



**Office of Research Safety**

**Assessment:** Principles of Biosafety

**Name:** \_\_\_\_\_

**Date:** \_\_\_\_\_

*Instructions:* Circle the best response for each of the questions below. There may be more than one correct answer for each question.

1. What are possible consequences when your lab fails to comply with BMBL and the *NIH Guidelines for Recombinant or Synthetic Nucleic Acid Molecules*? (Circle all that apply)
  - a. Funding can be suspended for all NIH funded projects at UTHSC.
  - b. Employees may risk exposure to biohazardous material or infectious agents.
  - c. Non-compliance may be reported to the NIH Office of Biotechnology Activities (NIH OBA)
  - d. The Office of Research Safety may inspect your lab more frequently than others.
  
2. Which of the following features are required in a BSL2 laboratory facility? (Circle all that apply.)
  - a. A door to separate the area from public access.
  - b. A sign identifying the hazard, entry requirements, PPE and the responsible party.
  - c. Non-porous work surfaces and furniture.
  - d. Handwashing facilities
  - e. Traps or filters on vacuum lines.
  
3. For each Risk Group (RG) level, draw a line to identify the level of individual and community risk.
  1. RG1 (A) Moderate individual risk, low community risk
  2. RG2 (B) High individual risk, low community risk
  3. RG3 (C) High individual risk, high community risk
  4. RG4 (D) Low individual risk, low community risk
  
4. (A) Highly pathogenic avian influenza virus can infect all species of birds, pigs, cats, dogs. It can be transmitted to humans and lead to a highly fatal, rapidly spreading epidemic in birds. It has limited person-to-person transmission but a high fatality rate in humans - ranging from 33% (*Hong Kong*) to over 50% (*2004 outbreak*). There is no effective vaccine at this time although it may be susceptible to antivirals. This disease has serious economic and public health consequences. What risk group does this virus belong to?
  - a. RG1
  - b. RG2
  - c. RG3
  - d. RG4
  
- (B) Ebola virus has a very high fatality rate in humans (50%-90% case fatality rate) and can infect gorillas, duikers, chimpanzees and domestic guinea pigs. It has very serious economic and public health consequences. It is transmitted person-to-person by intimate contact as the main route of infection (direct contact with infected blood, secretions, organs or semen). No vaccine or specific treatment is available. What risk group does this virus belong to?
  - a. RG1

- b. RG2
- c. RG3
- d. RG4

(C) Hepatitis B virus Infection can be asymptomatic or symptomatic. It can cause vague abdominal discomfort, nausea and vomiting, and sometimes arthralgia and rash, often progressing to jaundice. Fever may be absent or mild. Severity ranges from unapparent cases to fatal acute hepatic necrosis, or chronic infection. It is transmitted by exposure to infectious body fluids through percutaneous and permucosal exposure. It can infect humans but not animals. Vaccine and treatment methods are available. What risk group does this virus belong to?

- a. RG1
- b. RG2
- c. RG3
- d. RG4

5. What are the key components of biosafety?

- A. Containment principles
- B. Health and safety principles
- C. Containment practices
- D. Containment technologies

6. True or false. Eye protection is required to be worn whenever there is the anticipated potential for a splash or spray of infectious material.

7. True or false. The Principle Investigator is responsible for ensuring your compliance with PPE requirements. Disciplinary action is appropriate when staff members are aware of the proper precautions but chose not to comply with PPE requirements.

8. True or false. A lab coat worn while handling BSL2 agents can be taken to a laundry facility.