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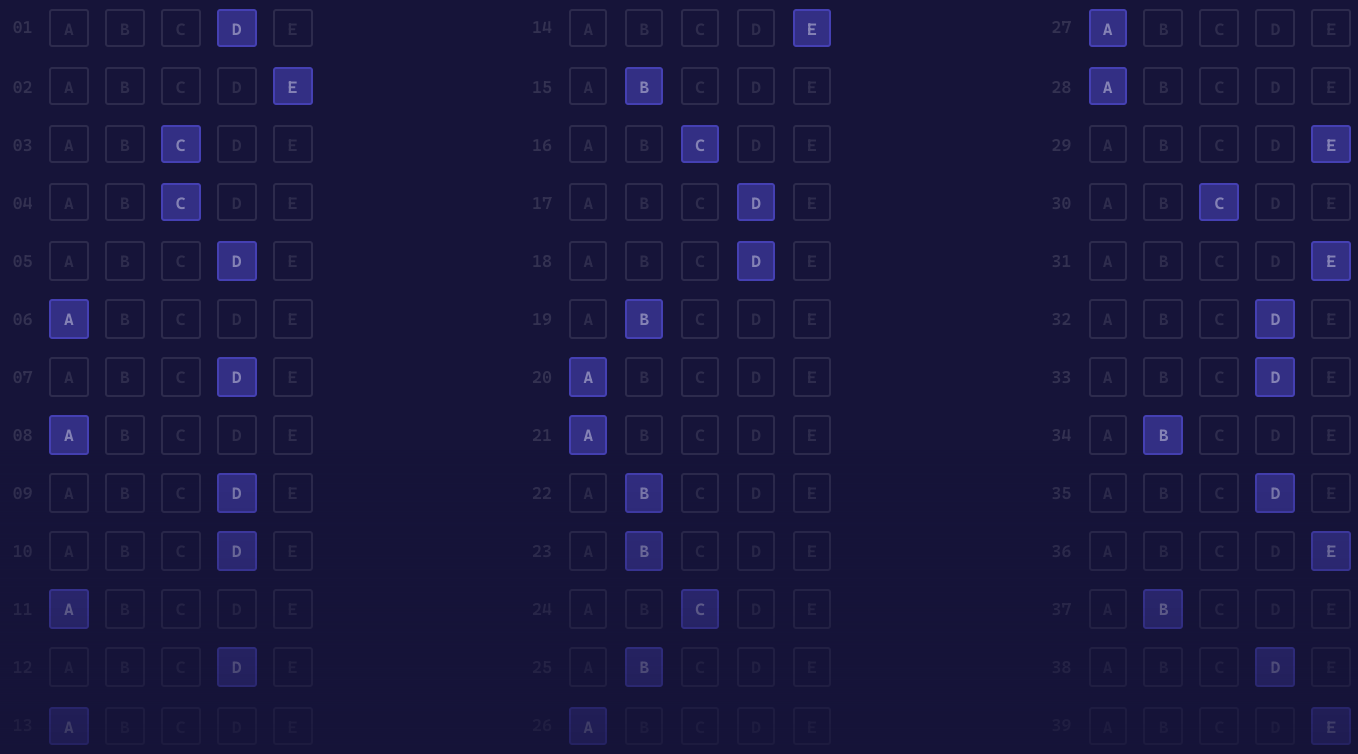

PRACTICE QUESTIONS

TTBU - The Testing Board Ukraine

1MDUK

Krok 1 Medicine (Ukrainian) & English Proficiency

EDITION	QUESTIONS	FORMAT
Demo	9	Limited Edition PDF

Before you begin

What this is

9 practice questions for TTBU - The Testing Board Ukraine `1MDUK`, each with its answer key and an explanation. Answer a question before you read its key — the explanation is worth more once you have committed.

If something looks wrong

Send us three things and we will check it:

- the exam code, `1MDUK`
- the question number
- the email address on your order

Write to **support@mometrix.net**. We reply within one business day.

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QUESTION 1 SINGLE CHOICE

Which structure forms the right border of the cardiac silhouette on a standard posteroanterior chest radiograph?

A **Right atrium**

B Right ventricle

C Left ventricle

D Ascending aorta

ANSWER **A**

WHY On a PA chest radiograph, the right border of the heart is formed by the right atrium; the right ventricle lies anteriorly and forms the inferior cardiac border on the lateral view, while the left ventricle forms the left border.

QUESTION 2 SINGLE CHOICE

Which type of epithelium lines the urinary bladder and allows it to stretch as it fills with urine?

A Simple squamous epithelium

B Simple columnar epithelium

C Stratified squamous epithelium

D **Transitional epithelium (urothelium)**

ANSWER **D**

WHY Transitional epithelium (urothelium) lines the urinary tract including the bladder. Its dome-shaped umbrella cells and ability to change configuration permit distension when the bladder fills.

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QUESTION 3 SINGLE CHOICE

Which metabolic process occurs primarily in the liver and is responsible for the synthesis of glucose from non-carbohydrate precursors such as lactate, glycerol and amino acids?

A Glycogenesis

B Gluconeogenesis

C Glycolysis

D Lipogenesis

ANSWER B

WHY Gluconeogenesis is the hepatic (and to a lesser extent renal) synthesis of glucose from non-carbohydrate substrates. Glycogenesis stores glucose as glycogen; glycolysis breaks glucose down; lipogenesis synthesizes fatty acids.

QUESTION 4 SINGLE CHOICE

A patient receives atropine prior to surgery. Which pharmacological action best explains its effect in reducing salivary and bronchial secretions?

A Non-selective alpha-adrenergic receptor blockade

B Non-selective beta-adrenergic receptor blockade

C Competitive muscarinic acetylcholine receptor antagonism

ANSWER C

WHY Atropine is a competitive antagonist at muscarinic acetylcholine receptors. Blocking M3 receptors on exocrine glands (salivary, bronchial, sweat) reduces secretions, which is why it is used as a premedication.

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QUESTION 5 SINGLE CHOICE

A patient has serum sodium 120 mmol/L and presents with confusion and seizures. Which term correctly describes this laboratory and clinical picture?

A Hypernatremia

B Hyponatremia

C Hypokalemia

D Hypercalcemia

ANSWER B

WHY Serum sodium below the normal lower limit (~135 mmol/L) defines hyponatremia. A value of 120 mmol/L with neurological symptoms indicates severe symptomatic hyponatremia. Hypernatremia would mean elevated sodium; hypokalemia and hypercalcemia refer to potassium and calcium respectively.

QUESTION 6 SINGLE CHOICE

Which bacterial genus is best described as gram-positive cocci in chains, catalase-negative, and beta-hemolytic, and is the most common cause of bacterial pharyngitis?

A Staphylococcus aureus

B Streptococcus pyogenes (Group A Streptococcus)

C Streptococcus pneumoniae

D Enterococcus faecalis

ANSWER B

WHY Streptococcus pyogenes (Group A beta-hemolytic Streptococcus) is gram-positive, catalase-negative, grows in chains, produces beta-hemolysis on blood agar, and is the leading cause of bacterial (streptococcal) pharyngitis and tonsillitis.

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QUESTION 7 SINGLE CHOICE

In the clinical phrase 'The patient was administered an intramuscular injection of epinephrine for suspected anaphylaxis,' the word 'intramuscular' refers to administration:

A Into the skin (between epidermis and muscle)

B Into the vein

C Into the muscle tissue

D Under the tongue (sublingual)

ANSWER C

WHY 'Intramuscular' (IM) means within the muscle; common IM sites are the deltoid, vastus lateralis and gluteal muscles. 'Intradermal' is into the skin, 'intravenous' into a vein, 'sublingual' under the tongue.

QUESTION 8 TRUE FALSE

True or False: The right lung has three lobes (upper, middle and lower) separated by oblique and horizontal fissures, while the left lung has two lobes (upper and lower) separated by a single oblique fissure.

A True

B False

ANSWER A

WHY True. The right lung has three lobes (upper, middle, lower) divided by the horizontal (minor) and oblique (major) fissures. The left lung has two lobes (upper, lower) separated only by the oblique fissure, and contains the cardiac notch and lingula.

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QUESTION 9 MULTIPLE CHOICE

Which of the following are physiologic mechanisms by which the kidneys help correct a metabolic acidosis? (Choose two.)

A **Increased reabsorption of filtered bicarbonate (HCO3-) in the proximal tubule**

B **Increased secretion of hydrogen ions (H+) in the distal tubule via alpha-intercalated cells**

C Increased secretion of bicarbonate (HCO3-) into the tubular lumen

D Increased production and excretion of ammonium (NH4+)

ANSWER **A** · **B**

WHY In metabolic acidosis the kidneys raise plasma HCO3- by (1) increasing proximal bicarbonate reabsorption and (2) increasing acid excretion — predominantly by enhanced distal H+ secretion via alpha-intercalated cells and by increased ammoniagenesis with NH4+ excretion. Excreting HCO3- would worsen acidosis.

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