visceral branches:** ..... , .....and .....

- **Lateral parietal branches:**

- i-..... ii-.....

- **posterior branch** which is ..... arises at the level of .....

- **The peritoneal ligaments of the liver are:**

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

- **The non peritoneal ligaments of the liver are:**

- a- ..... b-.....

(6marks)

**E-The anterior relations of the stomach are** ....., .....

....., ..... and .....

- **The posterior relations of the stomach (stomach bed) are:**

....., ..... , ..... , ..... and .....

- **Arterial supply to the stomach:**

- a- ..... arises from .....
- b- .....arises from.....
- c- .....arises from .....
- d- .....arises from .....
- e- .....arises from.....

(6 marks)

#### IV-Thorax (15 marks) as follows

(A---- + B---- + C---- = ----)

**A- The internal thoracic artery** is a branch of ..... It descends vertically on the pleura behind costal cartilages, a finger breadth lateral to .....and ends in the ..... space by dividing into .....

- **In addition it also gives the following branches:**

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

- **The posterior intercostal arteries** of the first 2 spaces are branches of..... which is a branch of ..... that arises from .....

- **The posterior intercostal arteries** of the lower nine spaces are branches of: .....

- **The right posterior intercostal veins** drain as follows:

- i-the first right posterior intercostals vein ends into.....
- ii-the second and third right posterior intercostals veins end into .....
- iii-from the right fourth posterior intercostal vein till the eleventh posterior intercostal vein end into .....

- **The left posterior intercostal veins** drain as follows:

- i-the first right posterior intercostals vein ends in .....
- ii-the second and third left posterior intercostals veins fuse to form ..... which ends into .....



iii-from the right fourth posterior intercostal vein till the eighth vein end into .....

iv-from the ninth till eleventh end into ..... (5 marks)

B- The apex of the heart is formed by ..... It is found in the ..... space ..... inches from the .....

- The right border of the heart is formed by..... It extends from a point on the ..... downward to a point on the .....
- The left border of the heart is formed by..... It extends from a point on the .....to the.....
- The inferior border of the heart is formed by ..... It extends from the ..... to .....
- The superior border of the heart is formed by ..... It extends from a point on the .....downward to a point on the .....
- Branches of the arch of aorta are ..... , .....and .....

(5marks)

C- The anterior border of the right lung begins behind..... and runs obliquely .....and .....close to the middle line behind the .....(at the level of ..... cartilage). It then continues vertically downward until it reaches the.....

- The anterior border of the left lung has a similar course, but at the level of .....it deviates .....to reach a point about 4 cm from the middle line at the level of .....
- The lower border of the lung in midinspiration follows a curving line, which crosses the ..... in the midclavicular line and .....in the midaxillary line and reaches the ..... spine 2 cm from the middle line posteriorly.
- The posterior border of the lung extends downwards from a point of the .....to the level of the .....
- The root of the lung is formed of..... , ..... , ..... and ..... It is surrounded by a tubular sheath of .....that extends downward below the hilum forming.....

(5marks)



## V-General embryology (25 marks) as follows

(A---- + B---- + C---- + D---- + E---- = ----):

A-The derivatives of the neural crest cells are:..... ,  
..... , ..... , ..... ,  
..... and .....

- The remnants of the notochord will be represented by:..... ,  
..... and.....
  - The decidua is the ..... , It consists of three parts:  
..... and.....
  - Spermatogenesis means .....
  - The full term placenta has the following criteria:  
shape:.....diameter:.....  
weight:.....surfaces:.....
- (5marks)

B- The placental barrier (placental membrane) consists of: ..... ,  
.....and.....

- The amnion has the following fetal functions:
  - a-.....
  - b-.....
  - c-.....
  - d-.....
  - e-.....
- The amnion has also the following maternal functions:
  - a-.....
  - b-.....
- Anomalies of the amnion are: .....and .....
- Result of fertilization are: a-.....  
b-..... c-.....
- The implantation means.....
- The normal site of implantation is .....
- The abnormal sites of implantation are: ..... ,  
..... and ..... (5marks)

**C- The mature sperm must undergo.....**  
and.....to be capable of fertilizing the ovum.

- **Ovulation means** .....
- **After rupture of the mature graffian follicle, one of the two events must occur:**  
..... and .....
- **Covering of the mature ovum are:**  
..... and .....
- **The chorion consists of** ....., .....and  
.....
- **By development, it projects three types of the following chorionic villi:**  
i-.....is formed of.....  
ii-..... is formed of .....  
iii-.....is formed of .....
- **Placenta previa means** .....  
**Types of placenta previa are**  
i-.....  
ii-.....  
iii-.....

(5marks)

[illegible]

- **Abnormally long umbilical cord may be complicated by:**
  - i-.....
  - ii-.....
  - iii-.....
- **Abnormally short cord may cause.....**
- **Abnormal insertion of the cord in the placenta:**
  - i-..... called .....
  - ii-..... called.....

- Functions of the yolk sac are :

i-.....  
 ii-.....  
 iii-.....  
 iv-..... (5marks)

#### E-Derivatives of the ectodermal germ cells are:

i-..... ii-.....  
 iii-..... iv-.....  
 v-..... vi-.....  
 vii-..... viii-.....  
 ix-..... x-.....

- The para axial mesoderm is segmented into number of somites which differentiated by an oblique fissure into:

i-..... gives.....  
 ii-..... gives.....

- The intermediate mesodermal plate is called.....  
 Which is involved in the formation of.....

- Within the lateral mesodermal plate an inverted u shaped cavity appears called.....that gives rise to:

i-..... ii-.....  
 iii-..... (5marks)

#### VI-Introduction (10 marks) as follows

(A---- + B---- = ----):

A- Parasympathetic outflow to the body comes from: .....

While the sympathetic outflow to the body comes from:.....

- **The subtypes of the fibrous joints are:**
  - a- ..... between.....
  - b- .....between .....
  - c- .....between.....
- **While the subtypes of the cartilaginous joints are:**
  - a- ..... example of .....
  - b- ..... example of .....
- **The subtypes of synovial joints according to the shape of their articular parts:**
  - a- ..... example of .....
  - b- ..... example of .....
  - c- ..... example of .....
  - d- ..... example of .....

(5 marks)

**B-In unipennate muscle**, the fibers are located on.....

**In bipennate muscle**, the fibers are located on .....

- **The motor point is** .....  
**While the motor unit is** .....  
.....
- **The superficial fascia is the** .....envelop of the body. It is a layer between .....and ..... . It contains ..... , ..... , ..... and .....  
In the pectoral region, it contains ..... . Infront and side of the neck it contains .....muscle. In the wall of the scrotum, it contains .....muscle. It contains no fat in the ..... , ..... and .....
- **Types of bones according to their structure are:**
  - a-..... b-.....
- **All the primary centers of ossification** appear at the eighth week of intrauterine life except .....which is the early bone show ossification.

(5 marks)

انتهت الأسئلة





Aswan University

**Final Exam of Cytology & General  
Histology for 1<sup>st</sup> Year Medical  
Students**



Faculty of Medicine  
Department of Histology

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Date: 1- 7 -2018      No of Exam Pages: 9      Total marks: 75      Time allowed: 2hrs

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I. Give the histological differences between the following: =====> (14 Marks)

I.1 Lysosomes and peroxisomes. (5Marks)

	Lysosomes	Peroxisomes
Structure		
Origin		
Function		

I.2 Unilocular and multilocular fat cells. (2.5Marks)

Unilocular fat cells	Multilocular fat cells

**I.3 Chondrocyte and osteocyte.****(2.5Marks)**

<b>Chondrocyte</b>	<b>Osteocyte</b>

**I.4 Medium sized artery and vein.****(4Marks)**

<b>Medium sized artery</b>	<b>Medium sized vein</b>

## II- Fill in the blanks:

=====> (17 Marks)

II.1 Enumerate the molecular components of the nuclear membrane.

(1Mark)

- a)- .....
- b)- .....
- c)- .....

II.2 Enumerate the structural components of blood-thymus barrier.

(2Marks)

- a)-..... b)-.....
- c)-..... d)-.....

II.3 Enumerate the structural components of the nucleolus.

(2Marks)

- a)- ..... b)- .....
- c)- ..... d)- .....

II.4. Enumerate collagen secreting cells.

(2Marks)

- a)-..... b)-.....
- c)-..... d)-.....

II.5. Enumerate types of cartilages.

(1.5Marks)

- 1)-.....
- 2)-.....
- 3)- .....

II.6. Enumerate types of T- lymphocytes.

(1.5Marks)

- 1)-.....
- 2)-.....
- 3)- .....
- 4)- .....
- 5)- .....

II.7. Enumerate types of neurons (according to number of fibers).

(1.5 Marks)

- 1)-.....
- 2)-.....
- 3)- .....

.....

**II.8. The wall of blood vessels is formed of:**

**(1.5Marks)**

- 1)-.....
- 2)-.....
- 3)- .....

**II.9. Enumerate types of synapses (according to mode of impulse transport)**

**(1.5Marks)**

- 1)-.....
- 2)-.....
- 3)- .....

**II. 10. Mention the main characters of epithelial tissue.**

**(2.5 Marks)**

- 1)-.....
- 2)-.....
- 3)-.....
- 4)-.....
- 5)-.....

**III- Indicate True (T) or False (F):**

**(15 Marks, 1Mark each)**

- 1-The intercalated discs are structures found in both cardiac and skeletal muscle fibers. ( )
- 2- Hassal's corpuscles are present in thymus cortex. ( )
- 3- By LM, the nucleolus appears as a basophilic mass limited by single unit membrane. ( )
- 4- The microtubules are not facilitating the intracellular movement or endocytosis. ( )
- 5- Euchromatin is related to coiled x-chromatin. ( )
- 6- Blood platelets are derived from megakaryocytes by mitosis. ( )
- 7- The percentage of reticulocytes in normal blood is less than 1-2%. ( )
- 8- Anisocytosis means variation in the shape of RBCs. ( )
- 9- All blood cells arise from pluripotential stem cell in the bone marrow. ( )
- 10- The central pale area in red blood corpuscles increases in the hypochromic anemia. ( )
- 11- Epithelial cells specialized for sensory receptions are called glandular epithelium. ( )
- 12- Intercellular ionic exchange is achieved by tight junction. ( )
- 13- The myelin sheaths in CNS are formed by neurolemmal cells. ( )
- 14- The wall of the cerebral arteries is characterized by well developed internal elastic lamina. ( )
- 15- Absorptive membranes are lined by columnar cells with apical microvilli. ( )



**IV- Choose the correct answer:**

**=====> (15 Marks, 1/1)**

**IV.1. The T-lymphocytes are responsible for:**

- a. Phagocytosis.
- b. Cellular immunity.
- c. Humoral immunity.
- d. Secretion of heparin and histamine.

**IV. 2. The following describe a cell active in protein synthesis EXCEPT:**

- a. Have a basophilic cytoplasm.
- b. Its chromatin is mostly heterochromatin.
- c. Have a well-developed rER.
- d. Its chromatin is mostly euchromatin.

**IV. 3. The S-phase of the cell cycle is the phase where:**

- a. DNA filaments are divided.
- b. DNA is duplicated.
- c. Only protein synthesis occur.
- d. Organoids are formed.

**IV. 4. The periarterial lymphatic sheath (PALS) present in:**

- a. Thymic medulla.
- b. White pulp of the spleen.
- c. Thymic cortex.
- d. Lymph node.

**IV. 5. Free ribosomes are mainly concerned with:**

- a. Synthesis of steroids.
- b. Synthesis of cytoplasmic proteins.
- c. Conduction of material in the cytoplasm.
- d. Synthesis of secretory proteins.

**IV. 6. During erythropoiesis haemoglobin begins to appear in the cytoplasm of:**

- a. Normoblast.
- b. Basophil erythroblast.
- c. Proerythroblast.
- d. Polychromatophil erythroblast.

**IV. 7. B- lymphocytes have the following characters EXCEPT:**

- a. They originate from bone marrow.
- b. Responsible for cell mediated immune response.
- c. Form 25% of circulating lymphocytes.
- d. Have specific surface receptors.

**IV. 8. During granulopoiesis specific granules begin to appear in the cytoplasm of:**

- a. Myeloblasts.
- b. Metamyelocytes.
- c. Promyelocytes.
- d. Myelocytes.

**IV. 9. Type III collagen is present in:**

- a. Capsule of lymph node.
- b. Hyaline cartilage.
- c. Matrix of bone.
- d. Stroma of spleen.

**IV. 10. Metachromatic granules are found in:**

- a. Plasma cells.
- b. Mast cells.
- c. Fat cells.
- d. Myelocytes.

**IV. 11. The glandular epithelium that secrete directly into the blood stream is:**

- a. Merocrine.
- b. Endocrine.
- c. Holocrine.
- d. Exocrine.

**IV. 12. In nerve cells, residual bodies accumulate and become pigmented material called:**

- a. Multivesicular bodies.
- b. Lipofuscin deposits.
- c. Autophagic vacuole.
- d. Autophagic phagosomes.

**IV. 13. Multipolar neurons are the following EXCEPT:**

- a- Pyramidal cells.
- b- Purkinje cells
- c- Stellate cells.
- d- Schwann cells.

**IV. 14. The wall of I.V.C. is characterized by:**

- a. Well developed internal elastic lamina.
- b. Well-developed tunica media.
- c. A layer of longitudinal smooth muscle fibers in the adventitia.
- d. A layer of longitudinal smooth muscle fibers in the media.

**IV. 15. The keratinized stratified squamous epithelium is represented by:**

- a. The lining epithelium of the oesophagus.
- b. The lining epithelium of the trachea.
- c. The epidermis of the skin.
- d. The lining epithelium of the aorta.

V. Only with a diagram illustrate the histological structure of young active fibroblast.

**(5Marks)**

**VI.** Only with a labeled diagram illustrate the structure of sarcomere.

**(5Marks)**



**VII. Only with diagram illustrate the structure of continuous blood capillary. (4 Marks)**

\*\*\*\*\* ( انتهت الأسئلة ) \*\*\*\*\*

*"Have a Good Luck"*

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**Examination Committee:** Prof. Dr. Amal Taha  
Prof. Dr. Gamal Kamel  
Prof. Dr. Ramadan Sayed



Aswan University

**Final Exam of General Histology for  
1<sup>st</sup> Year Students (Reset Exam)**



كلية الطب  
Faculty of Medicine  
Department of Histology

Date: 9-9-2018

Number of Exam Pages: 6

Time allowed: 2hrs

**I. Give the histological differences between the following structures? ==>(20 Marks, 1/4)**

**I.1. Fibroblast and plasma cell**

**(4 Marks)**

Fibroblast	Plasma cell

**I.2. Skeletal and smooth muscle fiber**

**(4Marks)**

Skeletal muscle fiber	Smooth muscle fiber

**I.3. Medium sized artery and vein****(4 Marks)**

<b>Medium sized artery</b>	<b>Medium sized vein</b>

**I.4. Cartilage and Bone****(4 Marks)**

<b>Cartilage</b>	<b>Bone</b>

**I.5. Axon and dendrites****(4 Marks)**

<b>Axon</b>	<b>Denderites</b>

## II- Fill in the blanks:

(20 Marks)

II.1.Enumerate types of endogenous pigments.

(1.5Mark)

- a)- .....
- b)- .....
- c)- .....

II.2.Enumerate the thymus dependent zones.

(1.5Mark)

- a)- .....
- b)- .....
- c)- .....

II.3.Enumerate types of neuroglia proper.

(3Marks)

- a)- .....
- b)- .....
- c)- .....

II.4.Enumerate the types of simple epithelium.

(3Marks)

- a)- .....
- b)- .....
- c)- .....
- d)- .....

II.5.The ..... is a membranous organelle composed of multiple flattened cisternae, and responsible for modifying, sorting, and packaging proteins and lipids for intracellular use or extracellular transport.

(1Mark)

II.6. The .....is a small organelle involved in the production and degradation of  $H^2O^2$ , as well as degradation of fatty acids.

(1Mark)

II.7.The ..... Is a protein complexes that degrade damaged and unnecessary proteins into small polypeptides and amino acids.

(1Mark)

II.8. The .....is a protein-RNA complexes that may play a role in transporting molecules to and from the nucleus.(1Mark)

II.9. The Parkinson's disease, is a syndrome caused by .....

(1Mark)

II.10.Enumerate the stages of the development of RBCs (Erythropoiesis)?

(3Marks)

- |           |           |
|-----------|-----------|
| 1)- ..... | 6)- ..... |
| 2)- ..... | 7)- ..... |
| 3)- ..... | 8)- ..... |
| 4)- ..... | 9)- ..... |
| 5)- ..... |           |

II.11.Enumerate types of bone cells

(3Marks)

- |           |           |
|-----------|-----------|
| 1)- ..... | 3)- ..... |
| 2)- ..... | 4)- ..... |



**III- Choose the correct answer:**

**n**

**(20 Marks, 1/1)**

**III. 1. Bone forming cells are:**

- a. Osteoblast.
- b. Osteocyte.
- c. Osteoclast.
- d. Osteogenic cell

**III. 2. Multipolar neurons are the following EXCEPT:**

- a. Pyramidal cells.
- b. Purkinje cells
- c. Stellate cells.
- d. Schwann cells

**III. 3. Concerning the cytoskeleton:**

- a. Maintains cell shape and organization of cells.
- b. Participates in cell division and movement.
- c. Facilitates intracellular movement, exocytosis and endocytosis.
- d. All of the above.

**III. 4. Concerning the ribosomes:**

- a. Fixed ribosomes produce proteins that may be secreted or form lysosomes.
- b. Free ribosomes produce proteins used within the cell (intracellular use).
- c. Ribosomal subunits are synthesized in the nucleoli.
- d. All of the above.

**III. 5. Reticular fibers have the following characters:**

- a. Are argyrophilic fibers.
- b. Form the tendons.
- c. Can be stained with Sudan black.
- d. All of the above.

**III. 6. In granulopoiesis, the non-specific azurophilic granules start to appear in the stage of:**

- a. Myelocytes.
- b. Promyelocytes.
- c. Metamyelocytes.
- d. Mature granulocytes.

**III. 7. Anisocytosis means:**

- a. Variation in the size of RBCs.
- b. Variation in the shape of RBCs.
- c. Variation in the shape and size of RBCs.

**III. 8. To calculate the differential leucocytic count we use:**

- a. Haemocytometer.
- b. Unstained blood film.
- c. Stained blood film.

**III. 9. The percentage of reticulocytes in normal blood:**

- a. Not less than 10%.
- b. Less than 1-2%.
- c. Variable.
- d. 60-70%.

**III. 10. Type II collagen is present in:**

- a. Capsule of lymph node.
- b. Hyaline cartilage.
- c. Matrix of bone.
- d. Stroma of spleen.

**III. 11. Metachromatic granules are found in:**

- a. Plasma cells.
- b. Mast cells.
- c. Fat cells.
- d. Pigment cells.

**III. 12. Which of the following is responsible for secretion of tropocollagen?**

- a. Plasma cell.
- b. Macrophage.
- c. Fibroblast.
- d. Adipocyte.

**III. 13. The eukaryotic cells are characterized by:**

- a. Have histones.
- b. Have nuclear membrane.
- c. Have membranous organelles.
- d. All of the above.

**III.14. What is called a low resistance junction?**

- a. Tight junction
- b. Gap junction
- c. desmosome
- d. None of the above

**III.15. Stratified squamous non keratinized epithelium can be found in:**

- a- Trachea.
- b- Urinary bladder.
- c- Esophagus.
- d- Uterus.

**III.16. Concerning the cytoplasmic organelles:**

- a. Each organelle carries out specific metabolic activity within the nucleus.
- b. Are membrane-bound or membrane-less living cytoplasmic structures.
- c. Serve as transportation vehicles for intracellular substances.
- d. All of the above.

**III.17. Nissl granules are present in the cytoplasm of:**

- a. Neuroglial cells.
- b. Neurons.
- c. Plasma cells.
- d. Eosinophils.

**III.18. Serous glands include:**

- a. Parotid gland.
- b- Oesophageal glands.
- c- Goblet cells.
- d- Sebaceous glands.

**III.19. Which tunica contains circularly arranged layers of smooth muscle cells?**

- a. Tunica adventitia.
- b. Tunica interna
- c. Tunica media.
- d. Tunica intima.

**III.20. The wall of I.V.C. is characterized by:**

- a. Well a developed internal elastic lamina.
- b. Well-developed media.
- c. A layer of longitudinal smooth muscle fibers in adventitia.
- d. A layer of longitudinal smooth muscle fibers in the media.

أجب عن الاسئلة الاتية

السؤال الاول: 30 درجة

- أ. وضح بإيجاز طريقتان مختلفتان لنقل البيانات.
- ب. حول العدد  $(101.01)_2$  إلى ما يكافئه في النظام العشري
- ت. أوجد ما يكافي العدد  $(5.125)_{10}$  بالنظام الثنائي.
- ث. حول العدد  $(10101001)_2$  من النظام الثنائي الى النظام السادس عشري.

السؤال الثاني: 20 درجة

- أ. أذكر مكونات وحدة المعالجة المركزية central processing unit مع توضيح وظيفة كل منهم.
- ب. أذكر الاربعة وظائف الاساسية للحاسب.
- ج. وضح الفارق بين كل من:
- نوعي الذاكرة الرئيسية ROM & RAM
  - التعبيران Hardware & Software





**Answer the following questions:**

**First:** Medical system in Britain differs from its counterpart in Egypt. In an essay of about 300 words, discuss this topic.

**Second:** complete the following definitions using the words in the box.

systems - tissues – musculoskeletal - epithelial – aggregate – pairs
--

The body is organized into cells, tissues, organs, and ...1..... A cell is an ...2..... of protoplasm: organic material and fluid. It contains a nucleus or nuclear material. A cell is the smallest unit of life for all plants and animals. Groups, or aggregates, of similar cells acting together to perform specific functions make up...3..... Primary tissues in the body are the...4....., connective, skeletal, muscular, and nervous tissues. Organs are parts of the body that have specific functions. They are made up of specific types of tissues. Some organs like the lungs and kidneys are in...5....., but for the most part, organs are single entities. They are organized into body systems. Some examples of organ systems are the cardiovascular system, the .....6..... system, and the digestive system.

GOOD LUCK

Dr. Taher Okasha