

-Identify the tissue type----?

- a. Gray matter
- b. Peripheral nerve
- c. Spinal cord
- d. Sensory ganglia
- e. Autonomic ganglia



- -What is the type of this tissue?
- a. Transitional epithelium
- b. Keratinized stratified squamous epithelium
- c. Non keratinized stratified squamous epithelium
- d. Pseudostratified columnar epithelium
- e. Stratified cuboidal epithelium
- -Identify the tissue type.

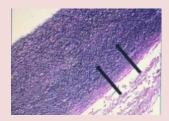


- a. Decalcified bone
- b. Ground bone
- c. Spongy bone
- d. Periosteum
- e. Endosteum



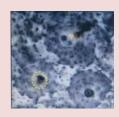
-Identify the histological feature .

- a. Nissle bodies
- b. Nucleus
- c. Nucleolus
- d. Dendrites
- e. Axon



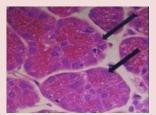
- Arrows points to?

- a. Capsule
- b. Adventitia
- c. Reticular fibers
- d. Elastic fibers
- e. Collagen fibers



-Identify the histological feature.

- a. Central canal
- b. Osteon
- c. Volkman's canal
- d. Canaliculi
- e. Lacunae



-Arrows point to?

- a. Serous Demilune
- b. Mucous acini

- c. Serous acini
- d. Islets of Langerhans
- e. Fungiform paplliae

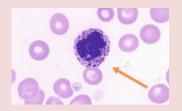


- -The specimen is?
- a. Filiform papillae
- b. Fungiform papillae
- c. Taste buds
- d. Circumvallate papillae
- e. Foliate papillae



-This gland is classified as ..?

- a. Simple tubular
- b. Compound tubular
- c. Simple alveolar
- d. Compound alveolar
- e. Simple tubuloalveolar



-Arrow points to ..?

- a. Eosinophile
- b. Macrophage
- c. Fibroblast
- d. Mast cell
- e. Neutrophile



-What is the type of this tissue?

- a. Loose areolar C.T
- b. Mucoid C.T
- c. Multilocular adipose tissue
- d. Reticular C.T
- e. Uni locular adipose tissue



- -Arrow points to ..?
- a. Eosinophile
- b. Basophil
- c. Neutrophile
- d. Mast cell
- e. Microphage



-Section in the ?

- a. Spleen
- b. Lymph node
- c. Tonsil
- d. MALT
- e. Thymus



-Section in the?

a. Spleen b. Lung c. Sublingunal tissue d. Tongue e. Sinusoidal capillaries of the liver -The best match of the following? Astrocyte-macroglia -The best describe for Vermilin? Stratified squamous keratinized -The tract is composed of? White matter –What is the correct order according to nutrition from out to in? Blood vessels, volkman's canal, Haversian canal, Calincauli -The wrong matched? Unmyelinated axons in the dorsal>>>sensory ganglion -What type of cell in the vomer? Pseudo stratified epithelium · BALT is present in? Lungs and bronchus

-On of the following act as dismosomes?

Rivets

-On of the following is true about traid?

Two cisterna and on tubul

-On of the following is truly matched?
Pericytes>>>controls blood flow

One of the following is true about foam cell?Atherosclerosis

On of the following is truly matched?Basilar artery >>prominent IEL

-ON of the following sentence is true?

Metarterioles>>contain precapillary sphincter

On of the following is true about Type 1 pneumocyte?
 Flat squamous cell and participate in gax exchange

-The endoneurium is? Key and retzius sheath

On of the following is correctly matched?Epithelial reticular cell>>from Hassall's corpuscles

On of the is correctly matched?Gut associated lymphatic tissue>>submucosa

-The best matching from following is?

Paracortex >>T-lymphocyte -The correct matching from the following? IVC contains longitudinal bundles of smooth muscle in the adventitia -The correct matching? Cancellous >>medulla -The wrong matched from the following? delta cells>>polypeptide enzyme -The most common type of leukocyte? Neutrophile -One of the following is correct for cardiac muscles? Cardiac has sarcotubules -which of the following is correct? Myosin has a head and a tail -Which of these tissue can withstand tensile stress? Dense regular -Which of the following is Incorrect about smooth muscles? No actin and no z-line -Ligaments are made of? Dense regular connective tissue

-Which of these forms antibodies?

B lymphocytes -What bests describe appositional growth of cartilage? Fibroblasts change to chondroblast -Macrophage which is found in tissue is called? Histiocytes -Sudan stain is used for? Fat -Most common cell in connective tissue? **Fibroblasts** -Myoepithelial has all of the following except ? has many rER -the correct answer about microvillai? make a wide area for absorption -The incorrect matched? Elastin cartilage – 11ssify with age -The mast cell of the blood is? Basophile -What is the adaptation of the Epididymis? Stereocillia -What happens in apocrine secretion?

The apex of the cells is lost with the secretion -Which of these is not a cell polarity adaptation? Glycocalyx -Sex can be determined by examining a blood film from? Barr body near the nucleus of microphage -Which of these is stained by metachromasia and contains granules? Mast cells -A clinical implication of MHC is? Tissue transplantation An asthmatic patient would have an increased number what type of cells -when examining the blood film? Eosinophil -Which of the following is true about epithelial tissue? Can regenerate -Which of the following is used to classify epithelial tissue? Number of layers -Goblet cells are usually associated with?

-Simple squamous epithelial line all of the following except?

Pseudostratified epithelial

Kidney tubules

-Transitional epithelium is? A special type of stratified epithelium -Openings and has a protective function? Stratified epithelium -The taste buds of the tongue are? Collagen bundles -What is the first step following secretion from cells in Collagen synthesis? Removal of non helical chains -Which of the following WBCs has specific granules that have low affinity to d and can kill bactera? **Neutrophils** -What is the junction that prevent lateral movement of material in adjacent cells? Zonula occluding -Incorrect match? White fiber.....for sustained production of force -The granule in Eosinophils in E.M? Granule with crystalloid dense shape -The type of connective tissue that found in ligament is: Dense regular connective tissue

-What is the type of connective tissue that is resisted for tension? Dense regular connective tissue -What is the correct about junction in cardiac muscle? macula adherents prevent the cell from pulling apart -What is the incorrect answer about smooth muscle? No z-line and actin -Incorrect match : Pancreas.....mixed gland -Which of the following is TRUE about granulomere in platelet? Contain ribosomes -What is the granules that secrete hydronic enzyme? Lambda granule in platelet -Where you can find (actin , spectrin , Ankyrin)? Subplasmalemmal cytoskeleton -Connective tissue covering a muscle fascicle: Perimysium -Immature RBCs with a basophilic cytoplasm are called? Reticulocytes What is the echinocytes? Crenated RBCs

-Not found in costal cartilage :
-water
-chondrioun sulfate
-keratan sulfate
-troponin
-hyaluronic acid
-Asthmatic reaction determines increase in :
Eosinophils
- Which of these are considered multilobulated ?
Neutrophils and eosinophils
-Which type of these found in blood (normally) in big amount :
Neutrophils
-Not true cell?
Platelet
-One of these is correct for both skeletal muscle and cardiac muscle :
Cardiac muscle has sarcotubules
-What is differential acount ?
For different type of white cells
-Barr body is found in:
Neutrophils

-Goblet cells are: Pseudostratified epithelium -Incorrect match is: H band lie inside I band -Which of the following are multilobular? Eosinophils and neutrophils -Acts like a mast cell in blood circulation: Basophils - Origin of all blood cells: Bone marrow -The most common type of luekucyte? **Neutrophils** -Which one of the following is incorrectly matched? a. Bipolar neurons ---- cochlear nerves b. Unipolar neurons ---- afferent neurons c. Bipolar neurons ---- present in the CNS d. Bipolar neuron ---- one axon e. Intermediate neurons ---- present in the CNS -The most numerous cell type found in the red pulp of the spleen are? a. Reticular cells b. Macrophages c. T lymphocytes

- d. B lymphocytes
- e. Red blood cells
- -Which of the following is incorrect about the osteoclast?
 - a. Generally large cells with variable shape
 - b. Their ruffled border opposing the Howships lacunae
 - c. They secrete acid phosphatase
 - d. They contain many nuclei
 - e. The secrete prebone
- All of the following are components of sensory ganglia except?
 - a. Axons
 - b. Synapses
 - c. Perikarya
 - d. Loose connective tissue
 - e. Satellite or Schwann cells
- -Which one of the following statements is correct?
 - a. The subligunal glands are embedded at the ventral surface of the tongue
 - b. The crescent of Gianuzzi are groups of mucous cells
 - c. The parotid glands are mixed mucoserous glands
 - d. The myoepithelial cells are non-secretory cells
 - e. The submandibular cells are pure serous glands
- -Which of the following statements is correct?
 - a. Blood capillaries begin with blind end

- b. Cortical lymphatic sinuses of lymph nodes are lined with fibroblasts and mast cells
- c. The blood thymic barrier is the wall that separates the developing Tlymphocytes in the cortex
- d. In the cell mediated immunity activated B-lymphocytes change into plasma cells that produce antibodies
- -Myelin sheath can be stained specifically with?
 - a. Hematoxylin and eosin
 - b. Vital stain
 - c. Osmic acid
 - d. Leishman stain
 - e. Metachromatic stain

- -Which of the following are typically necessary to stimulate Blymphocytes to divide and differentiae?
 - a. Plasma cells // antibody
 - b. Cytokine // immunoglobulin
 - c. Memory T-lymphocytes // cytokines
 - d. Helper T-lymphocytes // antigen
 - e. Cytotoxic T-lymphocytes
- -Which of the following found in the white matter in the CNS?
 - a. Ganglion

b. Nerve
c. Tract
d. Shwann cell
e. Nuclei
Tunica media of capillaries is formed of ?
a. Pericytes
b. Elastic fibers
c. Smooth muscle fibers
d. Fibroblasts
e. Collagenous fibers
Auerbachs plexus is found in ?
a. The adventitia
b. The muscularis externa
c. The submucosa
d. The mucosa
e. The muscularis mucosa
A typical peripheral nerve includes all of the following except?
a. Motor axon
b. Astrocytes Perinurium or Endonuriun
c. Schwann cells
d. Sensory axons
The axon hillock contains ?
a. RER
b. Ribosomes

- c. Microtubules
- d. Golgi complex
- e. Synaptic vesicles

f.

- -Regarding to the pancreas which one of the following is incorrectly matched?
 - a. Beta cells // 70% of islet cells and secrets insulin
 - b. Delta cells // secrets pancreatic polypeptide
 - c. Alpha cells// 20% cells and secrets glucagon
 - d. Islets of langerhan // numerous at tail of pancreas
 - e. Pancreatic acini // exocrine pancreas
- -Bowman's gland are present in the lamina propria of?
 - a. Tracheal mucosa
 - b. Bronchial mucosa
 - c. Olfactory mucosa
 - d. Respiratory mucosa
 - e. Lingual papillae
- -Which one of the following is true about the vermillion?
 - a. Rich with sensory innervation
 - b. Hairy thin skin with sebaceous gland
 - c. Contains sweet gland
 - d. Scanty blood vessels
 - e. The area between the outer and inner surface of the lip

- -The part of airway that is located at the transition between the conducting and respiratory portions is ?
 - a. Bronchioles
 - b. Secondary bronchi
 - c. Alveolar duct
 - d. Respiratory bronchioles
- -One of the following is not a type of blood capillaries?
 - a. Sinusoidal capillaries
 - b. Fenestrated capillaries
 - c. Lymphatic capillaries
 - d. Somatic capillaries
 - e. Continuous capillaries
- -Key –Retzius sheath refers to ?
 - a. Intermodal segments
 - b. Myelin sheath
 - c. Schmidet-Lantermann clefts
 - d. Endoneurium
 - e. Perikaryon
- -Which one is incorrect about the osteoblast?
 - a. They secrets collagenase
 - b. They secrets osteoid
 - c. They secret alkaline phosphate
 - d. They are basophilic
 - e. They have one nucleus

- -Regarding to the blood vessels, which one is incorrect?
 - a. The contraction of smooth muscle cells in the wall of veins restricts the venous return to the heart
 - b. The tunica media of the vein is thicker than the tunica media of the arteries
 - c. The external elastic lamina limits the tunica intima from tunica media
 - d. Smooth muscle cells in the wall of medium sized arteries regulate the blood supply to their target tissue
 - e. Vasa vasorum nourish the wall of the arterioles
- -Which of the following statements is correct regarding the splenic sinusoid?
 - a. Pericytes surrounds the wall of these sinusoids
 - b. Stave cells are elongated endothelial cells with large intercellular gaps
 - c. Trabecular arteries open into the medullary cords by open and closed routes
 - d. The basement membrane of their lining cells is continuous
 - e. They are parts of white pulp
- -organelles of degeneration in the axon are moved by?
 - a. Retrograde movement
 - b. Anterograde movement
 - c. Salutatory movement
 - d. Slow transport

- e. Into the synaptic cleft into the extracellular space
- -Tunica media of capillaries is formed by?
 - a. Pericytes
 - b. Elastic fibers
 - c. Smooth muscle fibers
 - d. Fibroblasts
 - e. Collagenous fibers
- -Which one of the following statements is correct?
 - a. The wall of basilar artery has prominent external elastic lamina
 - b. Glomus is feature of blood sinusoid
 - c. Endothelial cells of somatic capillaries pores that covered by diaphragm
 - d. Tunica media of aorta is mainly formed of fenestrated elastic lamina
 - e. Tunica adventitia of umbilical artery is formed of collagenous C.T
- -intramembranous ossification ..?
 - a. Responsible for long bone formation
 - b. Begins with cartilaginous precursor
 - c. Begins with C.T membrane
 - d. Begins during the third month of gestation
 - e. Is the most common way the bone are formed
- -Small cell closely associated with neurons in peripheral ganglia may be called?
 - a. Satellite cells

- b. Pyramidal cells
- c. Postganglionic cells
- d. Pregnglionic cells
- e. Autonomic cells
- -The tunica media of medium sized arteries is formed mainly of?
 - a. Elastic fibers
 - b. Collagen fibers
 - c. Smooth muscle fibers
 - d. Reticular fibers
 - e. Sharpey's fibers
- -The Nissle bodies seen in the neuron cell body represents which cellular organelle?
 - a. Centriols
 - b. Mitochondria
 - c. RER
 - d. Microtubules
 - e. Nucleus
- -Concerning taste buds all are true except ?
 - a. Formed of three types of cells
 - b. Ovoid structure have taste pores
 - c. All taste cells are central
 - d. Are type of neuroepithelium
 - e. Basal cells are sensory cells

- -One of the following is correctly matched?
 - a. Woven bone // osteoid
 - b. Prebone //secondary bone
 - c. Bundle bone// lamellar bone
 - d. Bundle bone // prebone
 - e. Cancelleous bone // medullary bone
- All are true about type 2 pneumocytes except ?
- a. Are low cuboidal
- b. Secrete pulomnary surfactant
- c. Provide thin membrane where gas exchange occur
- d. Can divide and act as stem cells
- e. Represents 3% of alveolar epithelium
- -Of the cells associated with bone, the one primarily responsible for the initial secretion and calcification of bone matrix is?
 - a. Osteoprogenitor cell
 - b. Osteoblast
 - c. Osteoclast
 - d. Osteocyte
 - e. Osteogenic cell
- -The number of processes extending from their cell body can classify neurons structurally . what is the most common neuron type in the human ?
 - a. All the neurons have the same number of processes
 - b. Multipolar
 - c. Bipolar

- d. Tripolar
 e. Unipolar
 he process
 a. Intrame
- -The process of bone growth in the epiphyseal plate is similar to?
 - a. Intramembranous ossification
 - b. The process of ossification
 - c. The process of osteopenia
 - d. Endochondoral ossification
 - e. The process of healing fractures
- -Where T-lymphocytes gain their immunocompetence?
 - a. Thyroid
 - b. Bone marrow
 - c. Spleen
 - d. Lymph node
 - e. Thymus
- -Gas exchange doesn't occur in?
 - a. Alveolar duct
 - b. Terminal bronchiol
 - c. Alveoli
 - d. Alveolar sac
 - e. Respiratory bronchiol
- -which structure most likely contain longitudinal smooth muscle in its tunica adventitia?

- a. Aortab. Thoracic ductc. Vena cavad. umbilical veine.
- -Following the injury of the axon the Perikaryon undergoes which of the following changes?
 - a. The soma shrinks
 - b. Nissle bodies are increased
 - c. The nucleus moves to the periphery
 - d. The nucleus becomes smaller
 - e. Nissle bodies appears in the axon
- -All of the following are characteristics of Clara cells except?
 - a. Found in the lining epithelium of the respiratory bronchi
 - b. Can metabolize airborne toxins
 - c. Play role in regenerating the bronchiolar epithelium
 - d. Secrete surfactant like material
 - e. Non-ciliated cells
- -Which type of epithelium lines the esophagus?
 - a. Stratified columnar epithelium
 - b. Simple squamous epithelium
 - c. Keratinized stratified squamous epithelium
 - d. Non-Keratinized stratified squamous epithelium
 - e. Simple columnar epithelium
- -What is the unique about the palatine tonsils compared with other lymphoid organs?

- a. Lack germinal centers
- b. Don't have medulla region
- c. No lymphatic nodules
- d. Surface covered by epithelium
- e. Ducts of mucus glands open at the surface to sweep away the microorganisms
- -Somatic capillaries are characterized by all of the following except?
 - a. The endothelial cells have no fenestrate
 - b. The basal lamina is discontinuous
 - c. The type of capillaries found in the CNS
 - d. Has the lowest permeability
 - e. Pinocytotic vesicles seen in the endothelial cells to facilitate the transcyosis of molecules
- -Regarding the lymphatic capillaries all of the following is true except?
 - a. Begin with blind end
 - b. Are larger and more permeable than blood capillaries
 - c. Have gaps between endothelial cells
 - d. Have interrupted basal lamina
 - e. The basement membrane splits to enclose the Pericytes
- -Which one of the following is incorrectly matched?
 - a. Continuous capillaries // skeletal muscles

- b. Fenestrated capillaries // small intestine
- c. Somatic capillaries // skin
- d. Sinusoidal capillaries //spleen
- e. Visceral capillaries // liver
- -Within the germinal centers of the lymph node the prominent cell type is ?
 - a. Mast cells
 - b. T- lymphocytes
 - c. B-lymphocytes
 - d. Epithelial reticular cells
 - e. Macrophages
- -The lymphatic vessels have all of the following except?
 - a. Thick wall and narrow lumen
 - b. Larger diameter than venules
 - c. Their lymph drains in the right and left subclavian vein
 - d. Bicuspid valves which give them beaded appearance
 - e. Tunica media contains few smooth muscle
- -All of the following might synapse each other except?
 - a. Axon with soma
 - b. Axon with axon
 - c. Axon with dendrite
 - d. Dendrite with dendrite
 - e. Cell body with cell body

-The lymphatic nodules of the lymphatic nodes are present at? a. Outer cortex b. Deep cortex c. Hilum d. Paracortical zone e. Medulla -The respiratory epithelium is? a. Non-keratinized stratified epithelium b. Simple cuboidal epithelium c. Simple columnar d. Pseudostratified columnar ciliated with goblet cells e. Pseudostratified columnar with chemoreceptors -The cells that maintain mature compact bone are? a. Osteoclasts d. Osteoblast b. Osteogenic cells c. Osteocyte c. Chondrocytes Which of the following is incorrectly matched? a. Von Ebners glands // secrete solvent for tastants substances b. Respiratory bronchioles // transition between respiratory and conduction portions c. Type 2 pneumocytes // secrete pulmonary surfactant

d. Sustentacular cells // olfactory receptors neurons

-Regard to the thymus dependent zone of lymph node?

e. Intrapulmonary bronchi // have collagen plates in their walls

- a. Is present in the outer cortex
- b. It contains B-lymphocytes
- c. Its post capillary venules are lined with simple squamous epithelium
- d. Contains mature T-lymphocytes
- e. Present at the hilum of the node
- -which one of the following types of neuron is found in the retina of the eye?
 - a. Peudounipolar
 - b. Bipolar
 - c. Multipolar
 - d. Unipolar
 - e. Tripolar
- -Regarding the salivary glands , one statement is true?
 - a. They are unicellular glands
 - b. Parotid glands only secrete mucus secretion
 - c. Sublingunal gland consider as mixed glands
 - d. Their ducts open into the nasopharynx
 - e. The secretory cells can produce both mucus and serous secretions
- -Insufficiency of secretion of which cells cause diabetes?
 - a. Islets of Langerhans
 - b. Beta cells
 - c. Alpha cells
 - d. Delta cella
 - e. F- cells

-The axon hillock contair	ns ?
a. RER	
b. Ribosomes	
c. Microtubules	
d. Golgi complex	
e. Synaptic vesicles	
-Which one of the follow	ving neuroglia is the most responsible for the
blood brain barrier	?
a. Astrocytes	d. oligodendrocytes
b. Ependymal	e. Schwann cells
c. Microglia	
-Which of the following r	represents the correct order of zones before
epiphyseal closure	?
a. Resting – hype	rtrophy – proliferation – calcification –
degeneration	
	hypertrophy – calcification – degeneration –
	feration — hypertrophy — calcification —
	refaction hypertrophy calcineation
	proliferation – ossification – calcification –
, , , , , , , , , , , , , , , , , , ,	
	fication – proliferation – ossification hypertrophy
-Spongy bone contains a	Il of the following except ?
a. Trabeculae	
blood brain barrier a. Astrocytes b. Ependymal c. Microglia -Which of the following repiphyseal closure a. Resting – hypedegeneration b. Proliferation – ossification c. Resting - proliferation d. Hypertrophy – resting e. Resting – calcit	d. oligodendrocytes e. Schwann cells represents the correct order of zones before rtrophy – proliferation – calcification – hypertrophy – calcification – degeneration – feration – hypertrophy – calcification – proliferation – ossification – calcification – fication – proliferation – ossification hypertrophy

- b. True osteons
- c. Hydroxyapatite
- d. Collagen fibers
- e. Calcium phosphate

-Which of the following statements is true?

- a. Endothelial cells of blood sinusoids are separated by intercellular space
- b. Aretereovenous anastomosis is direct connection between arteries and veins
- c. Pericytes represents the tunica media of arterioles
- d. Fenestrated capillaries are found in bone marrow for passage of blood elements into circulation
- e. Large arteries are called muscular arteries

-Sharpey's fibers located in the periphery of the bone, are?

- a. Collagen fibers from ligaments that attach to bone
- b. Elastic fibers that are found in the tendons
- c. Fibers that make up the structure of endosteum
- d. Elastic fibers that make up the structure of periosteum
- e. Collagen fibers within Canaliculi
- -In difference between medium sized arteries and medium sized veins, which one is correct?
 - a. Tunica media is thick and folded in the medium sized veins and not in medium sized arteries

- b. The flow of blood is slow in medium sized artery than in medium sized vein
- c. Tunica adventitia is thin in medium sized vein than in the medium sized artery
- d. Valves are found in medium sized vein and not in medium sized artery
- e. The tunica media is thick in medium sized vein than in medium sized artery



-Identify the histological feature?

- a. Canaliculi
- b. Perichondrium
- c. Periosteum
- d. Isogenous group
- e. Chondrogenic cells

