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35	A	B	C	D	E
36	A	B	C	D	E
37	A	B	C	D	E
38	A	B	C	D	E
39	A	B	C	D	E

PRACTICE QUESTIONS

TTBU - The Testing Board Ukraine

1MDEN

Krok 1 Medicine (English) & English Proficiency

EDITION

Demo

QUESTIONS

9

ISSUED

September 3, 2026

Before you begin

What this is

9 practice questions for TTBU - The Testing Board Ukraine **1MDEN**, 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, **1MDEN**
- 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 part of the brain is responsible for regulation of body temperature, hunger, thirst, and circadian rhythms?

- ☐ A Cerebellum
- ☒ B Hypothalamus
- ☐ C Medulla oblongata
- ☐ D Thalamus

ANSWER B

WHY The hypothalamus maintains homeostasis by regulating body temperature, hunger, thirst, sleep-wake cycles, and endocrine function through its connection with the pituitary gland. The cerebellum coordinates movement, the medulla controls vital autonomic functions like breathing and heart rate, and the thalamus acts as a relay station for sensory information.

QUESTION 2

SINGLE CHOICE

In the cardiac cycle, which phase is characterized by ventricular contraction with all heart valves closed, resulting in a rapid rise in ventricular pressure without a change in volume?

- ☒ A Isovolumetric contraction
- ☐ B Isovolumetric relaxation
- ☐ C Rapid ventricular ejection
- ☐ D Slow ventricular ejection

ANSWER A

WHY During isovolumetric (isovolumic) contraction, the ventricles begin to contract after the atrioventricular valves close but before the semilunar valves open, causing ventricular pressure to rise sharply with no change in blood volume. Isovolumetric relaxation occurs after semilunar valve closure, while ejection phases involve blood leaving the ventricles.

QUESTION 3 SINGLE CHOICE

Which type of epithelium lines the inner surface of the urinary bladder and allows it to stretch without losing its structural integrity?

- ☐ A Simple squamous epithelium
- ☐ B Simple columnar epithelium
- ☒ C Transitional epithelium (urothelium)
- ☐ D Stratified squamous epithelium

ANSWER C

WHY Transitional epithelium (urothelium) is uniquely suited for the urinary tract because its dome-shaped surface cells flatten when the bladder distends and become rounded when relaxed, allowing stretching without damage. Simple squamous epithelium lines blood vessels and alveoli, simple columnar epithelium lines the gut, and stratified squamous epithelium covers areas subject to abrasion like skin.

QUESTION 4 SINGLE CHOICE

Which coenzyme, derived from riboflavin (vitamin B2), serves as a cofactor for succinate dehydrogenase in the citric acid cycle and for acyl-CoA dehydrogenase in fatty acid β -oxidation?

- ☐ A NAD⁺
- ☒ B FAD (flavin adenine dinucleotide)
- ☐ C Coenzyme A
- ☐ D Thiamine pyrophosphate (TPP)

ANSWER B

WHY FAD is derived from riboflavin and acts as the electron carrier for succinate dehydrogenase (Complex II of the electron transport chain) and for acyl-CoA dehydrogenase in the first step of β -oxidation. NAD⁺ is derived from niacin, coenzyme A from pantothenic acid, and TPP from thiamine.

QUESTION 5

SINGLE CHOICE

Atherosclerotic plaque rupture with subsequent thrombus formation most commonly leads to which acute clinical event in the coronary circulation?

- ☒ **A** Myocardial infarction
- ☐ B Aortic dissection
- ☐ C Pulmonary embolism
- ☐ D Cerebral aneurysm rupture

ANSWER A

WHY Rupture of an atherosclerotic plaque in a coronary artery exposes thrombogenic material that triggers platelet aggregation and thrombus formation, occluding the vessel and causing myocardial infarction. Aortic dissection involves a tear in the aortic wall, pulmonary embolism is typically caused by deep vein thrombi, and cerebral aneurysm rupture causes subarachnoid hemorrhage.

QUESTION 6

SINGLE CHOICE

A patient is prescribed an angiotensin-converting enzyme (ACE) inhibitor. Which adverse effect is most characteristically associated with this drug class and results from bradykinin accumulation?

- ☐ A Hyperkalemia
- ☒ **B** Dry, persistent cough
- ☐ C Tachycardia
- ☐ D Hypoglycemia

ANSWER B

WHY ACE inhibitors block the breakdown of bradykinin in addition to inhibiting angiotensin II formation, and elevated bradykinin levels in the respiratory tract produce the characteristic dry, nonproductive cough that affects 10–20% of patients. Hyperkalemia can also occur with ACE inhibitors but is not bradykinin-mediated. Tachycardia and hypoglycemia are not typical class effects.

QUESTION 7

SINGLE CHOICE

Which cranial nerve is responsible for carrying parasympathetic fibers that stimulate salivation from the parotid gland?

- ☐ A Facial nerve (CN VII)
- ☒ B Glossopharyngeal nerve (CN IX)
- ☐ C Vagus nerve (CN X)
- ☐ D Trigeminal nerve (CN V)

ANSWER B

WHY The glossopharyngeal nerve (CN IX) provides parasympathetic innervation to the parotid gland via the otic ganglion. The facial nerve (CN VII) innervates the submandibular and sublingual glands via the submandibular ganglion. The vagus nerve (CN X) supplies parasympathetic fibers to thoracic and abdominal viscera, and the trigeminal nerve is primarily sensory for the face.

QUESTION 8

SINGLE CHOICE

Which immunoglobulin is the first to be produced during a primary immune response and is primarily found as a monomer on the surface of B lymphocytes as the B-cell receptor?

- ☐ A IgG
- ☐ B IgA
- ☒ C IgM
- ☐ D IgE

ANSWER C

WHY IgM is the first antibody secreted during a primary immune response and exists as a pentamer in serum. As a monomer, IgM serves as the B-cell receptor (along with IgD) on the surface of naïve B cells. IgG is the most abundant serum antibody in secondary responses, IgA is found in mucosal secretions, and IgE is involved in allergic responses and antiparasitic immunity.

QUESTION 9

SINGLE CHOICE

Which bone of the upper limb is most commonly fractured at its surgical neck?

- ☐ A Radius
- ☐ B Ulna
- ☒ C Humerus
- ☐ D Scapula

ANSWER C

WHY The surgical neck of the humerus, located just distal to the anatomical neck and head, is the classic site of fracture, particularly in elderly patients following a fall on an outstretched hand. The radius and ulna are forearm bones, and the scapula is a shoulder girdle bone whose fractures are far less common.