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

PRACTICE QUESTIONS

Dubai Health Authority (DHA)

BICTH

Clinical Biochemistry - Allied

Uploaded by ChrisB77

EDITION

Original Demo

QUESTIONS

6

ISSUED

October 14, 2026

Before you begin

What this is

6 practice questions for Dubai Health Authority (DHA) BICTH , 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, BICTH
- the question number
- the email address on your order

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

Licence

Free Mometrix practice demo. The complete question bank is available through a paid account.

QUESTION 1 SINGLE CHOICE

Marked elevation of which enzyme is most suggestive of cholestatic/hepatic obstructive disease rather than hepatocellular injury?

- ☐ A Alanine aminotransferase (ALT)
- ☒ B Gamma-glutamyl transferase (GGT)
- ☐ C Aspartate aminotransferase (AST)
- ☐ D Creatine kinase (CK)

ANSWER B

WHY GGT and alkaline phosphatase are the enzymes characteristically elevated in cholestatic/obstructive liver disease, reflecting induction of biliary epithelial synthesis. Predominant ALT and AST elevations indicate hepatocellular injury (e.g., viral hepatitis, drug toxicity). Creatine kinase is a muscle enzyme unrelated to liver function.

QUESTION 2 SINGLE CHOICE

A patient's arterial blood gas shows: pH 7.20, PCO₂ 30 mmHg, HCO₃⁻ 15 mmol/L, PO₂ 95 mmHg. Which acid-base disturbance is present?

- ☐ A Respiratory alkalosis
- ☒ B Metabolic acidosis with respiratory compensation
- ☐ C Respiratory acidosis with metabolic compensation
- ☐ D Metabolic alkalosis

ANSWER B

WHY The low pH (7.20) indicates acidosis. The primary disturbance is metabolic because HCO₃⁻ is markedly reduced (15 mmol/L). The low PCO₂ (30 mmHg) represents appropriate respiratory compensation (expected Winters' formula $PCO_2 \approx 1.2 \times 15 + 8 \pm 2 \approx 26$ mmHg). Therefore, the disorder is metabolic acidosis with respiratory compensation.

QUESTION 3

SINGLE CHOICE

A rise in which cardiac biomarker is typically detectable in peripheral blood the earliest after the onset of acute myocardial infarction?

- ☒ **A** Cardiac troponin I
- ☐ **B** CK-MB
- ☐ **C** Aspartate aminotransferase (AST)
- ☐ **D** Lactate dehydrogenase (LDH)

ANSWER A

WHY Cardiac troponins (I or T) become elevated within 2-4 hours after myocardial injury, earlier than CK-MB (4-6 hours), AST (6-12 hours) or LDH (24-48 hours). They also remain elevated for several days and are the preferred biomarker for diagnosing acute coronary syndromes.

QUESTION 4

SINGLE CHOICE

A patient's arterial blood gas results are: pH 7.28, pCO₂ 50 mmHg, HCO₃⁻ 27 mmol/L, pO₂ 80 mmHg. Which acid-base disturbance is present?

- ☒ **A** Acute respiratory acidosis
- ☐ **B** Acute respiratory alkalosis
- ☐ **C** Metabolic acidosis with respiratory compensation
- ☐ **D** Metabolic alkalosis with respiratory compensation

ANSWER A

WHY The pH of 7.28 indicates acidemia. The elevated pCO₂ of 50 mmHg indicates a respiratory cause. The HCO₃⁻ of 27 mmol/L is only slightly elevated, consistent with an acute (uncompensated) respiratory acidosis rather than a chronic process where bicarbonate would be markedly raised.

QUESTION 5

SINGLE CHOICE

Which pre-analytical factor most commonly causes a falsely elevated serum potassium result?

- ☐ A Prolonged storage of separated serum at 4 °C before analysis
- ☐ B Collection of blood into a lithium-heparin tube
- ☒ C Haemolysis of the blood sample
- ☐ D Use of the sitting position for venous sampling
- ☐ E Recent high-carbohydrate meal before venepuncture

ANSWER C

WHY Potassium is the major intracellular cation; even mild in-vitro haemolysis releases potassium from red cells into the serum/plasma, producing a falsely (spuriously) elevated result. Prolonged storage at 4 °C can allow potassium to leak from cells, but the question specifies 'serum separated' so cells are no longer present.

QUESTION 6

SINGLE CHOICE

Which troponin isoform is the preferred cardiac-specific marker currently used in clinical biochemistry laboratories for diagnosing acute myocardial infarction?

- ☒ A Cardiac troponin T (cTnT)
- ☐ B Skeletal troponin I (sTnI)
- ☐ C Cardiac troponin C (cTnC)
- ☐ D Troponin T from slow-twitch skeletal muscle

ANSWER A

WHY Cardiac troponin T (cTnT) and cardiac troponin I (cTnI) are the cardiac-specific isoforms used for MI diagnosis; cardiac troponin C is not cardiac-specific (identical to skeletal isoform). Skeletal troponin I is not used. Therefore option A is correct.