

Question 1: What is a culture medium?

- A. A liquid or gel for microorganism growth
- B. A substance to kill bacteria
- C. A chemical used for DNA testing
- D. A tool for measuring pH

Answer: *liquid or gel for microorganism growth* (A)

Question 2: Which of the following is NOT a step in preparing culture media?

- A. Mixing ingredients with deionized water
- B. Using a centrifuge to separate nutrients
- C. Sterilizing with an autoclave
- D. Labeling the container

Answer: *Using a centrifuge to separate nutrients* (B)

Question 3: What is the optimal condition for autoclaving?

- A. 121°C, 15?30 min, 15 pounds/inch²
- B. 100°C, 10 min, atmospheric pressure
- C. 200°C, 30 min, high pressure
- D. 80°C, 5 min, low pressure

Answer: *121°C, 15?30 min, 15 pounds/inch²* (A)

Question 4: What is the purpose of the streak plate method?

- A. To create antibiotic-resistant bacteria

- B. To increase bacterial growth rate
- C. To isolate a pure strain of bacteria
- D. To prepare liquid media

Answer: To isolate a pure strain of bacteria (C)

Question 5: What does the Kirby-Bauer disk diffusion method measure?

- A. Bacterial motility
- B. Antibiotic susceptibility
- C. Enzyme activity
- D. Growth temperature tolerance

Answer: Antibiotic susceptibility (B)

Question 6: What type of media is blood agar?

- A. Selective
- B. Differential
- C. Enrichment
- D. Synthetic

Answer: Enrichment (C)

Question 7: What does MacConkey agar test for?

- A. Gram-positive bacteria
- B. Lactose fermentation in gram-negative bacteria
- C. Presence of hemolysis
- D. Antibiotic resistance

Answer: Lactose fermentation in gram-negative bacteria (B)

Question 8: What is a positive result in the catalase test?

- A. Gas bubbles form
- B. Color changes to yellow
- C. Zone of inhibition forms
- D. No bacterial growth

Answer: Gas bubbles form (A)

Question 9: Which hemolysis type causes green discoloration?

- A. Alpha-hemolysis
- B. Beta-hemolysis
- C. Gamma-hemolysis
- D. Delta-hemolysis

Answer: Alpha-hemolysis (A)

Question 10: Which bacteria are lactose fermenters?

- A. Staphylococcus and Streptococcus
- B. Proteus and Salmonella
- C. Shigella and Pseudomonas
- D. E. coli and Klebsiella

Answer: E. coli and Klebsiella (D)

Question 11: What is the purpose of an autoclave tape?

- A. To label the media containers
- B. To measure pressure inside the autoclave

C. To indicate sterilization temperature has been reached

D. To detect bacterial contamination

Answer: To indicate sterilization temperature has been reached (C)

Question 12: What is the purpose of enrichment media?

A. To distinguish between species visually

B. To inhibit bacterial growth

C. To isolate gram-negative bacteria

D. To support fastidious organism growth

Answer: To support fastidious organism growth (D)

Question 13: Which media is both selective and differential?

A. MacConkey agar

B. Blood agar

C. Mueller-Hinton agar

D. Nutrient agar

Answer: MacConkey agar (A)

Question 14: What causes the color change in Mannitol Salt Agar (MSA)?

A. Degradation of proteins

B. Presence of hemolysis

C. High salt concentration

D. Fermentation of mannitol producing acid

Answer: Fermentation of mannitol producing acid (D)

Question 15: Which bacteria produces yellow colonies on Mannitol Salt Agar?

- A. *Staphylococcus aureus*
- B. *E. coli*
- C. *Staphylococcus epidermidis*
- D. *Klebsiella pneumoniae*

Answer: *Staphylococcus aureus* (A)

Question 16: What is the role of the coagulase test?

- A. To differentiate *Staphylococcus aureus* from other species
- B. To identify gram-negative bacteria
- C. To test lactose fermentation
- D. To detect antibiotic susceptibility

Answer: To differentiate *Staphylococcus aureus* from other species (A)

Question 17: Which *Streptococcus* species causes complete hemolysis?

- A. *Streptococcus pneumoniae*
- B. *Streptococcus pyogenes*
- C. *Streptococcus viridans*
- D. *Enterococcus faecalis*

Answer: *Streptococcus pyogenes* (B)

Question 18: What is the characteristic appearance of *Proteus* species on blood agar?

- A. Green discoloration
- B. Swarming motility
- C. Yellow colonies

D. No visible growth

Answer: *Swarming motility* (B)

Question 19: What pigment does *Pseudomonas aeruginosa* produce?

A. Rose-red colonies

B. Yellow colonies

C. Pyocyanin (blue-green)

D. White colonies

Answer: *Pyocyanin (blue-green)* (C)

Question 20: What test is used to differentiate between *Streptococcus pneumoniae* and *Streptococcus viridans*?

A. Bile-esculin test

B. Catalase test

C. Coagulase test

D. Optochin test

Answer: *Optochin test* (D)

Question 21: What does the bile-esculin test detect?

A. Lactose fermenters

B. Enterococcus species

C. Hemolytic activity

D. Antibiotic susceptibility

Answer: *Enterococcus species* (B)

Question 22: Which media prevents swarming of *Proteus* species?

- A. Mannitol salt agar
- B. Blood agar
- C. Mueller-Hinton agar
- D. MacConkey and CLED agar

Answer: MacConkey and CLED agar (D)

Question 23: Which media is used for testing antibiotic susceptibility?

- A. Mueller-Hinton agar
- B. MacConkey agar
- C. Blood agar
- D. Mannitol salt agar

Answer: Mueller-Hinton agar (A)

Question 24: Which bacteria are oxidase positive?

- A. Pseudomonas aeruginosa
- B. E. coli
- C. Staphylococcus aureus
- D. Proteus species

Answer: Pseudomonas aeruginosa (A)

Question 25: What is the turbidity standard for Kirby-Bauer testing?

- A. 5.0 McFarland standard
- B. 1.0 McFarland standard
- C. 0.5 McFarland standard
- D. 2.5 McFarland standard

Answer: 0.5 McFarland standard (C)

Question 26: What are the conditions for storing agar plates?

- A. Upright position at room temperature
- B. Inverted position in a refrigerator
- C. Inverted position in an incubator
- D. Flat position in a freezer

Answer: Inverted position in a refrigerator (B)

Question 27: What is chocolate agar used for?

- A. To grow fastidious bacteria like *Haemophilus influenzae*
- B. To differentiate gram-positive cocci
- C. To test antibiotic susceptibility
- D. To isolate gram-negative bacteria

Answer: To grow fastidious bacteria like *Haemophilus influenzae* (A)

Question 28: What is the role of selective media?

- A. To sterilize bacterial cultures
- B. To visually distinguish between species
- C. To support fastidious organism growth
- D. To inhibit the growth of some organisms while allowing others to grow

Answer: To inhibit the growth of some organisms while allowing others to grow (D)

Question 29: What color colonies indicate lactose fermentation on MacConkey agar?

- A. Pink to red colonies

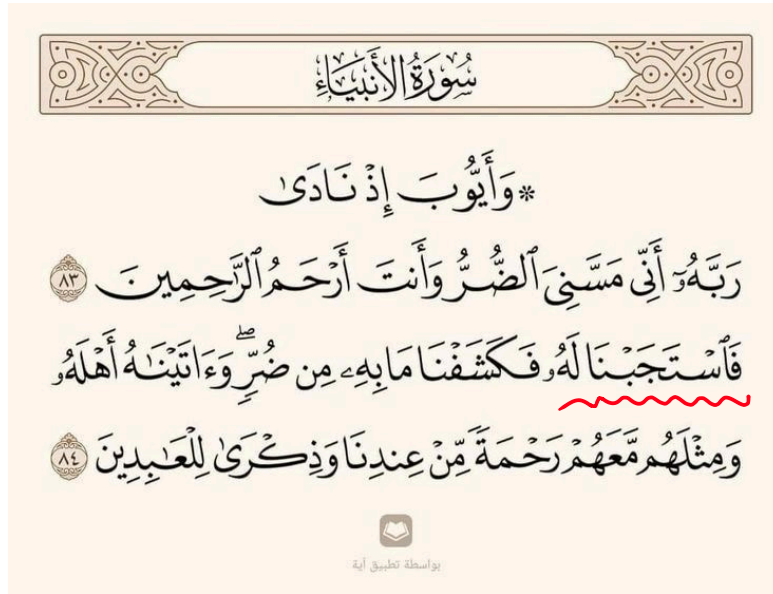
- B. Yellow colonies
- C. Green colonies
- D. Colorless colonies

Answer: Pink to red colonies (A)

Question 30: What is a zone of inhibition?

- A. The edge of a bacterial colony
- B. A region of increased bacterial growth
- C. An area around an antibiotic disc where bacteria do not grow
- D. The center of a blood agar plate

Answer: An area around an antibiotic disc where bacteria do not grow (C)



حثنا الرسول - ﷺ - على الدعاء، فقال: "ما من مسلم يدعو الله بدعوة ليس فيها إثم ولا قطيعة رحم إلا أعطاه الله بها إحدى ثلاث: إما أن تعجل له دعوته، وإما أن يدخرها له في الآخرة، وإما أن يصرف عنه من السوء مثلها" قالوا: إذا نكث الدعاء، قال: "الله أكثر". (رواه أحمد)

