END OF TERM I EXAMS 2024

CLASS: S.2 SUBJECT: CHEMISTRY TIME: 1 HOUR 30 minutes

Instructions: Answer both questionsItem 1

Read the following article and answer the questions that follow:THE RESPONSIBILITY OF CHEMISTS FOR A BETTER WORLD: CHALLENGES AND POTENTIALITIES BEYOND THE LABORATORY

There is no doubt that chemistry is in the heart of the economy of every developed or developing country. Chemistry is necessary to make the world a better place in terms of prosperity and welfare. It is the ground for modern agriculture, pharmacy, and provides the basic materials for any other producing industries. However, not all developments in which chemistry was involved in the past were of benefit to the world in terms human health, raw materials consumption, and the environment. Green chemistry is suggested to provide a more responsible alternative of doing chemistry in research and industry – today and for the future. Chemists believe that in order to be more sustainability in this field needs a change in doing chemistry, but in the same time they argue that the responsibility of the chemists for sustainability goes much further. The role of the chemists also covers responsibility to contribute to societal decisions and discourse about chemistry and, at the same time, to help developing a different, more balanced and fun view on chemistry in both society and chemistry education.Source: Ingo, Sjöström & Vânia (2017)

a) Suggest three ways in which chemistry contributes to the modern agriculture. (03scores)

b) Provide three practical evidence for the role of chemistry in pharmacy. (03 Scores)

c) Explain how chemistry promotes sustainable development in our country. (05 scores)

d) Suggest three possible challenges that are likely to be faced by chemists in your country. (03 scores)

e) Provide possible solutions to the above challenges as a future chemist. (03 scores)

Read the article below and answer the questions that follow:

Item 2

ASSESSMENT OF THE QUALITY OF WATER FROM DIFFERENT WATER

SOURCES IN KIBUJJO VILLAGE, NAMAYUMBA SUB-COUNTY, WAKISO DISTRICT, UGANDA.Water is one of the essential life’s basic needs. However, the purity and quality of water from different sources in developing countries are still in doubt due to contamination by different activities. These chemists assessed the quality of water sources in Kibujjo Village, Wakiso District, Uganda. Water samples were collected from four water sources: two (2) wells and two (2) boreholes. The results indicated that most of the assessed water did not meet the Uganda National Bureau of Standards (UNBS) and World Health Organization (WHO)standards for drinking water. Water from Boreholes had a better quality than water from the wells. The highest impurity within water was recorded during the wet season. Therefore, water from wells is not recommended for drinking before treatment, most especially during wet season. Source: Musumba, Sembatya & Muloogi (2022)

Questions:

a) Explain different human activities that may contaminate water sources. (05 scores)

b) How can these contaminations be minimized?(05 scores)

c) Suggest reasons why water from the well was more contaminated that the water from boreholes? (02 scores)

d) Provide practical evidence for the highest contamination in wet season.(03 scores)

END