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PRACTICE QUESTIONS

State of Qatar Department of Healthcare Professions (DHP) Ministry of Public Health (MOPH)

LABTE

Lab Technician

EDITION

Original Demo

QUESTIONS

15

ISSUED

October 14, 2026

Before you begin

What this is

15 practice questions for State of Qatar Department of Healthcare Professions (DHP) Ministry of Public Health (MOPH) LABTE , 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, LABTE
- the question number
- the email address on your order

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

Licence

Original Mometrix demo. This free sample contains fewer questions than the full paid edition.

QUESTION 1

SINGLE CHOICE

A plasma specimen for an electrolyte panel arrives in the laboratory with visible hemolysis (red discoloration of the plasma/serum). Which analyte is most likely to be falsely increased as a direct result of the hemolysis?

- ☐ A Sodium
- ☐ B Chloride
- ☒ C Potassium
- ☐ D Bicarbonate

ANSWER C

WHY Red blood cells contain approximately 23 times the potassium concentration of plasma. When RBCs lyse during phlebotomy or processing, intracellular potassium is released into the serum/plasma, causing pseudohyperkalemia. Hemolyzed specimens should generally be rejected for potassium measurement, and the result repeated on a new sample.

QUESTION 2

MULTIPLE CHOICE

A laboratory technician sustains a needle-stick injury with a needle used to draw a patient's blood. Which two of the following actions are correct immediate first-aid steps? (Choose two.)

- ☒ **A** Allow the wound to bleed gently and then wash the area thoroughly with soap and running water
- ☐ **B** Squeeze the puncture site firmly to express as much blood as possible before washing
- ☒ **C** Apply an antiseptic such as chlorhexidine or alcohol-based skin antiseptic to the wound after washing
- ☐ **D** Continue working and report the incident only at the end of the shift

ANSWER **A • C**

WHY Following a percutaneous exposure (needle-stick), CDC/WHO guidelines recommend immediate gentle encouragement of bleeding (without vigorous squeezing that damages tissue), washing the wound thoroughly with soap and running water, and applying an antiseptic such as chlorhexidine or 70% isopropyl alcohol. The exposure must be reported immediately (not at the end of shift) so that source-patient testing, post-exposure prophylaxis risk assessment, and medical evaluation can be initiated as soon as possible.

QUESTION 3

SINGLE CHOICE

On a Wright-stained peripheral blood smear, a laboratory technician notes numerous red blood cells containing a central, dark, basophilic, dot-like inclusion. What is the most likely identification of this inclusion?

- ☒ **A** Howell-Jolly body
- ☐ **B** Pappenheimer body
- ☐ **C** Basophilic stippling
- ☐ **D** Heinz body

ANSWER A

WHY A Howell-Jolly body appears as a single, round, dense, dark-blue/purple inclusion (a DNA remnant) within a red blood cell, typically eccentrically placed. It is seen in post-splenectomy patients and in conditions with functional or anatomical asplenia (e.g., sickle cell disease). Pappenheimer bodies are iron-containing clusters (siderotic granules). Basophilic stippling appears as multiple fine or coarse blue granules distributed throughout the cell. Heinz bodies are denatured hemoglobin and are not visible on Wright stain - they require supravital staining.

QUESTION 4

SINGLE CHOICE

A sputum specimen for routine bacterial culture is received in the laboratory. According to standard practice, which combination of media is most appropriate for the primary inoculation of this specimen?

- ☒ **A** Blood agar, chocolate agar, and MacConkey agar
- ☐ **B** Thayer-Martin agar, blood agar, and Sabouraud dextrose agar
- ☐ **C** Cysteine lactose electrolyte deficient (CLED) agar, blood agar, and chocolate agar
- ☐ **D** Lowenstein-Jensen medium, blood agar, and MacConkey agar

ANSWER A

WHY Sputum is a lower respiratory tract specimen, and routine bacterial culture aims to isolate both Gram-positive and Gram-negative organisms, including fastidious respiratory pathogens such as *Haemophilus influenzae* and *Streptococcus pneumoniae*. The standard media combination is blood agar (for most pathogens including *Streptococcus*), chocolate agar (for fastidious organisms such as *Haemophilus* and *Neisseria*), and MacConkey agar (for Gram-negative enteric bacilli). Thayer-Martin is for *N. gonorrhoeae*, CLED is for urine, Sabouraud is for fungi, and Lowenstein-Jensen is for mycobacteria.

QUESTION 5

SINGLE CHOICE

A urine specimen arrives in the laboratory for routine urinalysis and microscopic examination. The label is intact and matches the requisition, but the container is leaking and the volume is only 4 mL. What is the most appropriate action by the laboratory technician?

- ☐ **A** Report the result based on the available specimen, since the patient identification is correct.
- ☐ **B** Centrifuge the small volume and prepare a slide for microscopic examination.
- ☐ **C** Refrigerate the specimen and wait for an additional sample to be collected.
- ☒ **D** Reject the specimen and request a new, properly collected and labeled specimen with adequate volume.

ANSWER D

WHY Standard pre-analytical criteria require that a urine specimen be properly collected, labeled, transported in an intact primary container, and of sufficient volume for the tests ordered. A leaking container compromises sample integrity and safety, and an inadequate volume prevents reliable microscopic and chemical analysis. The correct action is to reject the specimen and request recollection, regardless of the label being intact.

QUESTION 6

SINGLE CHOICE

On a Wright-stained peripheral blood smear, a laboratory technician notes numerous red blood cells that appear small, dense, and lack the normal central pale area. Which RBC morphologic term correctly describes these cells?

- ☐ A Hypochromic cells
- ☒ B Spherocytes
- ☐ C Target cells
- ☐ D Sickle cells

ANSWER B

WHY Spherocytes are red blood cells that are smaller than normal, appear densely (hyperchromically) stained, and have lost their normal central pallor because of a reduced surface-to-volume ratio. They are seen in hereditary spherocytosis and in immune hemolytic anemias. Hypochromic cells have increased central pallor, target cells show a central area of hemoglobin, and sickle cells are crescent- or sickle-shaped.

QUESTION 7

SINGLE CHOICE

A blood specimen for a fasting glucose test arrives in the lab with the tube label intact but visibly hemolysed (red-tinged serum). Which pre-analytical factor best describes the cause and what is its likely effect on the result?

- ☐ **A** Insufficient centrifugation time; result is falsely decreased due to residual cellular glucose consumption.
- ☒ **B** Hemolysis from difficult draw or prolonged contact with red cells; result is typically falsely decreased because erythrocytes use glucose.
- ☐ **C** Improper storage temperature only; result is unaffected because glucose is stable in hemolysed serum.
- ☐ **D** Incorrect tube additive (serum separator used instead of fluoride-oxalate); result is falsely elevated due to continued glycolysis.

ANSWER B

WHY Hemolysis usually results from traumatic venipuncture or prolonged contact between serum/plasma and erythrocytes. Because red blood cells metabolise glucose, hemolysed samples typically yield falsely decreased glucose values. While fluoride-oxalate tubes prevent in-vitro glycolysis, the visible hemolysis in this scenario points to a collection/processing issue, not the additive used.

QUESTION 8

SINGLE CHOICE

In forward ABO grouping, a patient's red cells agglutinate with anti-A and anti-B reagents, and agglutinate with anti-D reagent. What is the patient's ABO/Rh type?

- ☐ A Group O, Rh positive
- ☒ B Group AB, Rh positive
- ☐ C Group A, Rh positive
- ☐ D Group AB, Rh negative

ANSWER B

WHY Forward grouping tests the antigens on the patient's red cells using known antisera. Agglutination with both anti-A and anti-B indicates the presence of both A and B antigens, which defines blood group AB. Agglutination with anti-D indicates the Rh(D) antigen is present, so the patient is Rh positive. Therefore the type is AB, Rh positive.

QUESTION 9

SINGLE CHOICE

According to Westgard rules on a Levey-Jennings quality control chart, what is the correct interpretation when the last two consecutive control measurements exceed the +2 standard deviation (2SD) limit on the same side of the mean?

- ☐ A Random error; the run is accepted with documentation
- ☒ B Systematic error; the run is rejected and instrument troubleshooting is required
- ☐ C No error detected; the rule only applies to three or more consecutive points
- ☐ D Accept the run if one of the points is within $\pm 1SD$

ANSWER B

WHY The 2of2 rule (two consecutive control measurements exceeding the same $\pm 2SD$ limit) is one of the Westgard rules that flags systematic error. Random error rules, in contrast, are 1_3s and R_4s. When 2of2 is violated, the run should be rejected and the cause investigated before reporting patient results.

QUESTION 10

SINGLE CHOICE

On a Wright-stained peripheral blood smear review, a laboratory technician notes numerous red blood cells containing a central area of pallor that occupies more than one-third of the cell diameter. Which morphology term correctly describes this finding?

- ☐ A Spherocyte
- ☐ B Target cell (codocyte)
- ☒ C Hypochromic cell
- ☐ D Sickle cell (drepanocyte)

ANSWER C

WHY A red blood cell in which the central pale area exceeds one-third of the cell diameter is described as hypochromic, reflecting reduced hemoglobin content typically seen in iron deficiency anemia and thalassemia. Spherocytes are smaller, lack central pallor entirely, and appear densely stained; target cells show a central 'bull's-eye' staining pattern; sickle cells are elongated crescent-shaped cells.

QUESTION 11

SINGLE CHOICE

A laboratory technician sustains a needle-stick injury with a hollow-bore needle that was just used to draw a patient's blood. What is the FIRST action the technician should take?

- ☐ A Report the incident to the supervisor and complete an incident form
- ☒ B Wash the wound thoroughly with soap and running water
- ☐ C Go immediately to the emergency department for post-exposure prophylaxis
- ☐ D Apply antiseptic and a waterproof dressing, then continue working

ANSWER B

WHY After a percutaneous exposure to blood, the immediate first-aid step is to allow the wound to bleed gently and then wash it thoroughly with soap and running water (flushing mucous membranes with water). Applying antiseptic does not replace washing. Reporting and seeking medical evaluation for post-exposure prophylaxis must follow as soon as possible, ideally within hours, but wound washing is the first action at the bench.

QUESTION 12

SINGLE CHOICE

A sputum specimen for routine bacterial culture is received in the laboratory. Which set of culture media is most appropriate for the initial inoculation of a respiratory specimen from a patient with suspected community-acquired pneumonia?

- ☒ **A** Blood agar, chocolate agar, and MacConkey agar
- ☐ **B** Thayer-Martin agar, Sabouraud dextrose agar, and blood agar
- ☐ **C** Cystine-lactose-electrolyte-deficient (CLED) agar, blood agar, and chocolate agar
- ☐ **D** Lowenstein-Jensen medium, Bordet-Gengou agar, and blood agar

ANSWER A

WHY Routine bacterial culture of sputum for community-acquired pathogens (e.g., *Streptococcus pneumoniae*, *Haemophilus influenzae*, Gram-negative rods) is performed using blood agar (supports most respiratory pathogens and demonstrates hemolysis), chocolate agar (required for growth of fastidious organisms such as *Haemophilus* and *Neisseria*), and MacConkey agar (selects for and differentiates Gram-negative enteric organisms). Thayer-Martin is selective for *Neisseria gonorrhoeae*, Sabouraud is for fungi, CLED is for urine, and Lowenstein-Jensen/Bordet-Gengou are for mycobacteria and *Bordetella* - not part of the routine sputum workup.

QUESTION 13

SINGLE CHOICE

A urine specimen is submitted to the laboratory for a chain-of-custody drug screen required for a medico-legal case. Which requirement is unique to chain-of-custody testing compared with routine clinical urine drug testing?

- ☐ A Use of a calibrated automated chemistry analyzer
- ☒ B Documentation of every individual who handles the specimen, with dates and times
- ☐ C Refrigeration of the specimen at 2 to 8 degrees Celsius upon receipt
- ☐ D Reporting results within 24 hours of collection

ANSWER B

WHY Chain-of-custody specimens require documented, unbroken traceability of possession from the point of collection through analysis, reporting, and storage. Every transfer of the specimen must be recorded with the recipient's signature, date, and time. Routine clinical urine drug testing does not require this level of documentation.

QUESTION 14

SINGLE CHOICE

On a Levey-Jennings quality control chart for a chemistry analyzer, four consecutive control measurements exceed the mean by +1 standard deviation on the same side. According to the Westgard multi-rule system, which rule has been violated?

- ☐ A 1_2s rule
- ☐ B 1_3s rule
- ☐ C 2_2s rule
- ☒ D 4_1s rule

ANSWER D

WHY The 4_1s rule is violated when four consecutive control measurements fall on the same side of the mean and exceed ± 1 SD. This indicates a systematic error (shift or trend) and requires that the analytical run be rejected. The 1_3s rule applies to a single point exceeding ± 3 SD, and the 2_2s rule applies to two consecutive points exceeding the same ± 2 SD limit.

QUESTION 15

SINGLE CHOICE

A sputum specimen for routine bacterial culture is inoculated onto blood agar, chocolate agar, and MacConkey agar, and a Gram stain is performed. The Gram stain shows many squamous epithelial cells (>25 per low-power field) and few neutrophils. What is the most appropriate interpretation?

- ☐ A The specimen is acceptable; culture results will reflect lower airway pathogens.
- ☒ B The specimen is contaminated with saliva and should be rejected or recollected.
- ☐ C The specimen must be incubated for an additional 24 hours before Gram stain interpretation.
- ☐ D The specimen should be sent for viral culture instead of bacterial culture.

ANSWER B

WHY Sputum quality is assessed using Gram stain screening criteria such as those of Bartlett or Q-score. A specimen with numerous squamous epithelial cells (>25 per LPF) and few neutrophils reflects oropharyngeal contamination rather than lower respiratory tract material, and is considered unacceptable for routine bacterial culture. Recollection or rejection is indicated.