

NOTES: THE DIGESTIVE SYSTEM

THE SMALL INTESTINES

I. ANATOMY

A. STRUCTURE

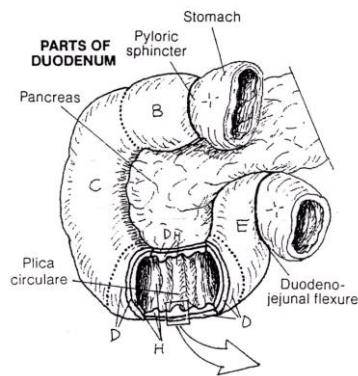
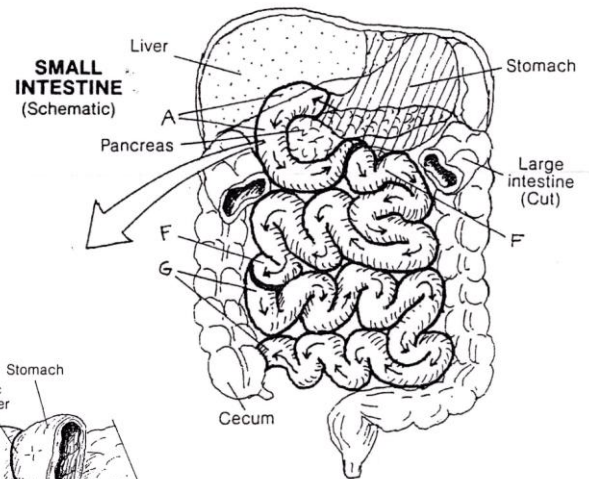
3 MAIN AREAS:

1. DUODENUM –

SUPERIOR (1ST) PART.
DESCENDING (2ND) PART.
HORIZONTAL (3RD) PART.
ASCENDING (4TH) PART.

2. JEJUNUM –

3. ILEUM –

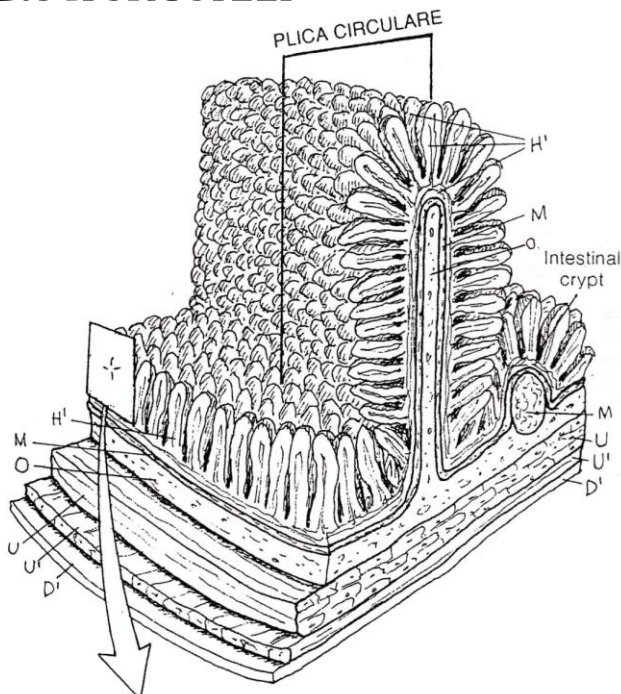


B. LINING OF THE SMALL INTESTINES

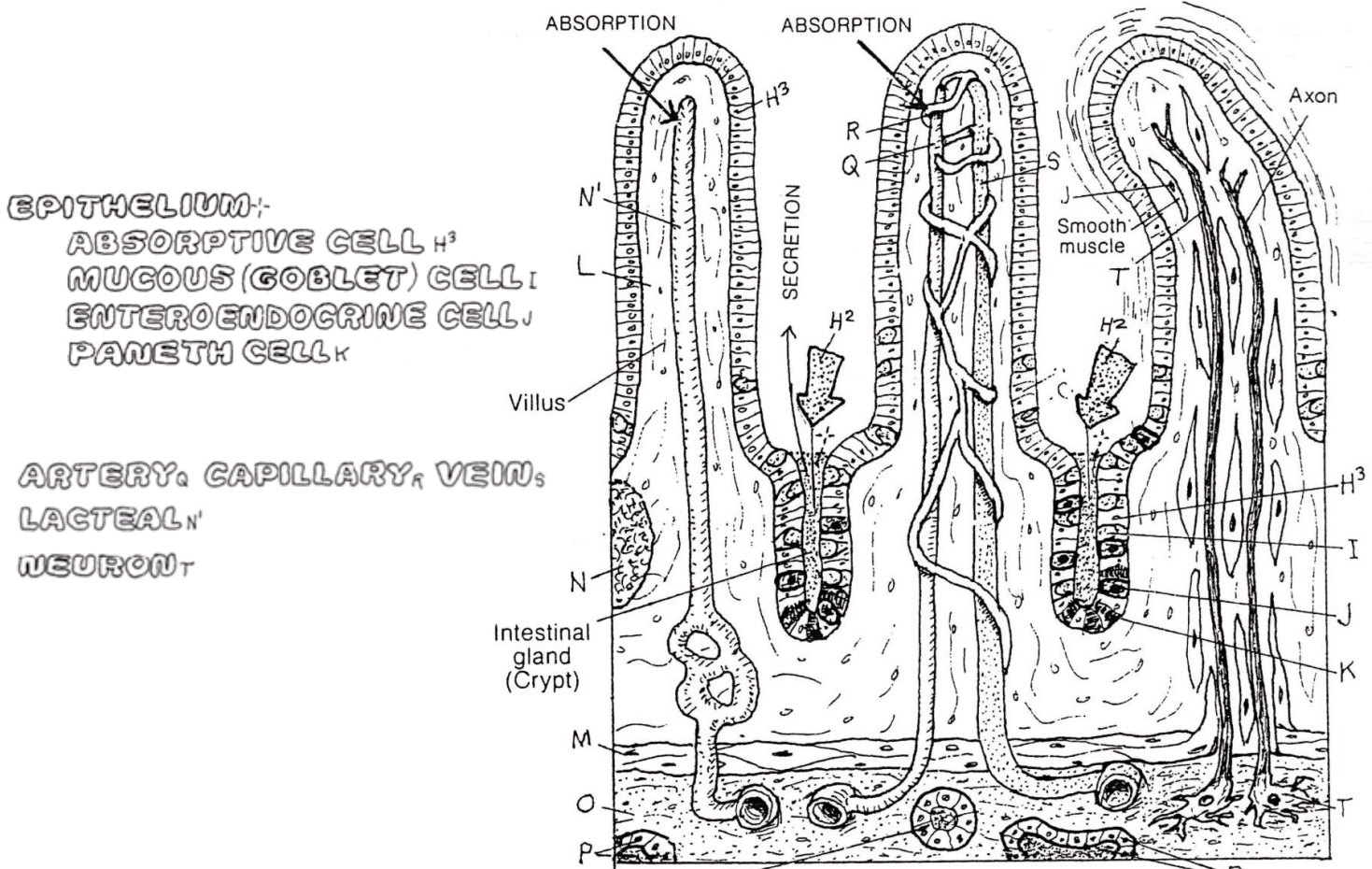
1. PLICAE –

2. VILLI –

3. MICROVILLI –



PLICA_H
MUCOSA_o
VILLUS_{H'}/CRYPT_{H'}
LAMINA PROPRIA_L
MUSCULARIS MUCOSAE_M
LYMPHOID NODULE_N
SUBMUCOSA_o
MUSCULARIS EXTERNA_U
SEROSEA_{D'}



EPITHELIUM:-

- ABSORPTIVE CELL H³
- MUCOUS (GOBLET) CELL I
- ENTEROENDOCRINE CELL J
- PANETH CELL K

ARTERY, CAPILLARY, VEIN,

- LACTEAL N'
- NEURON T

VILLI AND INTESTINAL GLANDS
 (Structures common to all villi are shown separately)

C. FOUR SPECIALIZED CELLS:

1. ABSORPTIVE CELLS -

2. GOBLET CELLS -

3. PANETH CELLS -

4. HORMONE-PRODUCING CELLS -

II. PHYSIOLOGY OF THE SMALL INTESTINES

A. MECHANICAL

1.

2.

B. CHEMICAL

1.

2.

SUMMARY OF DIGESTIVE ENZYMES

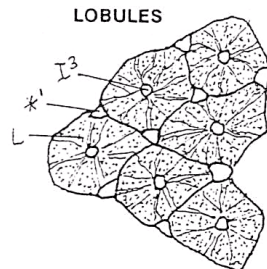
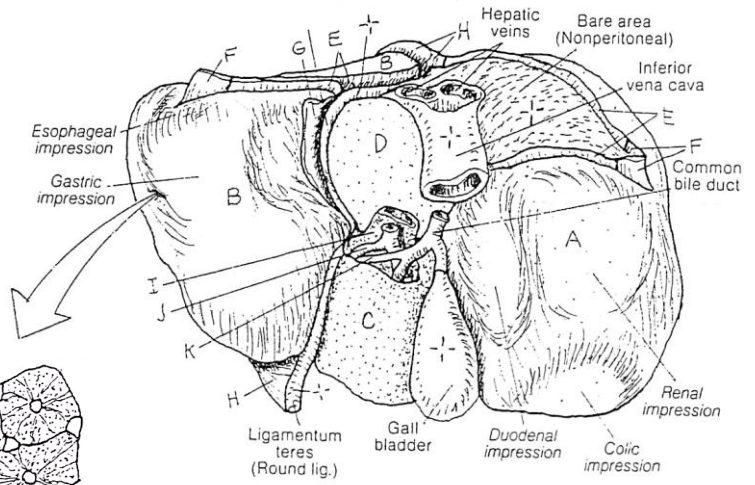
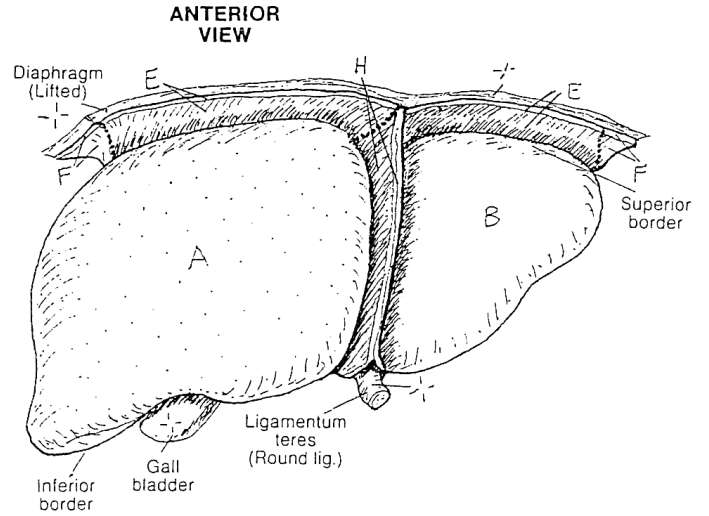
<u>Source</u>	<u>Enzyme</u>	<u>Function</u>
Mouth		
_____	_____	Turns starches into _____. polysaccharide --> disaccharide * occurs until pH of stomach blocks this action.
Stomach		
_____	_____	Digests proteins into peptides
Pancreas		
_____	_____	Turns starches into _____. polysaccharide --> disaccharide
_____	_____	Digests proteins into _____. (continues the action of pepsin in the stomach)
_____	_____	Turns _____ that have been emulsified by bile salts into fatty acids and monoglycerides. The fat/lipid is in the form of a triglyceride (triglycerides= 1 molecule of glycerol and 3 molecules of fatty acid)
Small Intestine		
_____	_____	Breaks <u>maltose</u> into _____. disaccharide --> monosaccharide
_____	_____	Breaks <u>sucrose</u> into _____. disaccharide --> monosaccharides
_____	_____	Breaks <u>lactose</u> into _____. disaccharide --> monosaccharides
_____	_____	Digests <u>peptides</u> (from proteins) into _____ so that they can be absorbed.

ACCESSORY ORGANS:

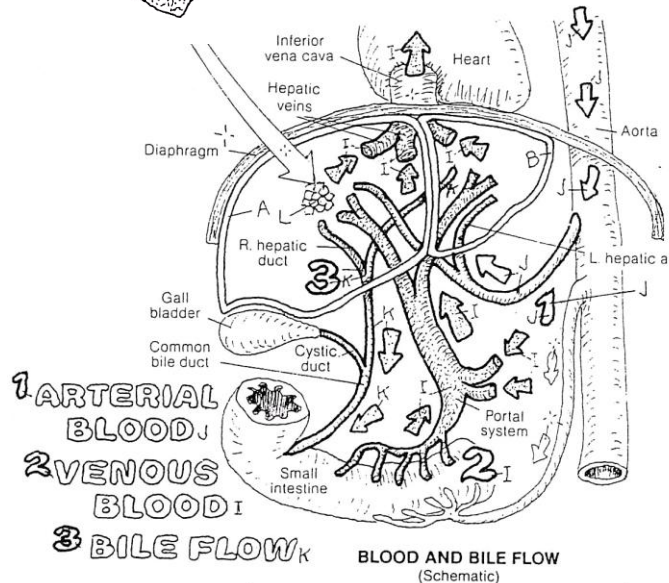
I. LIVER

A. ANATOMY

LOBES:
 RIGHT LOBE A
 LEFT LOBE B
 QUADRATE LOBE C
 CAUDATE LOBE D



HEPATIC CELL:



B. FUNCTIONS

1. PRODUCES BILE —

2. CARBOHYDRATE METABOLISM

3. REMOVAL OF DRUGS AND HORMONES

4. STORAGE -

5. PHAGOCYTOSIS -

II. GALL BLADDER

A. ANATOMY

B. FUNCTIONS

1. BILE —

2. C.C.K. -

BILIARY SYSTEM & PANCREAS

LIVER HEPATIC CELL_A

BILE_B

R. & L. HEPATIC DUCT_C

COMMON HEPATIC DUCT_D

GALL BLADDER_E

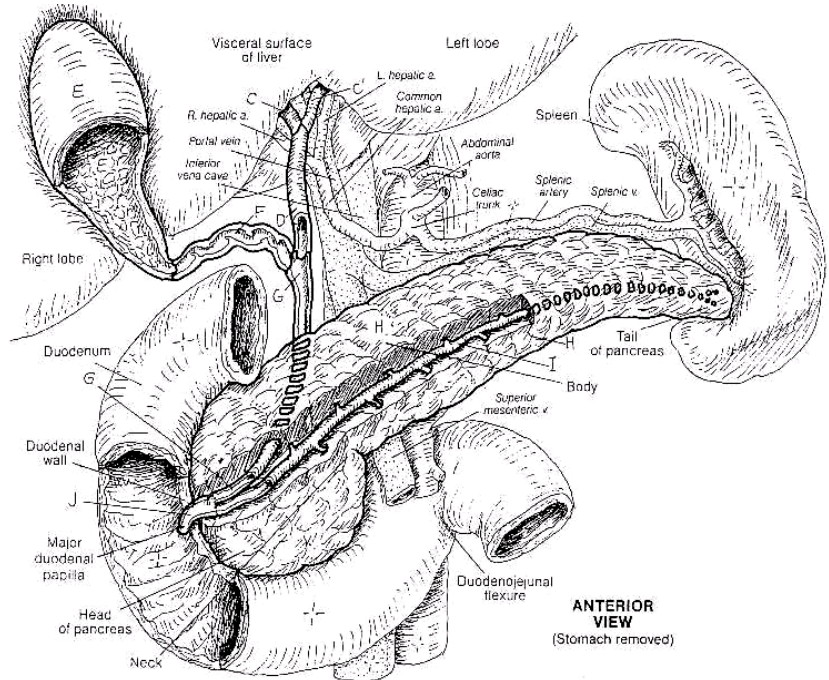
CYSTIC DUCT_F

COMMON BILE DUCT_G

PANCREAS_H

PANCREATIC DUCT_I

HEPATO-DUODENAL AMPULLA_J



III. PANCREAS

A. ANATOMY

B. FUNCTIONS

1. PANCREATIC JUICE —

2. ENZYMES:

THE LARGE INTESTINES

I. ANATOMY

A. STRUCTURE

7 MAIN AREAS:

1. CECUM^A -

APPENDIX^C -

2. ASCENDING COLON^D -

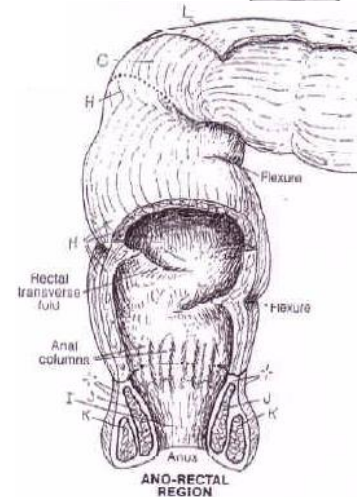
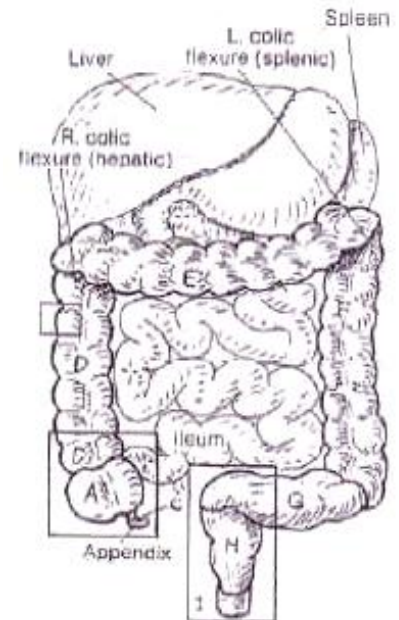
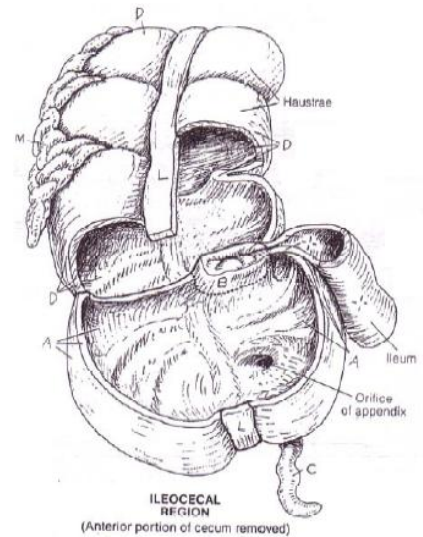
3. TRANSVERSE COLON^E -

4. DESCENDING COLON^F -

5. SIGMOID COLON^G -

6. RECTUM^H -

7. ANAL CANAL^I -



B. LINING OF THE SMALL INTESTINES

1. MUCOSA

SIMPLE COLUMNAR^N

MUCUS GLANDS^N

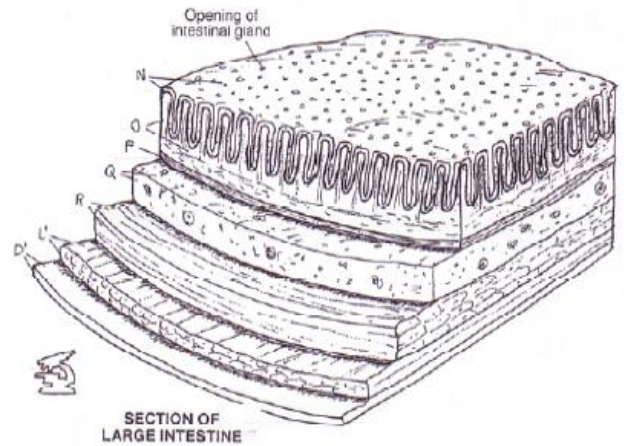
LAMINA PROPRIA^O

MUSCULARIS MUCOSAE^P

2. SUBMUCOSA^Q

3. MUSCULARIS EXTERNA^{R/L}

4. SEROSA^D



II. PHYSIOLOGY

A. MECHANICAL

1. HAUSTAL CHURNING

2. MASS PERISTALSIS

B. CHEMICAL

1. BACTERIAL

2. VITAMINS

3. WATER

4. FECES

A. CONSTIPATION

B. DIARRHEA