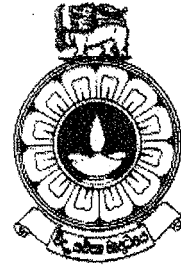


The Open University of Sri Lanka

Faculty of Natural Sciences

Advance Certificate Programme in  
Laboratory Technology



Department	: Zoology
Level	: 2
Name of the Examination	: Final Examination
Course Code and Title	: ZYC2201- LABORATORY ORGANIZATION, MANAGEMENT AND SAFETY
Academic Year	: 2022/2023
Date	: 02. 10. 2022
Time	: 9.00 am – 11:00 am
Duration	: 2 hours

**Part B**

Q2.

2.1. List the four main parts of a typical biological laboratory and briefly mention function of each part.

i .....

.....

ii.....

.....

iii.....

.....

iv.....

.....

2.2 List the four main ancillaries of a biology laboratory and briefly mention the main uses of them.

i .....

.....

ii.....

.....

iii.....

.....

iv.....

.....

2.3. 'Light' is a main requirement of a biology laboratory. Name other four main requirements important for a biological laboratory.

i.....

ii .....

iii.....

iv.....

Q3.

3.1 What is meant by sterilization?

.....

3.2 What are the different types of sterilization agents that are used in a biology laboratory.

.....

3.3 State the two methods used for wet heat sterilization. Name the equipment used for each method.

.....  
.....

3.4 Name three (3) chemicals used in the laboratory for sterilization and mention different usage of each.

.....  
.....  
.....

3.5 Name three (3) common heating equipment used in biology laboratories and mention different usage of each.

.....  
.....  
.....

Q4

4.1 List five important safety measures/practices that you need to follow when you are working in a biology laboratory.

i.....

ii.....

iii.....

iv.....

v.....

4.2 List four of the precautions that you are required to take, when handling chemicals.

i.....

ii.....

iii.....

iv.....

4.3 What is meant by the term 'fire triangle'?

.....  
.....

4.4. What is meant by the term 'biohazard'? Give two examples for biohazard agents.

.....  
.....  
.....

4.5. What is the main difference between a Laminar flow cabinet and a Biosafety cabinet?

.....  
.....

4.6 Depending on their class, biosafety cabinets provide different degree of protection.

Mention the type of protection provide by the class 1 and class 2 types of cabinets.

.....

Q5.

5.1 Cleaning agents other than soap, detergent, or cleaning powder are used to clean glassware in a laboratory. List four such cleaning agents commonly used in a biology laboratory.

i.....

ii.....

iii.....

iv.....

5.2. Some stains on glassware can be difficult to be removed. Name the chemicals that can be used to remove the specific stains given below.

Stain	Chemical used to remove the stain
1. Potassium permanganate/manganese dioxide	
2. Ferric oxide	
3. Carbon deposits	
4. Biological deposits	

5.3. Fill in the blanks in the following paragraph related to chemical spills using the words given in parenthesis (heat, vapors, volume, flammable, hazardous, precautions, chemical). Use each word only once.

Take .....and always wear suitable personal protective equipment (PPE) to avoid exposure in the event of a spill. Identify the..... of chemicals that have been spilled. Proper steps must be performed depending on the ..... properties of the chemical. For hazard evaluations, check the chemical's safety data sheet (SDS). If the chemical is ....., turn off any nearby ..... source. Any .....from spilled chemicals should be avoided. To restrict and contain the spill area, locate the spill kit and utilize the relevant kit tools.

5.4 Fill the blanks in the paragraph given below related to the maintenance of lab equipment. using the words in parenthesis (warranty, errors, sensitive, dust, scratch, good, cost). Use each word only once.

Regular maintenance of the lab equipment will ensure that tests are carried out effectively and with minimum ..... Also it helps to save money on unnecessary repair costs. Frequent maintenance of laboratory equipment will ensure their lifetime ..... A clean laboratory without .....and dirt is the basis for a .....quality laboratory and equipment. Clean the equipment you use every day, cover ..... equipment like microscopes so that dust cannot ..... the lenses.

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