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Subject: Histology

Q.1) Define / Explain

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Rasor.

a) Myelin sheath:

Ans. Axon is surrounded by a whitish and fatty insulating layer called myelin sheath.

b) Schwann cells

Ans. Schwann cells surrounds nerve fibers in peripheral nervous system and forms myelin sheath around axon. They are found in PNS.

c) Sarcolemma:

Ans. The muscle cell forms one muscle fiber and its cell surface membrane called as sarcolemma.

d) Neuron:

Ans. Neurons are the ^{highly} specialized cells of nervous tissues which are responsible for generating and conducting nerve impulse.

e) Hyaline cartilage:

Ans 1) Hyaline cartilage is most abundant cartilage in the body.

2) Its matrix appears transparent and glassy when viewed under microscope.

3) It provide strong support while providing pads for shock absorption.

4) Found in ribs, trachea, nose.

F) Merocrine secretion:

Ans The secretory product are accumulated below the free surface of the cell and released secretion in the

lumen of gland $\rightarrow$ but at the time of release of secretion there is no change

This type of secretion is called Merocrine secretion. $\rightarrow$ loss of cytoplasm

Eg: Sweat gland and Goblet cells.

g) Apocrine:

Ans The secretory product are present in the apical portion of the cell and it is nipped off their secretion and

disintegrate. $\rightarrow$ the cell is not completely destroyed

This type of secretion is called Apocrine secretion.

eg: Mammary gland.

h) Holocrine :

Ans. The secretory product and ~~an~~ whole cell disintegrate.

✓ Entire cell lost during secretion.

✓ This type of secretion is called as Holocrine secretion.

eg : sebaceous gland

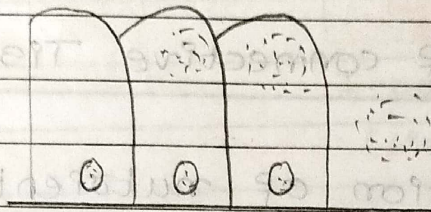


Fig. Holocrine secretion

i) endocrine gland :

Ans Endocrine glands are the glands without duct and ~~carry~~ ^{directly} their secretions ^{into} the blood. _{pour}

Example : pituitary gland, adrenal gland.

j) exocrine gland :

Ans Exocrine glands are the glands with duct and carry their secretions to an epithelial surface.

Example : sweat gland, sebaceous gland.

k) Tissue.

Ans Tissue is a group of cells having common ^{origin}, similar structure and performed particular function.

Q1) Histology :

Ans Histology is a branch of biology which deals with the study of microscopic structure of tissue and organ with their function.

Q2)

b) Functions of connective Tissue :

1. Transportation of nutrients and metabolites between organ and connective tissue proper. *through direct diffusion*
2. Tissue repair (After injury)
- 2 1/2 3. Heat generation (Brown Fat)
4. Haematopoiesis, Haemopoiesis (Blood formation)
5. Energy storage (Fat)
6. Immunological defense
7. Structural support.

c) Write note on Sarcomere

(Dark band) A-band (myosin overlapping actin)

Ans

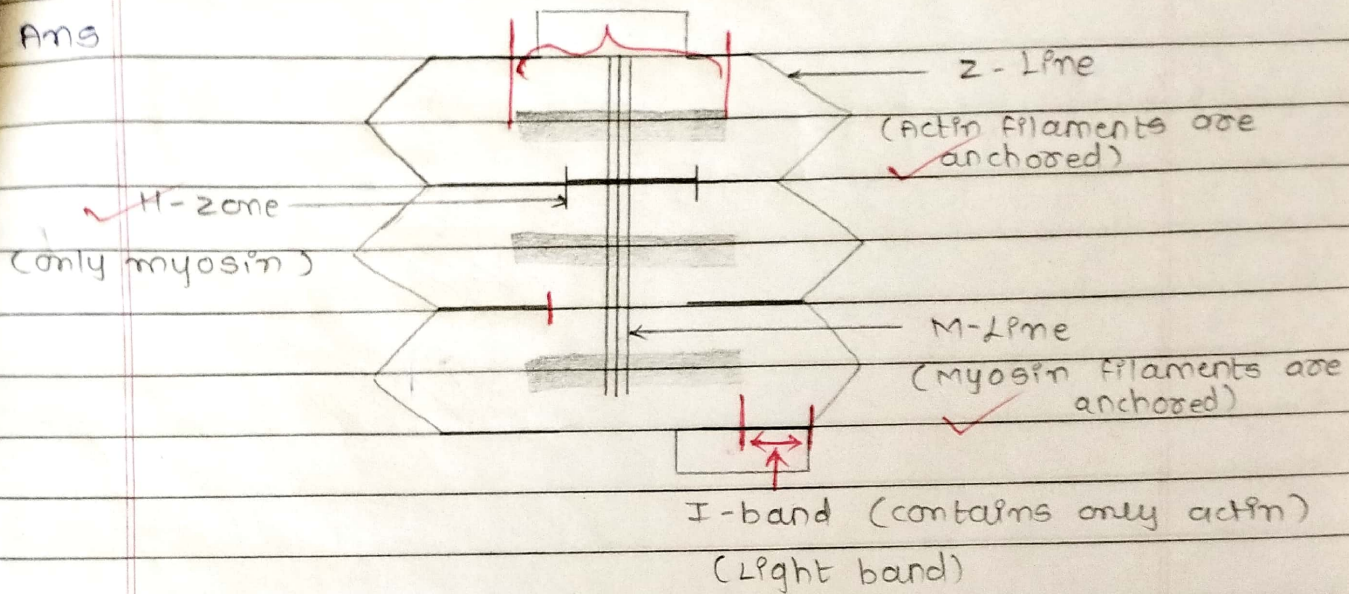


Fig. A Sarcomere

unit

- The structural and functional of skeletal muscle fiber is called as sarcomere
- Striated appearance of skeletal muscle fibers due to presence of contractile proteins actin and myosin.
- Actin are thin filaments and myosin are thick filaments.
- Sarcomere consist of A-band, Z-line, H-zone, M-line, I-band.
- A-band: Length of myosin filament, may contain overlapping actin filament.
- Z-line: Actin filaments are anchored.
- M-line: Myosin filaments are anchored
- H-zone: contains only myosin.
- I-band: contains only actin.
- A band is called as Anisotropic band or dark band
- I band is called as Isotropic band or light band.