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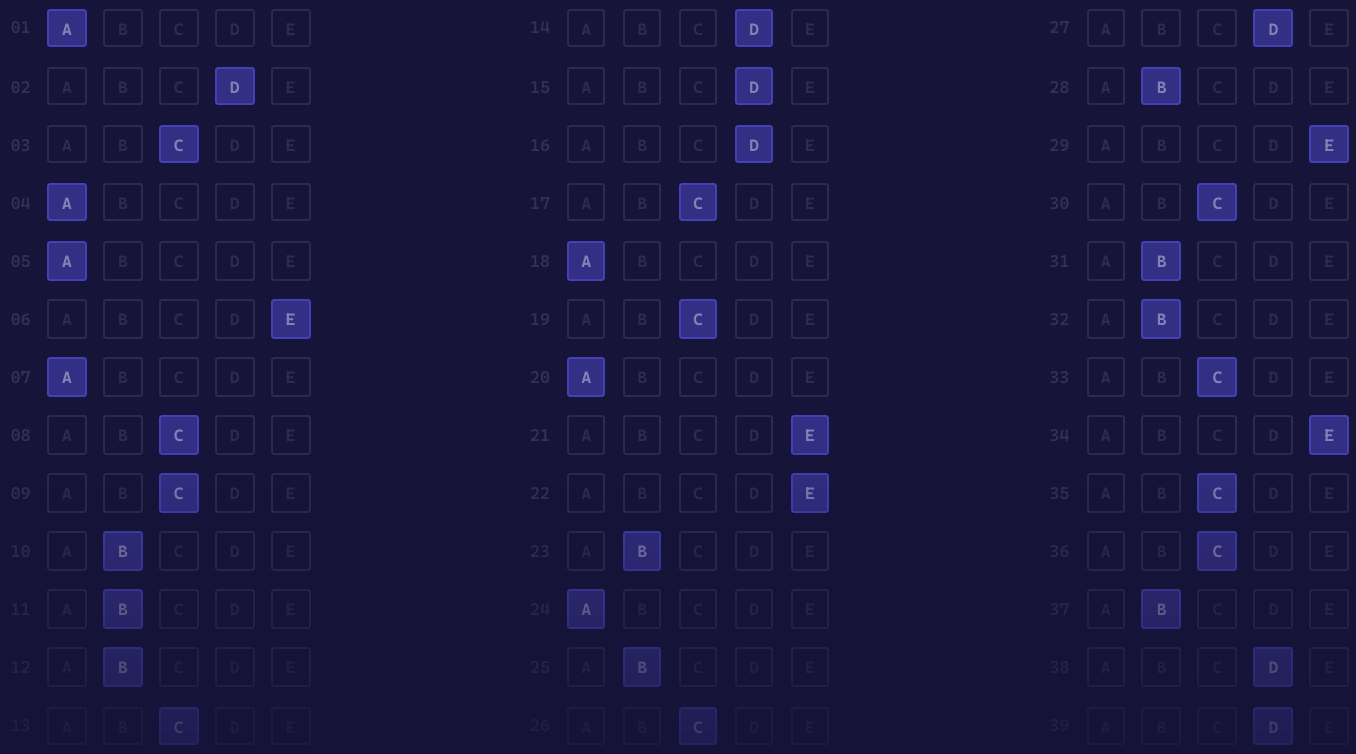

PRACTICE QUESTIONS

Saudi Commission For Health Specialties (SCFHS)

CPATH

Clinical Pathology

EDITION	QUESTIONS	FORMAT
Demo	9	Limited Edition PDF

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Before you begin

What this is

9 practice questions for Saudi Commission For Health Specialties (SCFHS) `CPATH`, 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, `CPATH`
- 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

A blood sample for serum glucose analysis is left at room temperature for 6 hours before reaching the laboratory. Which pre-analytical factor is the primary cause of the erroneous result?

A Hemolysis from prolonged tourniquet application

B Glycolysis by erythrocytes consuming glucose

C Lipemia from recent oral intake

D Icterus from bilirubin interference

ANSWER B

WHY Erythrocytes continue to perform glycolysis at room temperature, consuming glucose and falsely lowering the measured serum glucose concentration. Sodium fluoride tubes are used to inhibit glycolysis when glucose analysis is delayed. Hemolysis, lipemia, and icterus are separate pre-analytical issues unrelated to delayed processing for glucose.

QUESTION 2 SINGLE CHOICE

A patient's laboratory results show: sodium 138 mmol/L, potassium 5.9 mmol/L, chloride 100 mmol/L, bicarbonate 22 mmol/L, BUN 28 mg/dL, creatinine 1.6 mg/dL. Which pattern best describes these findings?

A Metabolic alkalosis with renal failure

B Metabolic acidosis with renal failure

C Respiratory alkalosis with normal renal function

D Mixed metabolic and respiratory acidosis

ANSWER B

WHY The elevated potassium (5.9 mmol/L) and reduced bicarbonate (22 mmol/L, low-normal) combined with elevated BUN and creatinine suggest metabolic acidosis with impaired renal excretion (renal failure). Sodium and bicarbonate together would give an anion gap of 16 mmol/L, supporting a metabolic acidosis picture.

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QUESTION 3 SINGLE CHOICE

A peripheral smear shows numerous teardrop-shaped red cells (dacrocytes), nucleated red blood cells, and a leukoerythroblastic picture with immature myeloid cells. What is the most likely underlying bone marrow process?

A Iron deficiency anemia

B Myelofibrosis with marrow fibrosis

C Acute lymphoblastic leukemia

D Autoimmune hemolytic anemia

ANSWER B

WHY Dacrocytes (teardrop cells) and a leukoerythroblastic blood picture with nucleated RBCs and immature myeloid cells are classic findings of myelofibrosis, where marrow fibrosis forces extramedullary hematopoiesis and disrupts normal RBC release. The other conditions do not characteristically produce teardrop cells or leukoerythroblastic changes.

QUESTION 4 SINGLE CHOICE

A patient on long-term warfarin therapy has an INR of 5.8 with no active bleeding. What is the most appropriate immediate management?

A Administer protamine sulfate intravenously

B Hold warfarin and give oral vitamin K

C Transfuse fresh frozen plasma immediately

D Continue the current warfarin dose and recheck in one week

ANSWER B

WHY For an asymptomatic patient with an INR >5 but no bleeding, current guidelines recommend withholding warfarin and giving low-dose oral vitamin K to gradually bring the INR down. Protamine reverses heparin, not warfarin. FFP is reserved for serious bleeding or urgent reversal. Continuing the dose would worsen the over-anticoagulation.

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QUESTION 5 MULTIPLE CHOICE

Which of the following laboratory methods rely on the principle of antigen–antibody interaction? (Choose two.)

- **A** **Enzyme-linked immunosorbent assay (ELISA)**
- **B** Polymerase chain reaction (PCR)
- **C** **Immunofluorescence microscopy**
- **D** Southern blotting
- **E** Mass spectrometry

ANSWER **A** · **C**

WHY ELISA and immunofluorescence microscopy are both classic immunoassays that depend on specific antigen–antibody binding. PCR amplifies nucleic acids, Southern blotting detects DNA fragments via hybridization, and mass spectrometry identifies molecules by mass-to-charge ratio; none of these rely on antigen–antibody interactions.

QUESTION 6 SINGLE CHOICE

A urine dipstick shows a positive nitrite test and positive leukocyte esterase, with numerous bacteria seen on microscopy. What is the most likely interpretation?

- **A** Contamination of the specimen
- **B** Acute glomerulonephritis
- **C** **Urinary tract infection with gram-negative bacteria**
- **D** Nephrotic syndrome

ANSWER **C**

WHY Positive nitrite indicates the presence of bacteria that reduce dietary nitrates to nitrites (most commonly gram-negative enteric organisms such as E. coli). Positive leukocyte esterase reflects pyuria from inflammation, and bacteria on microscopy confirms significant bacteriuria — together strongly suggesting urinary tract infection with gram-negative organisms.

QUESTION 7 SINGLE CHOICE

A patient's potassium result is 6.8 mmol/L, which contradicts the previous value of 4.2 mmol/L from yesterday. Which laboratory quality measure is most appropriate to apply first?

A Calibration of the ion-selective electrode

B Delta check review and repeat testing

C Running external proficiency testing material

D Recollecting the patient's sample immediately

ANSWER B

WHY A delta check compares the current result to a previous patient result, and a major change such as a 2.6 mmol/L rise in potassium triggers a delta check. The appropriate first step is to repeat the analysis on the same sample to confirm the result before considering recollection, calibration, or proficiency testing.

QUESTION 8 SINGLE CHOICE

A 45-year-old patient presents with fasting plasma glucose 142 mg/dL, HbA1c 7.4%, and 2-hour post-load glucose 188 mg/dL. According to ADA criteria, how should these results be interpreted?

A Normal glucose tolerance

B Impaired fasting glucose only

C Impaired glucose tolerance only

D Diabetes mellitus

ANSWER D

WHY Per ADA diagnostic criteria, diabetes is diagnosed by any one of: fasting plasma glucose ≥126 mg/dL, 2-hour post-load glucose ≥200 mg/dL, or HbA1c ≥6.5%. The fasting glucose of 142 mg/dL and HbA1c of 7.4% both meet the threshold for diabetes, regardless of the 2-hour value.

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QUESTION 9 MULTIPLE CHOICE

Which of the following are appropriate steps in the pre-transfusion compatibility process? (Choose two.)

A **ABO and Rh typing of the recipient**

B Crossmatching donor red cells with recipient serum

C Direct antiglobulin test on donor units only

D **Antibody screening of the recipient's serum**

E Plasma fractionation of donor blood

ANSWER **A** · **D**

WHY Standard pre-transfusion testing includes determining the recipient's ABO and Rh type and screening the recipient's serum for clinically significant alloantibodies. Crossmatching (B) follows only if antibody screening is positive. Direct antiglobulin testing is performed on the recipient, not donor units, and plasma fractionation is a manufacturing step, not a compatibility test.

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