CBU

MBS210 Test3 November 2024

Duration 1 hour Marks = 60

SECTION-A Each = 5 marks Answer in to white sheets

1. Write the differences between primary and secondary bile salts. How does it affect their digestive function?
2. Discuss the roles of key enzymes and hormones involved in digestive function in small intestine. Also write their sources
3. Explain the digestion process of carbohydrates starting from the mouth till the end.
4. Explain the significance of poop sample and urine sample in relation to steatorrhea.
5. A person has a chronic history of suffering from Achalasia cardia- describe the various lab tests and their significance needed to submit to the medical officer.
6. How does cholera affect the intestinal absorption. Explain pathophysiology
7. Describe various lab tests need in the management of Esophagial reflux.
8. Draw a labelled diagram of gastric glands.
9. Discuss the pathophysiology and derangements in tropical sprue
10. Compare and contrast the lab tests needed to do renal clearance and their significance.

OR (choice)

Elucidate the role of pancreas and gastric glands in the peptic ulcer. Explain the medical management of peptic ulcer disease.

SECTION-B Each MCQ = 2 Marks Answer in this question paper

1) What is the primary function of a buffer solution containing a weak acid and its salt, such as the mixture of $NaHCO_3$ and H_2CO_3 in a 20:1 ratio?

A) To completely neutralize strong acids and bases.

B) To maintain a stable pH in a solution despite the addition of small amounts of acids or bases.

C) To increase the solubility of salts in water.

D) To act as a strong acid in chemical reactions.

E) To facilitate the precipitation of metal ions from solution.

2) How does the body control blood pH by regulating carbon dioxide (CO_2) elimination through the lungs?

A) By increasing the production of bicarbonate ions in the kidneys.

B) By altering the rate and depth of respiration to adjust CO_2 levels in the blood.

C) By directly increasing hydrogen ion concentration in the blood.

D) By converting carbon dioxide into oxygen during respiration.

E) By decreasing the respiratory rate to retain carbon dioxide for metabolic processes

3) Which statement accurately describes sodium (Na^+) reabsorption in the renal system?

A) Na^+ is secreted in exchange for potassium (K^+).

B) Na^+ symporters help reabsorb glucose and amino acids.

C) The Na^+/H^+ antiporter transports Na^+ into urine only.

D) Na^+ reabsorption occurs independently of other solutes.

E) Na^+ does not affect acid-base balance.

4) What role does antidiuretic hormone (ADH) play in urine concentration?

A) ADH decreases the osmotic gradient, leading to dilute urine.

B) ADH promotes reabsorption of Na^+ and Cl^-, but not urea.

C) ADH's effectiveness relies on an osmotic gradient from Na^+, Cl^-, and urea.

D) ADH acts mainly in the proximal tubule to enhance water reabsorption.

E) ADH has no effect on urine concentration.

5) What does the countercurrent exchanger mechanism in the kidneys do?

A) Allows fluids to flow in the same direction for heat transfer.

B) Creates an osmotic gradient for water reabsorption.

C) Relies solely on passive diffusion of solutes.

D) Functions primarily in the proximal convoluted tubule.

E) Prevents concentrated urine by equalizing solute concentrations.