



MICROBIOLOGY

(LEC 7)

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MCQS

Here are 10 multiple-choice questions (MCQs) based on the information provided in the text:

1. What is the Gram-negative bacterium that causes bacterial meningitis in children between 3 months and 5 years of age?
 - a) *Neisseria gonorrhoeae*
 - b) *Neisseria meningitidis*
 - c) *Haemophilus influenzae*
 - d) *Bordetella pertussis*

2. Which Gram-negative bacterium is associated with sexually transmitted diseases (STDs)?
 - a) *Neisseria gonorrhoeae*
 - b) *Neisseria meningitidis*
 - c) *Haemophilus influenzae*
 - d) *Vibrio cholerae*

3. Which bacterium is responsible for causing whooping cough?
 - a) *Neisseria gonorrhoeae*
 - b) *Bordetella pertussis*
 - c) *Brucella*
 - d) *Shigella*

4. Which Gram-negative bacterium is a common cause of diarrhea and bacillary dysentery?

- a) *Neisseria gonorrhoeae*
- b) *Bordetella pertussis*
- c) *Vibrio cholerae*
- d) *Shigella*

5. What is the causative organism for "rice water" diarrhea?

- a) *Campylobacter*
- b) *Vibrio cholerae*
- c) *Helicobacter pylori*
- d) *Pseudomonas*

6. Which bacterium is known to be a risk factor for gastric ulcers?

- a) *Haemophilus influenzae*
- b) *Vibrio cholerae*
- c) *Helicobacter pylori*
- d) *Shigella*

7. What color does nutrient agar turn when infected by *Pseudomonas*?

- a) Red
- b) Yellow
- c) Greenish
- d) Purple

8. Which bacterial family includes both facultative anaerobes that ferment glucose and are oxidase negative?

- a) Enterobacteriaceae
- b) Pseudomonas
- c) Brucella
- d) Campylobacter

9. Which Gram-negative bacterium is a fastidious organism that requires some chemicals from blood for growth?

- a) Vibrio cholerae
- b) Neisseria meningitidis
- c) Haemophilus influenzae
- d) Campylobacter

10. Which bacterium is problematic in hospitals, known as an opportunistic pathogen and resistant to many antibiotics?

- a) Vibrio cholerae
- b) Bordetella pertussis
- c) Pseudomonads
- d) Campylobacter

Answers and explanations:

Here are the answers and explanations for the MCQs based on the provided text:

1. What is the Gram-negative bacterium that causes bacterial meningitis in children between 3 months and 5 years of age?

Answer: c) Haemophilus influenzae

Explanation: Haemophilus influenzae is a Gram-negative bacterium associated with bacterial meningitis in young children, particularly those aged 3 months to 5 years.

2. Which Gram-negative bacterium is associated with sexually transmitted diseases (STDs)?

Answer: a) *Neisseria gonorrhoeae*

Explanation: *Neisseria gonorrhoeae* is a Gram-negative bacterium associated with sexually transmitted diseases (STDs).

3. Which bacterium is responsible for causing whooping cough?

Answer: b) *Bordetella pertussis*

Explanation: *Bordetella pertussis* is the causative bacterium for whooping cough.

4. Which Gram-negative bacterium is a common cause of diarrhea and bacillary dysentery?

Answer: d) *Shigella*

Explanation: *Shigella* is a Gram-negative bacterium that is a common cause of diarrhea and bacillary dysentery.

5. What is the causative organism for "rice water" diarrhea?

Answer: b) *Vibrio cholerae*

Explanation: *Vibrio cholerae* is the causative organism for "rice water" diarrhea, which is a symptom of cholera.

6. Which bacterium is known to be a risk factor for gastric ulcers?

Answer: c) *Helicobacter pylori*

Explanation: *Helicobacter pylori* is a bacterium that is a risk factor for gastric ulcers.

7. What color does nutrient agar turn when infected by *Pseudomonas*?

Answer: c) Greenish

Explanation: Nutrient agar turns greenish when infected by *Pseudomonas*.

8. Which bacterial family includes both facultative anaerobes that ferment glucose and are oxidase negative?

Answer: a) Enterobacteriaceae

Explanation: The Enterobacteriaceae family includes facultative anaerobes that ferment glucose and are oxidase negative.

9. Which Gram-negative bacterium is a fastidious organism that requires some chemicals from blood for growth?

Answer: c) Haemophilus influenzae

Explanation: Haemophilus influenzae is a fastidious Gram-negative bacterium that requires some chemicals from blood for its growth.

10. Which bacterium is problematic in hospitals, known as an opportunistic pathogen and resistant to many antibiotics?

Answer: c) Pseudomonads

Explanation: Pseudomonads are problematic in hospitals, as they are opportunistic pathogens and are known for their resistance to many antibiotics.

Regarding qs:

Here are 10 multiple-choice questions (MCQs) based on the provided text, each with 5 answer choices. You need to identify the incorrect sentence from the choices provided.

1. Regarding Haemophilus influenzae, find the wrong sentence from the following choices:

- A. It is associated with bacterial meningitis in young children.
- B. Most strains have a polysaccharide capsule that resists phagocytosis.
- C. It was the most common form of meningitis in infants before the Hib vaccine.
- D. Haemophilus influenzae is a Gram-negative coccobacillus.

- E. The use of the Hib vaccine has no impact on the disease caused by *H. influenzae* b.
2. Which of the following sentences about *Neisseria gonorrhoeae* is incorrect?
- A. It is a Gram-negative intracellular diplococcus.
 - B. It is associated with sexually transmitted diseases (STDs).
 - C. *Neisseria gonorrhoeae* is one of the two major pathogenic species mentioned.
 - D. It is a causative organism for whooping cough.
 - E. It is known for its pathogenicity in STDs.
3. Find the incorrect statement about *Bordetella pertussis* from the following options:
- A. It causes pertussis, also known as whooping cough.
 - B. Most cases of the disease are in children.
 - C. Bacteria are first inhaled in aerosols and multiply in epithelial cells.
 - D. The disease leads to a build-up of thick mucus causing intense coughing.
 - E. *Bordetella pertussis* can be found in numerous hospital locations.
4. Which statement is not true regarding *Vibrio cholerae*?
- A. It is the most common species to infect humans.
 - B. *Vibrio cholerae* causes severe profuse watery diarrhea known as "rice water."
 - C. Humans become infected with *V. cholerae* through contaminated food and water.
 - D. *Vibrio cholerae* is typically found in communities with poor sewage and water treatment.
 - E. *Vibrio cholerae* can survive for up to 30 days in milk, eggs, and cheese.
5. Identify the incorrect statement about *Helicobacter pylori*:
- A. It is a slightly helical, highly motile bacterium.
 - B. *H. pylori* produces numerous virulence factors that enable it to colonize the stomach.

- C. Drinking coffee, smoking, and alcohol consumption decrease the risk of ulcers.
 - D. Simple blood, breath, and stool tests can determine *H. pylori* infection.
 - E. Upper endoscopy is the most accurate way to diagnose *H. pylori* infection.
6. Which sentence does not accurately describe the Enterobacteriaceae family?
- A. They are facultative anaerobes.
 - B. All members of this family ferment glucose.
 - C. They are oxidase negative.
 - D. Enterobacteriaceae are Gram-positive bacteria.
 - E. They include bacteria like *Escherichia coli* and *Salmonella*.
7. Regarding *Shigella*, which statement is incorrect?
- A. *Shigella* is one of the leading causes of diarrhea and bacillary dysentery.
 - B. Most individuals become infected when ingesting food or water contaminated with fecal material.
 - C. *Shigella* outbreaks are common in areas with poor sanitation.
 - D. *Shigella* can survive for up to 30 days in certain food items.
 - E. *Shigella* is a Gram-negative bacterium.
8. What is the incorrect statement about Gram-negative bacilli?
- A. *Pseudomonas* is a Gram-negative bacillus.
 - B. They include the Enterobacteriaceae family.
 - C. Non-lactose fermenters result in pink colonies on MacConkey's medium.
 - D. Lactose fermenters produce pale yellow colonies on MacConkey's medium.
 - E. *Shigella* is a Gram-positive bacillus.
9. Which sentence is not true about *Campylobacter*?

- A. Campylobacter is a Gram-negative diplococcus.
- B. It is associated with sexually transmitted diseases (STDs).
- C. Campylobacter is a bacterium of medical importance.
- D. Campylobacter is mentioned in the provided text.
- E. Campylobacter is not an intracellular bacterium.

10. Find the incorrect sentence about Brucella:

- A. Brucella can cause brucellosis in humans through ingestion of contaminated milk or cheese.
- B. Clinical manifestations of Brucella infection range from subclinical to acute with fever and chills.
- C. Brucella is a Gram-positive bacterium.
- D. Brucella can be transmitted through consumption of goat and cow products.
- E. Brucella can cause low-grade symptoms of low fever and muscular stiffness.

Answers and explanations:

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