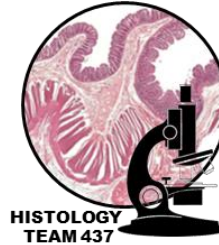




MED437
KING SAUD UNIVERSITY

OSPE file GNT block



HISTOLOGY
TEAM 437

- : Pink: questions
- | red: very important
- : Black: complete answers
- | Gray: notes | extra

➤ You should know before the exam:

- The exam will consist of **1 or 2 stations**.
- The pictures in these slides may not be the **same** in the exam.
- You have to mention the full name always and **don't use shortcuts** you could lose marks because of that.



➤ **IMPORTANT notes**

- Don't forget **all parts of GI tract has stem cells and enteroendocrine cells in its mucosa epithelium.**
- Don't forget **all parts of GI tract has 4 layers:**
 - 1- **Mucosa**
 - 2- **Submucosa**
 - 3- **Muscularis externa**
 - 4- **Serosa**



Esophagus

Q1: Identify the structure?
Esophagus

Q2: What are the layers forming this structure?

1- Mucosa

- a) **Epithelium:** (what is the type of Epithelium in this structure?)
 - o Non-Keratinized Stratified Squamous Epithelium.
- b) **Lamina propria**
- c) **Muscularis Mucosae**

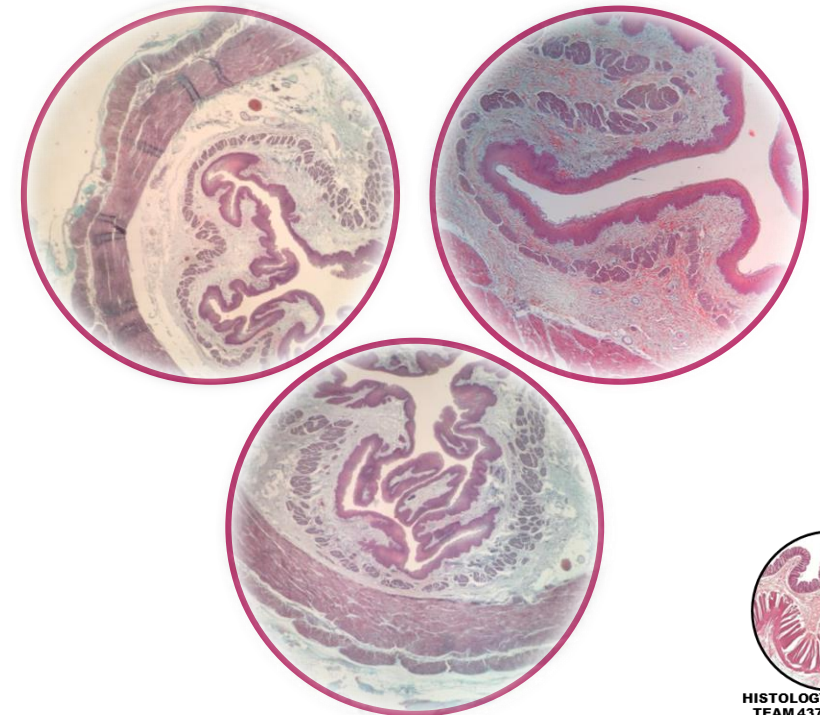
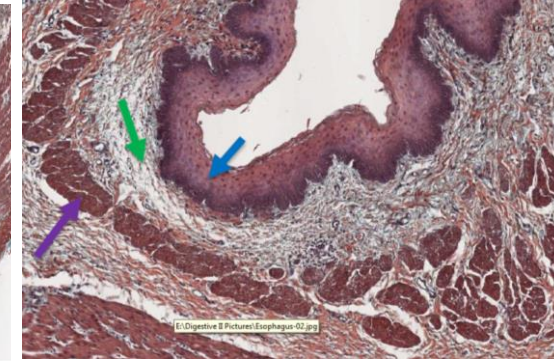
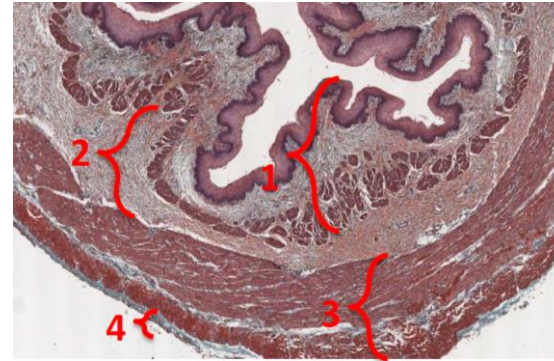
2- Submucosa

- a) Submucosal Glands
- b) Meissner's plexuses

3- Muscularis Externa

- a) Inner circular
- b) Auerbach's (myenteric) plexus
- c) Outer longitudinal layer.

4- Serosa (in abdominal part) or Adventitia (in cervical and thoracic parts)



Fundus of the stomach

Q1: Identify the structure?
Fundus of the stomach

Q2: What are the layers forming this structure?

1- Mucosa:

a) **Epithelium:** (what is the type of Epithelium in this structure?)

- o simple columnar epithelium

b) **Lamina propria**

c) **Fundic Glands** (what are the cells found in this structure?)

- 1) Parietal (oxyntic) cells
- 2) Peptic (chief) cells
- 3) Mucous neck cells
- 4) Stem cells
- 5) Enteroendocrine cells

d) **Muscularis Mucosae**

2- Submucosa

- a) NO submucosal glands
- b) meissner's plexuses

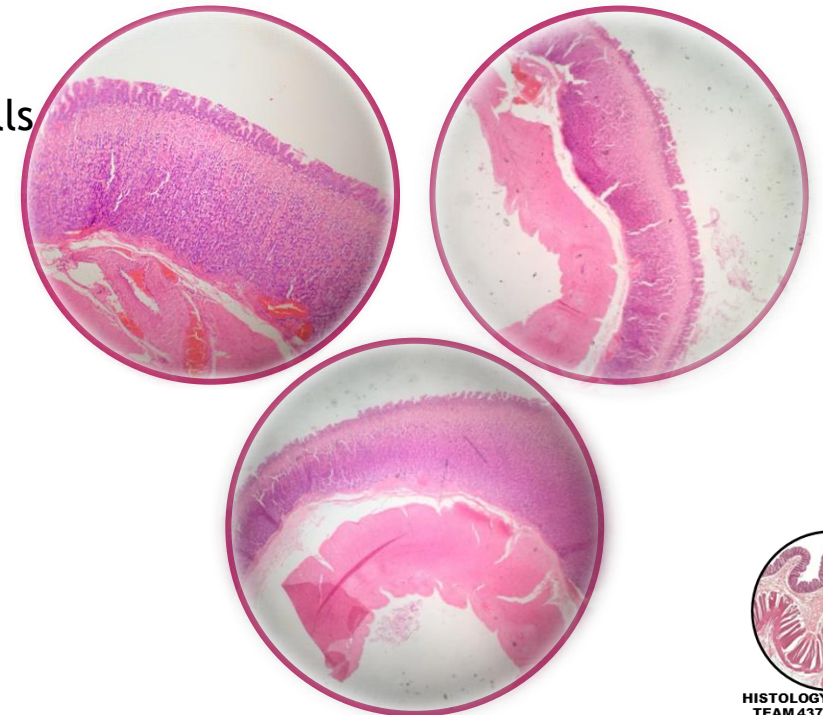
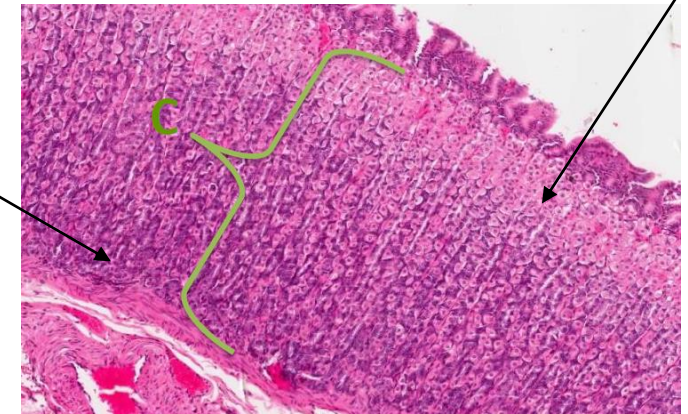
3- Muscularis Externa

- a) Inner oblique
- b) Middle circular
- c) Auerbach's (myenteric) plexus
- d) Outer longitudinal

4-Serosa

Peptic cells: which is basophilic

parietal cells: which is acidophilic



Pylorus of the stomach

Q1: Identify the structure?
Pylorus of the stomach

Q2: What are the layers forming this structure?

1- Mucosa:

a) Epithelium: (what is the type of Epithelium in this structure?)

- simple columnar epithelium

b) Pyloric Glands:

- 1) Mucous neck cells
- 2) Few parietal cells
- 3) Their pits are deep
- 4) Stem cells
- 5) Enteroendocrine cells
- 6) No peptic (chief) cells

c) Lamina propria

d) Muscularis Mucosae

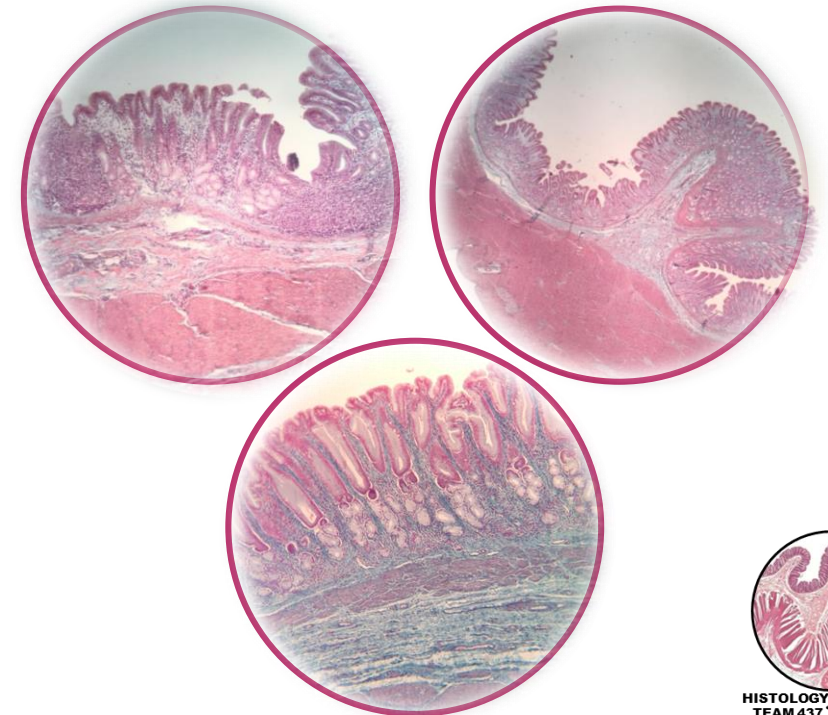
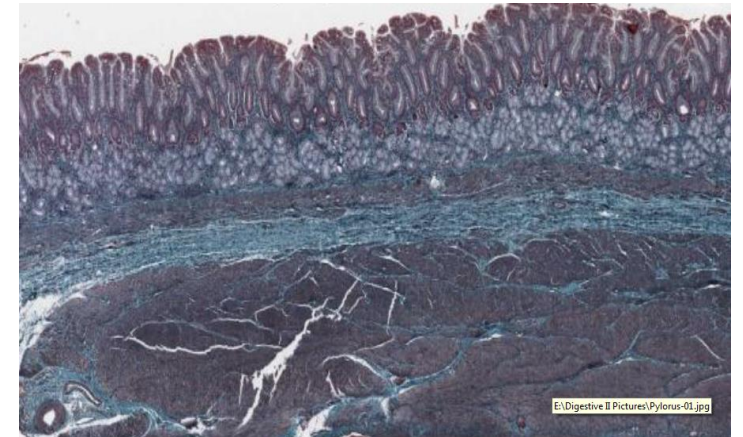
2- Submucosa

- a) NO submucosal glands
- b) meissner's plexuses

3- Muscularis Externa

- a) Inner circular
- b) Auerbach's (myenteric) plexus
- c) Outer longitudinal

4-Serosa



Duodenum

Q1: Identify the structure?

Duodenum

Q2: What are the layers forming this structure?

1- Mucosa: (Shows *villi* and *crypts*)

a) **Epithelium:**

○ **Villi:**

○ simple columnar epithelium (brush border) with goblet cells

○ **Crypts of lieberkuhn:**

○ 1) Paneth cells 2) Goblet cells 3) Simple columnar epithelium (brush border)

○ 4) Stem cells 5) M cells over lymphoid nodules

b) **Lamina propria**

c) **Muscularis Mucosae**

2- Submucosa

a) **Brunner's glands**

b) Meissner's plexuses

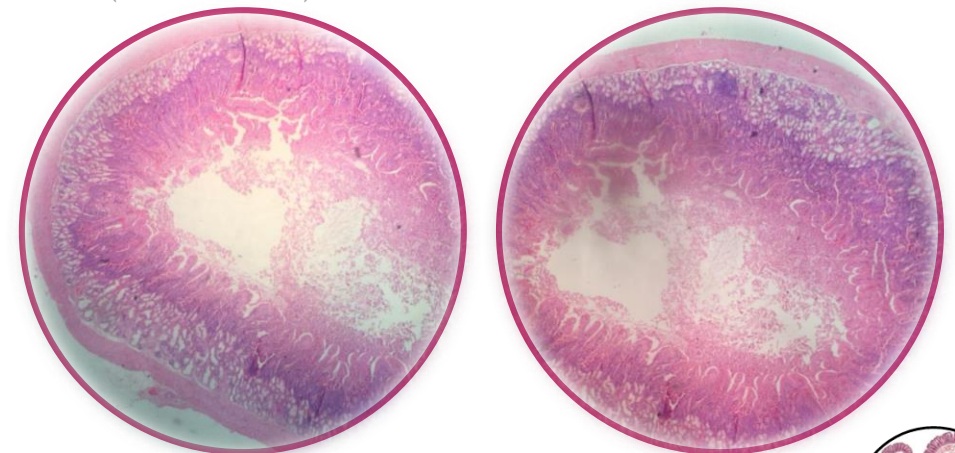
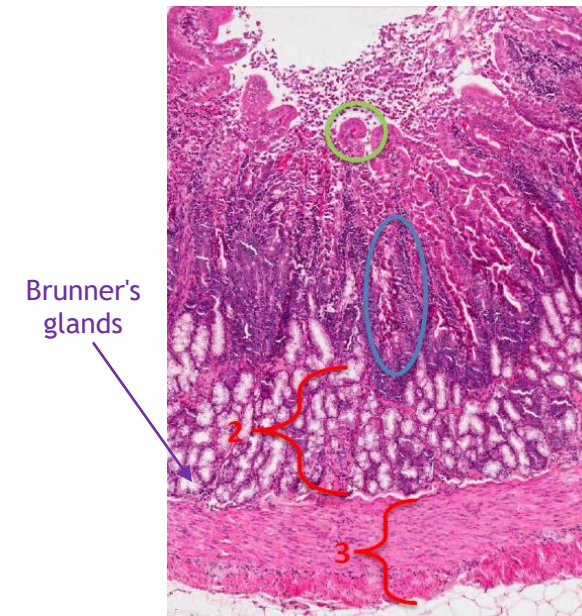
3- Muscularis Externa

a) Inner circular

b) Auerbach's (myenteric) plexus

c) Outer longitudinal

4- Serosa



Ileum

Q1: Identify the structure?

Ileum

Q2: What are the layers forming this structure?

1- Mucosa: (Shows *villi* and *crypts*)

a) **Epithelium:**

- simple columnar epithelium (brush border) with goblet cells
- M cells over lymphoid nodules

b) **Lamina propria**

- Has lymphoid nodules (**Peyer's patches**) that extend to the submucosa.

c) **Muscularis Mucosae**

2- Submucosa

- a) NO submucosal glands
- b) meissner's plexuses

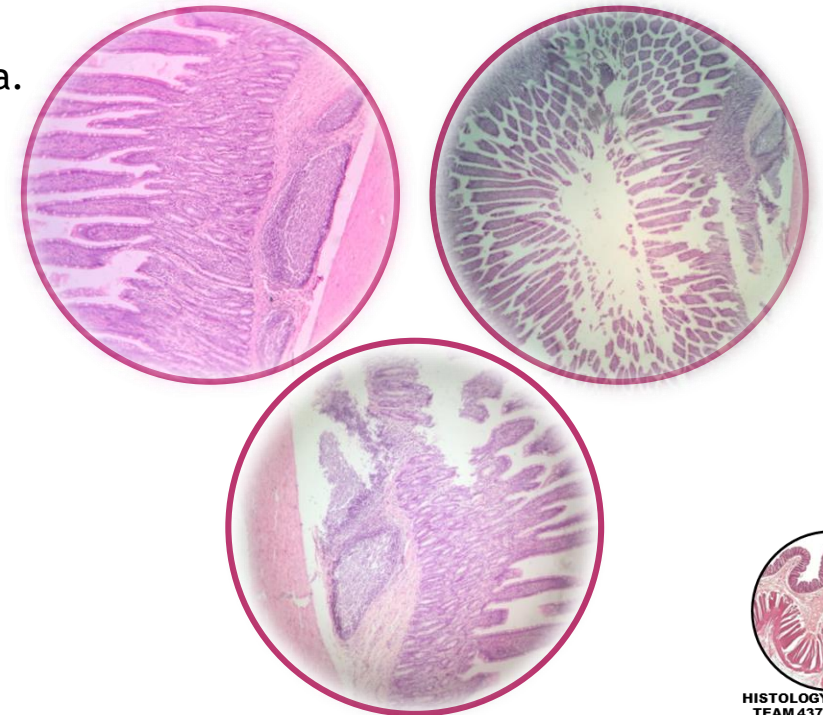
3- Muscularis Externa

- a) Inner circular
- b) Auerbach's (myenteric) plexus
- c) Outer longitudinal

4-Serosa



Peyer's patches



Colon

Q1: Identify the structure?

Colon

Q2: What are the layers forming this structure?

1- Mucosa: (Shows crypts only)

a) **Epithelium:**

- simple columnar epithelium with numerous goblet cells

b) **Lamina propria**

- Contains frequent lymphatic nodules (white circle)

c) **Muscularis Mucosae**

2- Submucosa

- a) NO submucosal glands
- b) meissner's plexuses

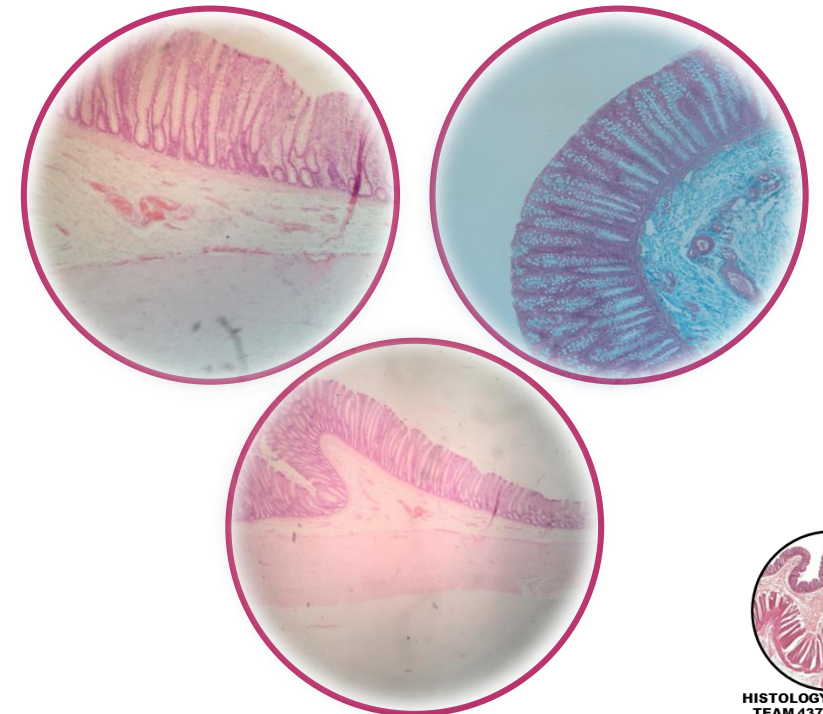
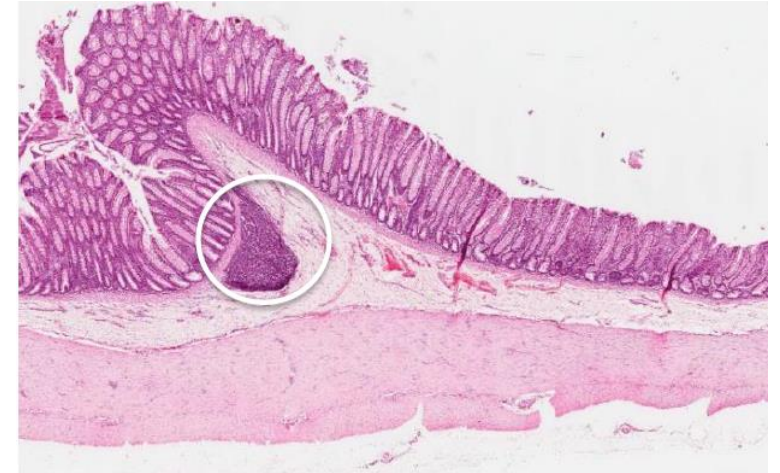
3- Muscularis Externa

- a) Inner circular
- b) Auerbach's (myenteric) plexus
- c) Outer longitudinal (has Teniae coli)

4-Serosa (has appendix epiploicae)

Q4: What are the Cells lining the crypts?

- 1)Surface columnar absorptive cells. 2)Goblet cells.
- 3)Enteroendocrine cells. 4)Stem cells. 5)M-cells.



Appendix

Q1: Identify the structure?

Appendix

Q2: What are the layers forming this structure?

1- Mucosa:

a) Epithelium:

- simple columnar epithelium with goblet cells

b) Lamina propria

- Contains lymphatic nodules

c) Muscularis Mucosae

2- Submucosa

a) NO submucosal glands

b) meissner's plexuses

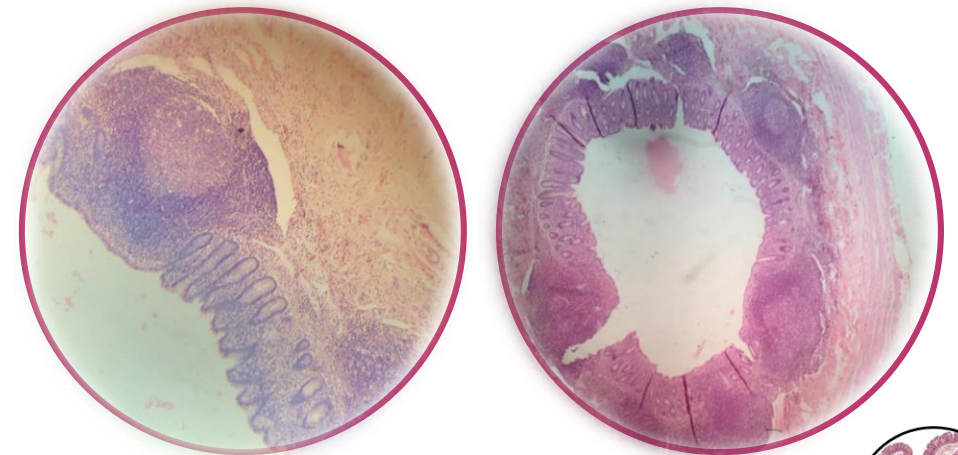
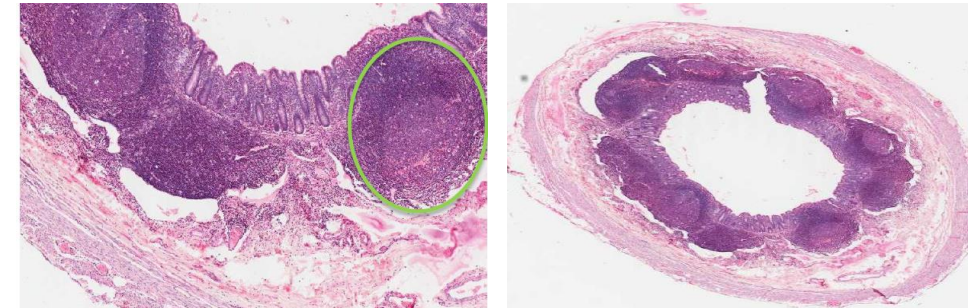
3- Muscularis Externa

a) Inner circular

b) Auerbach's (myenteric) plexus

c) Outer longitudinal

4-Serosa



Liver

Q1: Identify the structure?

Liver

Features:

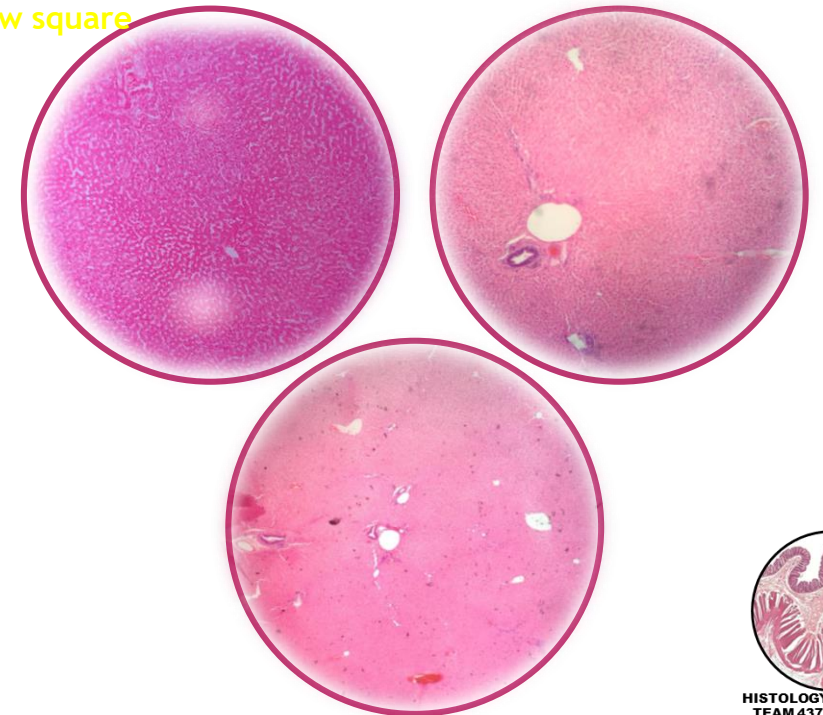
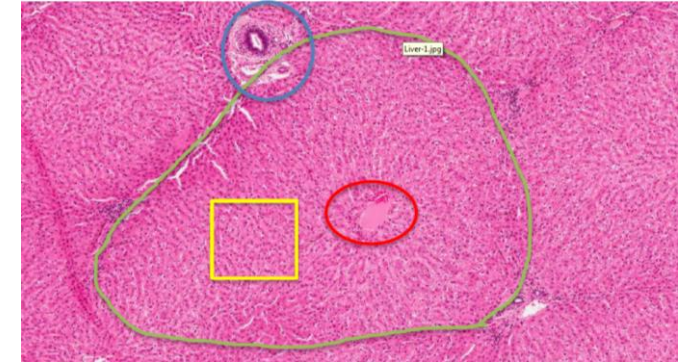
- Classical hepatic lobule
- Central hepatic vein
- Portal area
- C.T.

Q2: What are the Cells found in this structure? in the yellow square

- Hepatocytes.
- Ito Cells
- Kupfer Cells
- Cells Of Endothelial

Q3: What are the structure found in Portal Area?

- Bile Duct
- Branch of hepatic artery
- Branch of portal vein



Gall Bladder

Q1: Identify the structure?

Gall Bladder

Q2: What are the layers forming this structure?

1- Mucosa:

A) Epithelium:

- simple columnar epithelium

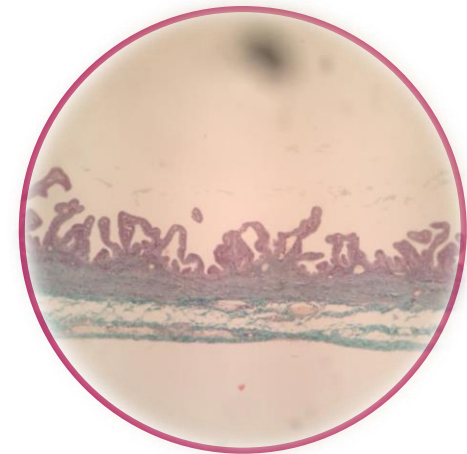
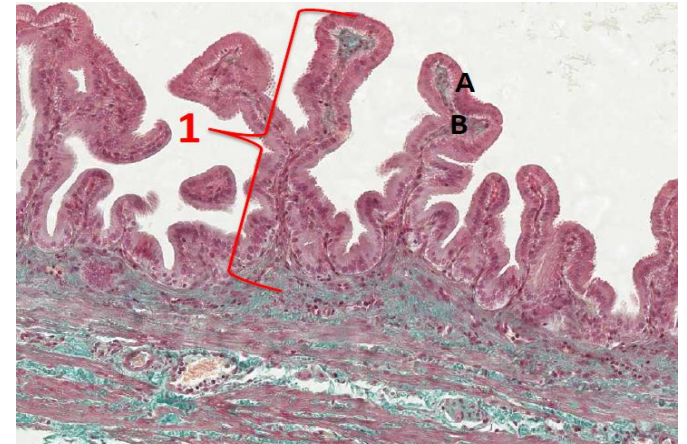
B) Lamina propria

- contains mucous glands in the neck of gall bladder.

2- Muscularis

- a) bundles of smooth muscle fibers oriented in all directions
- b) Auerbach's (myenteric) plexus

4- Adventitia except the fundus which is Serosa



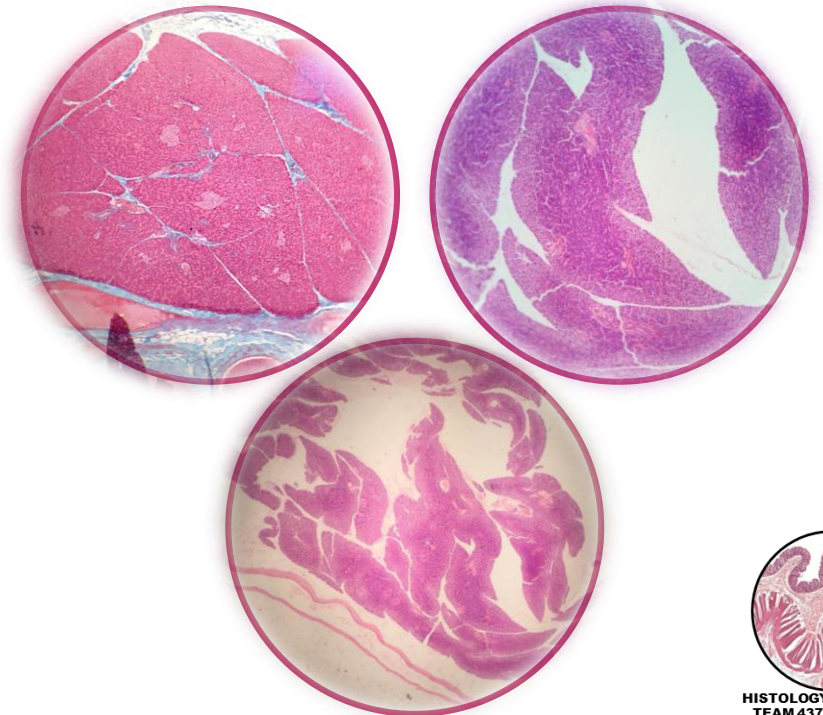
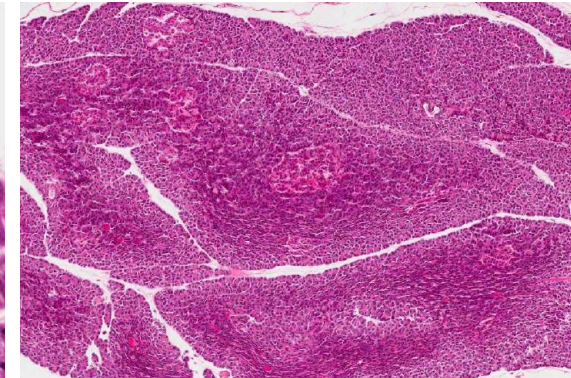
Pancreas

Q1: Identify the structure?

Pancreas

Features:

- Islets of Langerhans
- Pancreatic acini
- Centroacinar cells:
 - pancreatic acinar cells
 - Basal part basophilic (due to abundant rER)
 - Apical part acidophilic (due to secretory granules)



“YOU BECOME WHAT YOU BELIEVE”

Team leaders:

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Rawan Mohammad Alharbi

Special thank to:

Dimah Khalid Alaraifi



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