

Clinical Bacteriology: Safety and Quality Assurance

Clinical Bacteriology · Answer Key · 15 Questions

1. What is the primary aim of biosecurity in a laboratory?

- A) Prevent accidental exposure
- B) Prevent misuse of biological materials**
- C) Sterilize laboratory equipment
- D) Increase diagnostic capacity

2. Which category of bioterrorism agents includes Anthrax and Smallpox?

- A) Category A**
- B) Category B
- C) Category C
- D) Category D

3. What is the standard precaution for handling blood and body fluids?

- A) Assume all are safe
- B) Treat all as potentially infectious**
- C) Only test high-risk patients
- D) Use PPE only for visible spills

4. Which Class of Biological Safety Cabinet (BSC) provides the highest level of protection using a leak-proof design?

- A) Class I
- B) Class IIA
- C) Class IIB
- D) Class III**

5. What is the biological indicator used to monitor the effectiveness of an autoclave?

- A) *Bacillus subtilis*
- B) *Bacillus pumilus*
- C) *Geobacillus stearothermophilus***
- D) *Bacillus atrophaeus*

6. What is the mechanism of action for moist heat sterilization?

- A) Oxidation
- B) Denaturation and coagulation of proteins**
- C) Disruption of lipid membrane
- D) DNA damage

7. Which sterilization method is considered the safest for burning hazardous materials to ashes?

- A) Autoclaving
- B) Incineration**
- C) Dry oven
- D) Tyndallization

8. What is the recommended concentration of ethyl or isopropyl alcohol for effective disinfection?

- A) 20-30%
- B) 40-50%
- C) 60-90%**
- D) 95-100%

9. What is the required minimum passing score in a Proficiency Testing (PT) program to maintain a laboratory license?

- A) 70%
- B) 75%
- C) 80%**
- D) 90%

10. Which organism is used as a control for Gram-negative staining?

- A) Staphylococcus aureus
- B) Escherichia coli**
- C) Bacillus subtilis
- D) Yersinia pestis

11. How often should Gram stain controls be performed?

- A) Weekly
- B) Monthly
- C) Daily**
- D) Yearly

12. What is the purpose of Tyndallization?

- A) Sterilize heat-stable objects
- B) Sterilize heat-labile substances**
- C) Disinfect surfaces
- D) Kill prions

13. Which chemical agent is commonly used to disinfect BSCs?

A) Formaldehyde gas

B) Silver nitrate

C) Mercury

D) Chlorhexidine

14. Which BSL level requires a full body, air-supplied positive pressure personnel suit?

A) BSL-1

B) BSL-2

C) BSL-3

D) BSL-4

15. What is the primary method to remove microbes from heat-sensitive liquids?

A) Filtration

B) Boiling

C) Incineration

D) Radiation