



ABSAs **INTERNATIONAL**

The Association for Biosafety and Biosecurity

1200 Allanson Road • Mundelein, IL 60060-3808 • 866-425-1385 • Fax: 847-566-4580 • E-mail: info@absa.org • Web Site: www.absa.org

Sample Questions

Certified Biological Safety Professional Exam

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SAMPLE QUESTIONS

The sample questions included in this examination guide are actual questions from previous examinations. They have been removed from the question pool. Do not judge the content as indicative of content in current questions, but use these sample questions as templates for the format and design of questions and answers.

1. Which of the following definitions best describes disinfection?
 - a. The use of antimicrobial agents on inanimate objects to destroy all non-spore-forming organisms that could pose a hazard to humans or compromise the integrity of an experiment
 - b. Processing clean items to kill all living agents
 - c. Application of a liquid antimicrobial chemical to living tissue to prevent infection
 - d. Heat treatment of a liquid for the destruction of non-spore-forming organisms

Corresponds to Task #1.

2. Which one of the following disinfectants may spontaneously explode if it is stored too long in a stoppered container?
 - a. Peracetic acid
 - b. Beta-propiolactone
 - c. Formaldehyde
 - d. Sodium hypochlorite

Corresponds to Task #2.

3. What is the major advantage of steam sterilization over dry heat sterilization?
 - a. It can be used for the sterilization of anhydrous materials.
 - b. It kills a greater spectrum of organisms.
 - c. It is not as destructive to materials.
 - d. It sterilizes in less time.

Corresponds to Task #3.

4. Why should biological safety professionals require the use of good microbiological techniques when working inside a biological safety cabinet with etiologic agents?
 - a. To ensure that proper waste disposal procedures will be followed by the user
 - b. To require consistency in use of the Class II biological safety cabinet
 - c. To minimize the potential for personnel exposure to etiologic agents
 - d. To make conducting audits and inspection of Class II biological safety cabinet use easier

Corresponds to Task #4.

5. Which one of the following practices best prevents worker exposure to infectious aerosols?
 - a. Balancing the safety cups prior to placing them in the centrifuge
 - b. Opening the centrifuge safety cups only in the biological safety cabinet
 - c. Using a splash shield to open rubber-stoppered tubes
 - d. Wearing a surgical mask while performing work

Corresponds to Task #5.

6. A team from a large pharmaceutical firm plans to do an audit of a production facility in which attenuated viral hepatitis A is grown in a bioreactor. Which of the activities listed below must occur for each member of this audit team before the team can enter the work area?
 - a. Training in the use of the appropriate personal protective equipment
 - b. Evaluation for immunocompetency
 - c. Immunization with hepatitis A vaccine, for product and personal protection
 - d. Protection from infection with an injection of human gamma globulin

Corresponds to Task #7.

7. Which of the following sampling methods is the most appropriate for determining microbial contaminants on surfaces?

- a. Sieve sampler
- b. Settling plate
- c. RODAC plate
- d. Slit-to-agar sampler

Corresponds to Task #8.

8. Which one of the following fungi is most likely to cause a laboratory-acquired infection if handled improperly?

- a. *Aspergillus fumigatus*
- b. *Candida albicans*
- c. *Sporothrix schenckii*
- d. *Coccidioides immitis*

Corresponds to Task #16.

9. What is the approximate respiratory ID₅₀ (number of organisms required to produce infection in half of individuals exposed) for *Mycobacterium tuberculosis*?

- a. Fewer than 10
- b. 100
- c. 1,000
- d. 10,000

Corresponds to Task #17.

10. Exposure to *Legionella pneumophila* has been associated with which of the following facilities?

- a. Pet shops
- b. Gold mines
- c. Cooling towers
- d. Laundries

Corresponds to Task #24.

11. In a rabies-free colony of laboratory dogs and cats, which of the organisms listed below is the most likely cause of bite-wound infection?

- a. *Staphylococcus aureus*
- b. *Bartonella henselae*
- c. *Pasteurella multocida*
- d. *Mycoplasma* spp.

Corresponds to Task #27.

12. The Occupational Safety and Health Administration requires an exposure control plan for any site under which of the following conditions?

- a. Use of biohazardous materials
- b. Use of human blood or body fluids
- c. Has research animals
- d. Has had a spill of biohazardous materials

Corresponds to Task #29.

13. Which of the following documents is the principal independent standard that is used for the design, manufacture, and testing of biological safety cabinets in the United States?

- a. Federal Standard No. 209B
- b. Centers for Disease Control and Prevention/National Institutes of Health (CDC/NIH), BMBL 5 appendix A: *Primary Containment for Biohazards: Selection, Installation and Use of Biological Safety Cabinets*
- c. National Institutes of Health (NIH) 112C design standard
- d. NSF International Standard/American National Standard (NSF/ANSI) 49

Corresponds to Task #36.

14. Which one of the following combinations of containment methods best describes Biosafety Level 3?
- All work conducted in a Class II biosafety cabinet or other physical containment device, directional airflow from the corridor into the laboratory, and double-door access to the laboratory
 - Laboratory located in separate zone or building, work conducted in a Class III biological safety cabinet, and all materials decontaminated before leaving the laboratory
 - Negative-pressure air environment, limited access, and hand-washing capability
 - Hand-washing sink, limited laboratory access, and cultures decontaminated before disposal

Corresponds to Task #40.

15. Which one of the following agents or toxins requires registration with U.S. Department of Agriculture, Animal and Plant Health Inspection Service under the Agriculture Bioterrorism Protection Act (Title 9 CFR Part 121)?
- 5.0 mg staphylococcal enterotoxin
 - The plasmid that expresses the protective antigen of *Bacillus anthracis*
 - Complete genetic code for Venezuelan equine encephalitis virus
 - 5 liters of *Escherichia coli* O157:H7, which produces Shiga-like toxin

Corresponds to Task #41.

16. According to the National Institutes of Health *Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules*, an Institutional Biosafety Committee must include which of the following?
- A minimum of 25 members of the institute
 - At least two members with no affiliation to the institution
 - Members with expertise in plasmid methodology
 - At least one physician on the committee

Corresponds to Task #42.

17. A vaccine to which of the organisms listed below must be offered to personnel working with human blood cells?
- Hepatitis A virus
 - Hepatitis B virus
 - Clostridium tetani*
 - Plasmodium falciparum*

Corresponds to Task #45.

18. The best reason for preparing an outline of a biological safety training program is to ensure that which of the following is achieved?
- Provide evidence of training for the Occupational Safety and Health Administration
 - Distinguish biological safety training from programs dealing with radiation and chemicals
 - Define biosafety levels
 - Assure consistency in the content of the program each time it is delivered

Corresponds to Task #48.

19. Steam autoclaving is appropriate for which of the following waste items?
- Fixed tissue samples in formalin
 - Instrument pans containing equipment soaking in bleach
 - Petri dishes
 - Reusable bronchoscopes

Corresponds to Task #53.

20. Which of the characteristics described below applies to a Class II, Type A2 biological safety cabinet?
- Biologically contaminated ducts and plenums are under negative pressure or surrounded by negative pressure ducts and plenums.
 - The minimum inward air flow is 75 linear feet per minute and the exhaust air is ducted.
 - Cabinets can be used with volatile toxic chemicals and tracer amounts of radionucleotides.
 - HEPA-filtered air from the cabinet is not re-circulated to the room.

Corresponds to Task #54.

21. The face velocity (inward air flow) of Class I and Class II biological safety cabinets should be in which of the ranges of linear feet per minute listed below?
- 25-50 linear feet per minute
 - 75-100 linear feet per minute
 - 100-150 linear feet per minute
 - 150-200 linear feet per minute

Corresponds to Task #55.

22. The dispensing of uninoculated primary rhesus monkey kidney tissue culture into sterile culture tubes is most appropriately conducted in which of the engineering devices listed below?
- Class I biological safety cabinet
 - Class II biological safety cabinet
 - Vertical laminar flow clean bench
 - Horizontal laminar flow clean bench

Corresponds to Task #55.

23. Which one of the following is a primary containment device?
- Centrifuge rotor
 - Standard animal cage
 - Clean air bench
 - Gasketed centrifuge cups

Corresponds to Task #62.

24. Which containment equipment item is only required in high containment laboratories?

- Class II biological safety cabinet
- Hands free handwashing sink
- Horizontal laminar airflow clean bench
- Sharps containers

Corresponds to Task #62.

25. A Biosafety Level 3 facility should have which type of air pressurization?

- Neutral
- Positive
- Negative
- Atmospheric

Corresponds to Task #65.

ANSWERS

- | | | | | |
|------|-------|-------|-------|-------|
| 1. a | 6. a | 11. c | 16. b | 21. b |
| 2. a | 7. c | 12. b | 17. b | 22. b |
| 3. d | 8. d | 13. d | 18. d | 23. d |
| 4. c | 9. a | 14. a | 19. c | 24. a |
| 5. b | 10. c | 15. c | 20. a | 25. c |