

**NATIONAL UNIVERSITY OF LESOTHO
DEPARTMENT OF SCIENCE EDUCATION**

[Dip. Agric. Ed., B.Sc. Ed. EXAMINATION]

**SCE 3301-3: DEVELOPMENT OF SCIENCE AND TECHNOLOGY
IN SOCIETY**

2023

Marks: 100

Time: 3 Hours

INSTRUCTIONS: This question paper consists of four (4) questions.

- Answer **ALL** Questions.
- Each Question Carries 25 marks.

QUESTION 1

- a) The Great Zimbabwe/Munuh Mutapa reflects complex features which took the Shona people skill, will and industry to construct during the 11-12th century:
- i) Mention a plausible reason why the Shona people built such a massive stone enclosure. (2)
 - ii) Explain how the walls of the structure were kept stable. (2)
 - iii) State the type of stone used to construct the structure. (2)
 - iv) Mention **two (2)** differences between the 12th century Great Zimbabwe structure and buildings in Lesotho in the 1800s. (4)
- b) Mention **three (3)** characteristics of science concept cartoons. (6)
- c) Draw and label the furnace, built by the Haya people in Tanzania more than 2000 years ago. (9)
- [25]**

QUESTION 2

- a) Distinguish between science & Technology. (4)
- b) Briefly describe Hubble telescope and its function. (3)
- c) Mention any **five (5)** examples of early evidence of technology in Lesotho. (10)
- d) Describe any **four (4)** factors that caused the abandonment of some of the innovative indigenous technologies in the African context. (8)
- [25]**

QUESTION 3

Science education has been found to have some persistent specific problems and limitations.

- a) Explain the limitations of the following practices and perceptions in science teaching:
- Textbook based teaching of science. (3)
 - Pre-occupation with teaching of pre-requisite knowledge. (3)
 - Teaching of science that lacks personal relevance to learners. (3)
 - The teaching of science dominated by the teacher. (3)
 - The testing of students that emphasises recall of knowledge. (3)
- b) Define citizen science teaching approach. (3)
- c) Identify a problem in the community, AND explain how a science teacher can address the problem using a 'citizen science' teaching approach. (7)
- [25]**

QUESTION 4

Read the following news article, and answer the following questions:

The curse of ritual murders

23-09-2022 | 08:25. **Africa-Press – Lesotho** ([The curse of ritual murders - Lesotho \(africa-press.net\)](http://africa-press.net))

Last month, the Likhoele Ha-Sebusi community in Mafeteng woke up to a gruesome scene of two men who had been brutally murdered and had their private parts hacked off. The body parts were nowhere to be seen. These men were aged between 23 and 32 years. The deceased were from the Likhoele area in Mafeteng. The police immediately launched investigations into the dreadful incident. The investigations have since led to the arrest of two suspects – who are believed to have been the masterminds behind the ritual murder. Four other men were later arrested in connection with the murder....

Police spokesperson Senior Superintendent Mpiti Mopeli said...the suspects told them that they gave the body parts to a traditional doctor aged 29 who is from the village of Ha-Qobete. SSP Mopeli said the suspects said they also handed over a pistol they used to kill the men to the said traditional doctor. The traditional doctor was also arrested by the police. “The man was found in possession of some body parts and a pistol,” SSP Mopeli said. ... Further police investigations revealed that the sangoma was going to mix the parts with some herbs.

In particular, he was in need of a white man’s private parts, not the ones for a Mosotho man to make a stronger mixture of herbs. Because the 21-year-old suspect is an illegal miner in South Africa, the sangoma had asked him to get him the private parts of the white-man because he was working close to white men... Police investigations revealed that previously, the deal was that the suspects would be given M15 000 for the parts. When the ritual murderers brought the parts of the Basotho men, the price dropped to M10000. The chairman of Lesotho Traditional Doctors, Malefetsane Liau, said the incident left them shocked. He said they are yet to find out if the traditional healer is in their books. “We are going to delete his name from our books if he is a registered traditional doctor,” Liau said.

- a) In the story above, ritual murder may be described as part of traditional knowledge, in Lesotho:
- i. Explain any **two (2)** possible reasons for the occurrence of ritual murders in Lesotho. (4)
 - ii. Describe **one (1)** valuable example of Basotho traditional/indigenous knowledge, in Science/Agricultural Science related field. (4)
 - iii. Briefly illustrate the method of science teaching that could be used, to enable learners to question harmful forms of indigenous knowledge. (5)
- b) Describe **four (4)** steps involved in the practice of the scientific method? (8)
- c) In your view, explain how reliable the knowledge of the traditional experts (e.g. doctors) is, given that there are not formal training institutions for them in country? (4)

[25]