

MANICALAND STATE UNIVERSITY OF APPLIED SCIENCES

FACULTY OF ENGINEERING

Chemical and Processing Engineering Department

ENVIRONMENTAL MANAGEMENT AND RISK ASSESSMENT

CODE: HCHE 526

SESSIONAL EXAMINATIONS

MARCH 2021

DURATION: 3 HOURS

EXAMINER: T. C. NKHOMA

INFORMATION AND INSTRUCTIONS

1. This paper consists of
2. Answer **ALL** questions

QUESTION 1

- a) Identify and briefly describe four barriers to environmental management [12]
- b) Identify five objectives of public participation and stakeholder involvement in environmental management [5]
- c) Distinguish between Environmental Risk Assessment and Environmental Impact Assessment [3]
- d) Explain any three screening techniques that can be used before conducting a full Environmental Impact Assessment (EIA) process. [5]

QUESTION 2

- a) A gold mining company has been working in an area for 15 years. In the last 5 years their production of gold has doubled. However, the inhabitants of a settlement area near the mine have been complaining about several issues concerning the mine operations. For this reason, the community and the regulatory authorities have asked for an environmental evaluation on this company since never before has any evaluation been executed. The company hires an environmental consultancy in order to perform this evaluation. You are the leader of this consultancy team.
 - i. Mention any five problems which might be associated with this gold mining process. [5]
 - ii. What type of environmental evaluation would you need to perform in this case? Explain your answer. [5]
 - iii. What expertise would you consider including in your team? [5]

b) Outline the benefits of implementing an Environmental Management System [5]

QUESTION 3

- a) Using an example of a local organization of your choice, (state the name of the organization in your answer) for five stakeholders identify two pieces of sustainable development information in which they may have an interest and explain this interest. [15]
- b) Explain each of the five levels of the hierarchy of control in hazard management with the aid of an example. [10]

QUESTION 4

a) Copy and complete the table below:

Human Activity	Air, water and land pollution [10]	Monitoring [10]	Prevention and control techniques [10]
Tea Production			
Artisanal mining			
Overpopulation			
Fishing			
Electricity generation			