

---

**UNIVERSITY OF SWAZILAND  
FACULTY OF HEALTH SCIENCES  
DEPARTMENT OF ENVIRONMENTAL HEALTH SCIENCE**

---

**RESIT EXAMINATION**

---

TITLE OF PAPER	ENVIRONMENTAL IMPACT ASSESSMENT AND AUDITING
COURSE CODE	EHS445
DURATION	TWO (2) HOURS
DATE	JANUARY 2020
TOTAL NUMBER OF MARKS	100
INSTRUCTIONS	<ol style="list-style-type: none"><li>1. DO NOT OPEN THIS PAPER UNTIL YOU ARE INSTRUCTED TO DO SO.</li><li>2. ANSWER ANY FOUR QUESTIONS.</li><li>3. BEGIN YOUR ANSWERS TO EACH QUESTION ON A FRESH PAGE. ENSURE THAT ALL ANSWER SHEETS ARE NUMBERED CORRECTLY.</li><li>4. POOR HANDWRITING AND CARELESSNESS IN ENGLISH LANGUAGE GRAMMAR SHALL RESULT IN LOSS OF MARKS.</li><li>5. ANY FORM OF MISCONDUCT DURING THE EXAMINATION IS PUNISHABLE IN LINE WITH RELEVANT ACADEMIC REGULATIONS.</li></ol>

---

**QUESTION ONE [25 MARKS]**

1. EIA is a process that consists of various stages. For each of the scenarios given below, state the most appropriate stage of the EIA process [12].
- The construction of a huge shopping complex is proposed to take place in a particular town. However, due to the sensitivity of the local environment, three sites are under consideration.
  - Ten (10) developmental projects are going to be implemented in Mbabane starting in 2020. Of the 10, only 4 were required to undergo the process of EIA.
  - Following the commissioning of a coal-fired power plant in Mpaka, two years ago, the levels of dioxins in the immediate vicinity has been found to be on the increase.
  - Prior to commissioning of the coal-fired power plant in Mpaka, the project proponent claimed that levels of dioxins in the immediate vicinity would range from 0.5 to 1.5 mg kg<sup>-1</sup>. However, the actual levels, after commissioning of the plant, were found to be 0.8 to 2.6 mg kg<sup>-1</sup>.
  - The Swaziland Environment Authority (SEA) recently received EIS documents from AG Thomas, which relate to the rehabilitation of the King Mswati III. The proponent has not yet received feedback from SEA because the EIS is still being considered by an independent consultant.
  - The project described in (v) above will include the addition of new lanes to make it even broader. In trying to understand the impacts, the current state of natural vegetation within the 0–20m vicinity of the highway is part of the areas being studied. Special attention is on impacts likely to emanate from the highway (in case the project is allowed to proceed) and from other sources (e.g., natural, anthropogenic, etc.).
2. For each of the tables given below; state the method and describe any two operating principles of the method [10].

Table 1

Environmental component	Project action				
	Construction		Operation		
	Utilities	Residential and commercial buildings	Residential buildings	Commercial buildings	Parks and open spaces
Flora	X	X			X
Air quality				X	
Traffic	X	X	X	X	

Table 2

Environmental component	Project action				
	Construction		Operation		
	Utilities	Residential and commercial buildings	Residential buildings	Commercial buildings	Parks and open spaces
Flora	Orange	Red			Deep green
Air quality				Orange	
Traffic	Orange	Orange	Orange	Red	

3. In EIA, there are three types of capital that must be passed on to future generations. What are these three types of capital? [3]

### QUESTION TWO [25 MARKS]

1. Recently announced news of the re-opening of Dvokolwako diamond mine was received with high hopes due to prospects of employment. However, a statement from SEA, which advised that the mine can only start operating after submission of a full EIS statement, disappointed many people from the surrounding communities. The issue was picked up by parliamentarians, and in their discussions, it became clear that they do not understand EIA. You are an employee at SEA and you have been tasked to go to parliament to address both houses. State any four points (each of which must be broken down in two further points) that will form part of your presentation [20].
2. State any five crucial dimensions that form part of the description of a proposed project [5].

### QUESTION THREE [25 MARKS]

1. What is EIA? [3]
2. What is the scope of an EIA? [3]
3. What is the process of scoping? [3]
4. Describe any four benefits of scoping in EIA [8].
5. State any five categories and/or types and/or groups of people that should participate in the scoping process [5].
6. Generally, good practice in scoping is to bring all affected and/or concerned people into a meeting with developers. One of the impact identification methods is then used to structure and/or guide discussions. State any three desirable results that should be achieved during this meeting [3].

### QUESTION FOUR [25 MARKS]

1. State any six desirable skills of a team project manager in an EIA process [6].
2. State any five core roles of a project manager in EIA [5].
3. State any six types of alternatives [6]
4. Describe any three benefits of considering alternatives in EIA [6].
5. What is an EIS? [2]

### QUESTION FIVE [25 MARKS]

1. State any five criteria for significance of impacts/determinants of environmental significance [5].
2. State the five categories of impact identification methods [5].
3. Although EIA now has over 40 years of history in many places, it has not been without problems. Of the six main problems that presently face EIA, state the most relevant problem or issue in each of the statements given below [9].
  - (a) Some of the main steps in the EIA process (e.g. auditing, monitoring) may be missing from many studies. There may also be problems with the steps that are included. The prediction of impacts raises various conceptual and technical problems.
  - (b) Other technical problems are the general lack of data and the tendency to focus on the quantitative, and often single, indicators in some areas.
  - (c) The various actors in the EIA process (the developer, the affected parties, the general public and the regulators at various levels of government) have different accesses to the process, and their influence on the outcome varies.

- (d) Procedures for and the practice of public participation in the EIA process vary between, and sometimes within, countries, from the very comprehensive to the very partial and largely cosmetic.
  - (e) In 1991, Jones et al found that one-third of the EISs did not appear to contain the required non-technical summary, that, in a quarter of the cases, they were judged not to contain the data needed to assess the likely environmental effects of the development, and that in the great majority of cases, the more complex, interactive impacts were neglected.
  - (f) Many EISS are for one-off projects, and there is little incentive for developers to audit the quality of the assessment predictions and to monitor impacts as an input to a better assessment for the next project
4. Describe any two advantages of an interdisciplinary approach to the EIA process [4].
  5. State any two aspects of the environment that necessitate a full environmental impact report [2].