Histology First

BAU#1

1) Which of the following is NOT mainly composed of connective tissue?
   - Bone marrow
   - Articular cartilage
   - Mesenchyme
   - Fat
   - Heart *

2) Which type of cartilage is the most abundant in the body?
   - Elastic cartilage
   - Fibrocartilage
   - Hyaline cartilage and elastic cartilage equally
   - Hyaline cartilage*
   - Elastic cartilage and fibrocartilage equally

3) In which of the following tissue you will find mainly dens irregular connective tissue?
   - Epidermis
   - Collagen
   - Dermis *
   - Keratin
   - Elastic fibers

4) The epithelium that is made of one cell layer thick in which the cells are flat shape is:
   - Stratified squamous epithelium
   - Simple cuboidal epithelium
   - Simple squamous epithelium*
   - stratified columnar epithelium
   - Simple columnar epithelium
5) The type of cartilage that makes the symphysis pubis joint is called:
   - Hyaline cartilage
   - Elastic cartilage
   - Bone connective tissue.
   - Fibrocartilage*
   - Both hyaline and elastic cartilage.

6) What is the histological name of the mature bone cell?
   - Osteocytes*
   - Chondrocyts
   - Chondroblasts
   - Osteoclast cells
   - Osteoprogenator cells

7) What do you call the simple squamous epithelium that lines the blood vessels?
   - Epithelioid tissue
   - Endothelium*
   - Mesothelium
   - Endostium
   - Perosteom

8) The epithelium that is made of more than one layer thick that is rarely lining some gland ducts is called?
   - Stratified cuboidal epithelium*
   - Simple epithelium
   - Stratified squamous epithelium
   - Simple cuboidal epithelium
   - Stratified columnar epithelium

9) What type of epithelium makes the epidermis of the skin?
   - Simple squamous epithelium
   - Stratified squamous epithelium*
   - Simple cuboidal epithelium
   - Simple columnar epithelium
   - Pseudostratified simple epithelium
10) What structure is mainly involved in forming the cells cytoskeleton?
- Ribosomes
- b. Peroxisome
- Centrioles
- Nucleoli
- Microfilaments*

11) Which fiber type makes up slow-twitch muscle?
- White fibers
- Intermediate fibers
- **Red fibers**
- Pick fiber
- Transitional fibers

12) Which of the following is not a membranous organelle?
- Ribosomes*
- Lysosomes
- Peroxisomes
- Mitochondria
- Endoplasmic reticulum

13) What is the cancellous bone called?
- Dense bone
- Wondering bone
- **Spongy bone**
- Immature bone
- Compact bone

14) In what type of muscle(s) the actin and myosin are arranged in a manner that appears to be striated?
- Only the skeletal muscle
- Only the cardiac muscle
- Only the smooth muscle
- **Only in both skeletal muscle and cardiac muscle**
- In all muscle types that can be seen under the microscope using high magnification
15) What cell type makes up the epithelium of the urinary bladder?
- Simple squamous epithelium
- Simple cuboidal epithelium
- Stratified squamous epithelium
- **Transitional epithelium** *
- Simple columnar epithelium

16) What color does Hematoxylin and Eosin stains the tissue respectively?
- Orange and blue
- Pink and blue
- Green and Blue
- Pink and Green
- **Blue and Pink** *

17) What is the light band in muscle is called?
- A - band
- Z - line
- **H - band**
- M - line
- I - band *

18) What type of gland secretes its product directly into the bloodstream?
- Multicellular gland
- Exocrine gland
- **Endocrine gland** *
- Mucus glands
- Goblet gland

19) Which of the following is composed of a dense regular connective tissue?
- Epidermis
- **The tendon of a muscle** *
- External layer of the urinary bladder wall
- Pubic symphisys and the reticular layer of dermis
- The skeletal muscles

20) What is the mature cell in cartilage tissue called?
- Chondroblast
- Osteocyte
- Osteoclast
- **Chondrocyte** *
- Cartilage lining cell
21) Regarding the microscope, what structure connects the eyepiece to the objective lens?
- Base
- Nosepiece
- **Tube**
- Stage
- Diaphragm

22) What is the primary endocrine cell found within the intestinal epithelium?
- Columnar absorptive cell
- Parietal cells
- Paneth cells
- Chief cells
- **Goblet cell**

23) Which microscope makes things appear three dimensional?
- Simple microscope
- **Scanning electron microscope**
- Compound microscope
- Phase contrast microscope
- Transmission electron microscope

24) The inter-vertebral disc is made of ____________:
- Hyaline cartilage
- Elastic cartilage
- **Fibrocartilage**
- Both elastic and hyaline cartilage
- Both elastic and fibrocartilage

25) Which type of cartilage is characterized by the presence of thick bundles (bands) of collagen fibers?
- Hyaline cartilage
- Elastic cartilage
- Both the elastic and hyaline cartilage
- Both the elastic and the fibrocartilage
- **Fibrocartilage**

26) What is the name of the membrane that envelopes and surrounds the external aspect muscle fascicles?
- Periosteum
- Perichondrium
- Perimysium*
- Perineurium
- Endosteum

27) What you call the cylindrical structure called that characterized the compact bone tissue?
- Osteoclast
- Osteocyte
- Osteoblast
- Osteoid
- Osteon*  

28) ructure is mainly found at the base of cilia?
- Ribosomes
- Peroxisomes
- Microfilaments*
- Centrioles
- Nucleoli

29) Identify the correct statement out of the followings:
- Desmosomes are an effective barrier to the diffusion of substances across an epithelium.
- Absorptive epithelia contain a dense network of blood vessels.
- Connective tissue fibers between the epithelial cells give strength to the epithelium
- Stereocilia are actively motile structures which help to move substances along the epithelial surface.
- The shape of the cells in the surface layer of transitional epithelia is variable. *

30) Which type of cartilage is characterized by a glassy matrix?
- Both hyaline cartilage and elastic cartilage
- Elastic cartilage
- Both hyaline cartilage and fibrocartilage cartilage
- Only the fibrocartilage
- Hyaline cartilage*

31) Identify the incorrect statement out of the followings:
- Adipose tissue can have a structural alterations and a cushioning function.
- Connective tissues can be classified by the density and orientation of connective tissue fibers.
- The proteoglycans of ground substance consist mainly of proteins. *
- Ground substance is located between connective tissue fibers and cells.
- Adipocyte is fixed connective tissue cell.

32) Which cell type out of the followings differentiates into macrophages?
- Adipocyte
- Fibrocyte
- Mast cell
- **Monocyte**
- Lymphocyte

33) Out of the following statements, identify the incorrect one:
- Osteocytes and chondrocytes are located in lacunae, i.e. small hollows in the matrix of bone and cartilage
- Volkman's canals establish connections between Haversian canals and the inner surface of compact bone.
- The periosteum and endosteum contain osteoprogenitor cells.
- **Osteoprogenitor cells forms the cartilage model necessary for endochondral ossification.**
- Bone repair occurs throughout life.

34) What are the fingers like projections of mucosa that are seen in the small intestine?
- Lacteal
- Crypts of Lieberkuhn
- Plicae circulares
- Striated border
- **Villi**

35) What is a gland called if it has a duct that is not branched?
- Compound gland
- Tubular
- **Simple gland**
- Alveolar
- Tubuloalveolar

36) What type of epithelium has dome shaped cells on the apical surface?
- **Transitional**
- Epithelioid tissue
- Mesothelium
- Endothelium
- Pseudostratified
37) A sarcomere is defined as the segment that extends between tow ____?
- A band
- I band
- H band
- M line
- Z line*

38) Which cell type is responsible for bone breakdown?
- Chondrocyte
- Chondroblast
- Osteoclast*
- Osteocyte
- Bone lining cell

39) Out of the followings, identify the correct statement:
- Absorptive epithelia contain a dense network of blood vessels.
- Epithelia are classified by the shape of the cells in the basal cell layer.
- The basement membrane consists of two sublayers: the basal cell layer and the basal lamina.
- Microvilli increase the surface area of the epithelia cells. *
- Absorptive epithelia contain a dense network of blood vessels.

40) Regarding the connective tissue, identify the incorrect statement:
- Most connective tissue are well vascularized
- Tendons and ligaments have a poor blood supply
- Cartilages are avascular
- Different cells and fibers indicate the variability of tissue types of
- The extracellular matrix is a living substance that surrounds living cells within the connective tissue *

41) All the following statements regarding the fibrocytes are true, except:
- They are inactive (usually in resting stage) and the most common cell type in connective tissues.
- They do not usually leave the connective tissue.
- If stimulated, fibrocytes are transformed into an inactive fibroblast that cannot synthesis collagen*
- They are the "true" connective tissue cells and do not contain many organelles.
- They have an oval; sometimes flattened nuclei are visible in LM sections.
42) What type of epithelium is composed of cells which all touch the basement membrane and is only one cell layer thick? (Note: there are 2 correct answer)
- Stratified squamous epithelium
- Transitional epithelium
- Stratified cuboidal epithelium
- Simple columnar epithelium*
- Pseudostratified epithelium*

43) In the cartilage, the progenitors cells that arise in the bone marrow are --------which are capable of differentiating into --------------:
- Megacriocyes, chodrocytes
- Mast cells, lacunea
- Fibroblasts, fibrocytes
- Stem cells, chondroblasts *

44) Chose the incorrect statement regarding the basal lamina
- It is usually attached to underlying surface
- It is connected to the apical aspect of the cell through dismesomal junctions*
- It is made of lamina lucida and lamina densa
- Hmidismesomes anchored the basal lamina to the cell
- Ancoring febrile (collage fibers) connect the basal lamina to the reticular lamina

45) Chose the incorrect statement in relation to the G1-interphase:
- This phase represent the first gap or growth phase
- In this phase the organelles duplicate and the cell volume double
- It is the longest phase in the cell cycle
- Some cells stay in this phase permanently
- In this stage the cell is not immature to copy or duplicate the DNA *

46) Chose the incorrect statement regarding the actin filaments within the cell
- The actin filaments, also called microfilaments
- It is thin, flexible fibers approximately 7 nm in diameter
- They are organized into higher-order structures, forming bundles or three-dimensional networks of semisolid gels.
- They do not involve in forming a network that provides mechanical support and do not determine the cell shape*
- They are particularly abundant beneath the plasma membrane
47) In metaphase of the cell division, all the following events occur except
- Chromosomes are cluster at the middle of the cell.
- Centromeres aligned at the exact center, or equator, of the cell
- This arrangement of chromosomes along a plane midway is called the metaphase plate
- It is the second phase of cell division
- Metaphase plate cannot be seen in this phase

48) The cleavage furrow appears in the phase of cell division
- Anaphase
- Cytokinesis*
- Telophase
- Metaphase
- Metaphase plate

49) Chose the incorrect statement regarding the cell apical surface specialization
- Microvilli are an apical surface plasma membrane invaginations
- Stereocilia is not different from cilia in their histological structure and function *
- Stereocilia are mechanosensing organelles of hair cells
- A cilium can be either of these two types a Motile or Nonmotile type.
- Flagella are wip-like structure that move the sperm

50) Regarding the cell junctions chose the incorrect statement
- Tight junctions occur close to the apical aspect of the cell
- Tight junctions are uses interlocking junction proteins to prevent leakage
- Dismisomes are found anchoring the basal aspect of the cell to the basement membrane
- Gap junctions and communication junctions
- Dismisomes are not connected to the intermediate filaments in the cells

“Don’t look back You are not going that way”

Collected by: Ahmad Osama Al-Masri
Good Luck