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KIBABII UNIVERSITY

**UNIVERSITY EXAMINATIONS
2021/2022 ACADEMIC YEAR**

**FIRST YEAR FIRST SEMESTER
SPECIAL/SUPPLEMENTARY EXAMINATIONS**

FOR THE DEGREE OF BSC CHEMISTRY

COURSE CODE: SCH 113

COURSE TITLE: SAFETY AND LABORATORY MANAGEMENT

DATE: 22/07/2022

TIME: 2:00PM-4:00PM

INSTRUCTIONS TO CANDIDATES:

- Answer **Question ONE (Compulsory)** and any other **TWO (2)** questions
- Indicate answered questions on the front cover
- Start each question on a new page and make sure the question's number is written on each page

TIME: 2 Hours

This paper consists of **4** printed pages. Please Turn Over



KIBU observes ZERO tolerance to examination cheating

Question 1 [30 Marks]

- i. Laboratory personnel should label chemicals with [2 Marks]
- A. Abbreviations
 - B. Symbols
 - C. The chemical's full name
 - D. The experiment date
 - E. The technician's name
- ii. Personal eyeglasses provide as much protection as [2 Marks]
- A. a face shield.
 - B. safety glasses.
 - C. splashproof chemical goggles.
 - D. none of the above.
- iii. If you need to touch or rub your eyes, you must [2 Marks]
- A. step outside the lab where there are no chemicals.
 - B. ask permission from the instructor.
 - C. use rubbing alcohol.
 - D. use the eye wash.
 - E. wash your hands.
- iv. When working with an experiment under a fume hood: [2 Marks]
- A. keep fume hood sash down as far as possible.
 - B. use your hand to fan fumes away from you.
 - C. get the instructor's permission.
 - D. make sure to put your head inside the fume hood and carefully inspect the reaction taking place.
 - E. none of the above.
- v. Wash bottles should only be filled with [2 Marks]
- A. washing or cleansing solution.
 - B. tap water.
 - C. distilled or deionized water.
 - D. distilled alcohol.
 - E. none of the above.
- vi. Explain the acronym PPE and its importance in a chemical laboratory [2 Marks]
- vii. Describe the proper PPE to be worn in a chemical laboratory [5 Marks]
- viii. Describe a safety data sheet [4 Marks]
- ix. Highlight the purpose of a safety data sheet [3 Marks]
- x. State the possible dangers in the lab below [4 Marks]



Question 2 [20 Marks]

Explain the importance of first aid in the chemical lab [4 Marks]

Citing a relevant scenario, highlight the most important principle of first aid and explain how it should be applied [10 Marks]

Describe the steps you would take in the event of a fire in your dormitory [6 Marks]

Question 3 [20 Marks]

Describe the safety measures to take in the event of the following incidents

Fire on your clothing [4 Marks]

Chemical spill on your face and body [6 Marks]

Discuss the importance of 5 safety equipment in the chemical lab [10 Marks]

Question 4 [20 Marks]

Describe the functions and unique features of each of the following laboratories

- i. Cleanrooms [4 Marks]
- ii. Clinical and Medical Laboratories [4 Marks]
- iii. Incubator Laboratories [4 Marks]
- iv. Production Laboratories [4 Marks]
- v. Biosafety laboratories [4 Marks]

Question 5 [20 Marks]

- i. Describe a chemical inventory [2 Marks]
- ii. Discuss the importance of keeping an up to date inventory in a chemical laboratory [4 Marks]
- iii. Highlight the uses of a chemical inventory [14 Marks]