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

PRACTICE QUESTIONS

Saudi Commission For Health Specialties (SCFHS)

MICRO

Laboratory - Microbiology

EDITION

Demo

QUESTIONS

9

FORMAT

Limited Edition PDF

Before you begin

What this is

9 practice questions for Saudi Commission For Health Specialties (SCFHS) MICRO , 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, MICRO
- the question number
- the email address on your order

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

QUESTION 1

SINGLE CHOICE

A catalase-positive, coagulase-positive, Gram-positive coccus isolated from a wound culture is most likely which organism?

- ☒ **A** Staphylococcus aureus
- ☐ B Staphylococcus epidermidis
- ☐ C Streptococcus pyogenes
- ☐ D Enterococcus faecalis

ANSWER A

WHY Staphylococcus aureus is catalase-positive and coagulase-positive, distinguishing it from coagulase-negative staphylococci (e.g., S. epidermidis) and from streptococci/enterococci, which are catalase-negative.

QUESTION 2

SINGLE CHOICE

In the Kirby-Bauer disk diffusion method, what does a larger zone of inhibition around an antibiotic disk generally indicate?

- ☐ A Higher resistance of the organism to the antibiotic
- ☒ **B Greater susceptibility of the organism to the antibiotic**
- ☐ C Contamination of the culture plate
- ☐ D Inadequate inoculum density

ANSWER B

WHY A larger zone of inhibition indicates that the organism is more susceptible to the antibiotic, as growth is suppressed over a wider area around the disk.

QUESTION 3

SINGLE CHOICE

Which laboratory test is most commonly used as a rapid screening method to differentiate *Candida albicans* from other *Candida* species?

- ☒ **A** Germ tube test
- ☐ **B** Catalase test
- ☐ **C** Oxidase test
- ☐ **D** Coagulase test

ANSWER A

WHY The germ tube test is a rapid screening method in which *C. albicans* (and *C. dubliniensis*) produce germ tubes when incubated in serum at 37°C for 2-3 hours, distinguishing it from most other *Candida* species.

QUESTION 4

SINGLE CHOICE

A stool ova and parasite examination reveals cysts with four nuclei. This finding is most consistent with which organism?

- ☒ **A** *Entamoeba histolytica*
- ☐ **B** *Giardia lamblia*
- ☐ **C** *Cryptosporidium parvum*
- ☐ **D** *Trichomonas vaginalis*

ANSWER A

WHY Mature *Entamoeba histolytica* cysts characteristically contain four nuclei, distinguishing them from *Giardia* cysts (which have four nuclei but a different morphology - axonemes and median bodies) and *Cryptosporidium*, which forms oocysts rather than cysts.

QUESTION 5

MULTIPLE CHOICE

Which of the following media are commonly used to selectively isolate and differentiate enteric Gram-negative pathogens such as Salmonella and Shigella? (Choose two.)

- ☒ **A** MacConkey agar
- ☒ **B** Xylose Lysine Deoxycholate (XLD) agar
- ☐ **C** Chocolate agar
- ☐ **D** Sabouraud dextrose agar

ANSWER A - B

WHY MacConkey agar selects for Gram-negative bacteria and differentiates lactose fermenters from non-fermenters; XLD agar is a selective/differential medium specifically designed for isolating Salmonella and Shigella. Chocolate agar supports fastidious organisms like Haemophilus/Neisseria, and Sabouraud agar is used for fungi.

QUESTION 6

MULTIPLE CHOICE

Which of the following practices are appropriate biosafety measures when handling Mycobacterium tuberculosis cultures in a clinical microbiology laboratory? (Choose two.)

- ☒ **A** Processing specimens within a certified biological safety cabinet
- ☒ **B** Working under Biosafety Level 3 (BSL-3) practices for culture manipulation
- ☐ **C** Performing all manipulations on an open bench top
- ☐ **D** Using standard BSL-1 precautions only

ANSWER A - B

WHY M. tuberculosis is highly infectious via aerosols; manipulations that may generate aerosols (e.g., culture work) require BSL-3 practices and must be performed inside a certified biological safety cabinet, not on an open bench under minimal precautions.

QUESTION 7

SINGLE CHOICE

Which laboratory method is considered the gold standard for detecting and quantifying HIV RNA viral load in plasma?

- ☐ A Enzyme-linked immunosorbent assay (ELISA)
- ☒ B Reverse transcription polymerase chain reaction (RT-PCR)
- ☐ C Western blot
- ☐ D Rapid lateral flow immunoassay

ANSWER B

WHY RT-PCR is used to detect and quantify HIV RNA in plasma, providing viral load measurements essential for monitoring disease progression and treatment response, unlike antibody-based tests such as ELISA and Western blot.

QUESTION 8

TRUE FALSE

The oxidase test is used to differentiate members of the Enterobacteriaceae family, which are oxidase-negative, from other Gram-negative rods such as *Pseudomonas aeruginosa*, which are oxidase-positive.

- ☒ A True
- ☐ B False

ANSWER A

WHY Enterobacteriaceae lack cytochrome c oxidase and are oxidase-negative, whereas non-fermenters like *Pseudomonas aeruginosa* are oxidase-positive, making this test a key differentiating step in identification schemes.

QUESTION 9

SINGLE CHOICE

A *Staphylococcus aureus* isolate tests positive on the cefoxitin disk screening test. This result is most indicative of which of the following?

- ☒ **A** Methicillin-resistant *Staphylococcus aureus* (MRSA)
- ☐ **B** Vancomycin-resistant *Staphylococcus aureus* (VRSA)
- ☐ **C** Extended-spectrum beta-lactamase (ESBL) production
- ☐ **D** Penicillin susceptibility
- ☐ **E** Carbapenemase production

ANSWER A

WHY The cefoxitin disk test is used as a surrogate marker to detect *mecA*-mediated methicillin resistance in *Staphylococcus aureus*; a reduced zone size indicates MRSA.