UNIVERSITY OF ESWATINI

FACULTY OF HEALTH SCIENCES

DEPARTMENT OF ENVIRONMENTAL HEALTH SCIENCE

FINAL EXAMINATION

TITLE OF PAPER	ENVIRONMENTAL IMPACT ASSESSMENT AND AUDITING
COURSE CODE	EHS445
DURATION	2 HOURS
DATE	FEBRUARY 2021
TOTAL MARKS	100
INSTRUCTIONS	1. DO NOT OPEN THIS PAPER UNTIL YOU ARE INSTRUCTED TO DO SO. 2. ANSWER ALL QUESTIONS. 3. BEGIN YOUR ANSWERS TO EACH QUESTION ON A FRESH PAGE. ENSURE THAT ALL ANSWER SHEETS ARE NUMBERED CORRECTLY. 4. POOR HANDWRITING AND CARELESSNESS IN ENGLISH LANGUAGE GRAMMAR SHALL RESULT IN LOSS OF MARKS. 5. RELEVANT ACADEMIC REGULATIONS SHALL APPLY IN CASES OF MISCONDUCT DURING THE EXAMINATION.

QUESTION 1 [20 MARKS]: A BRIEF HISTORY OF THE INTRODUCTION OF EIA AND ITS PRINCIPLES

1. It is said that the introduction of EIA was met with strong resistance from many quarters. State any six reasons for this resistance [6].
2. State one country where such resistance was experienced [1].
3. State any two types of specialists that were particularly vocal in resisting the introduction of EIA [2].
4. In one of the countries, the government was also not enthusiastic about the introduction of EIA. Describe the manner in which this lack of enthusiasm was shown [3].
5. Participation, accountability, flexibility and credibility are some of the many principles of the EIA process. Describe your understanding of each of these principles [8].

QUESTION 2 [20 MARKS]: IDENTIFATION OF APPROPRIATE METHODS

1. In each of the statements given below, state the most relevant type of impact identification method [15].
   (a) They are an excellent way of showing the spatial distribution of impacts.
   (b) They are based on a list of special biophysical, social and economic factors that may be affected by a development.
   (c) They do not usually include direct cause-effect links to project activities.
   (d) They can help only to identify impacts and ensure that impacts are not overlooked.
   (e) They consist of a list of environmental components and, for each component, a threshold at which those assessing a proposal should become concerned with an impact.
   (f) They are the most commonly used method of impact identification in EIA.
   (g) They acknowledge the fact that various components of a development project (e.g. construction, operation, decommissioning, buildings, and access road) have different impacts
   (h) They describe impacts according to their magnitude, importance and/or time frame (e.g. short, medium or long-term)
   (i) They aim to broadly identify who might lose and who might gain from the potential impacts of a development.
   (j) They explicitly recognize that environmental systems consist of a complex web of relationships, and try to reproduce that web.
2. State any two aims of impact identification methods [5].

QUESTION 3 [20 MARKS]: APPLICATION QUESTIONS

1. Present/sketch the following information in a graph:
   There is a plan to establish a coal-driven power plant in 2040. One of the anticipated impacts of the proposed development is the emission of CO_2. Projections are that from 2020 to 2040, CO_2 levels in the atmosphere will remain at 20ppm. However, emissions will rise to 30ppm, 40ppm, 50ppm and 60ppm in 2050, 2060, 2070 and 2080 (correspondingly). While the proposed development is associated with high CO_2 emissions, the absence of the coal-driven power plant does not necessarily mean that there will be zero CO_2 emissions. In other words, with or without project implementation, it is expected that there will be CO_2 emissions, as a result of many natural factors [10].
2. Three sites have been proposed for the construction of a new shopping mall. These are A, B, and C. In all the three sites, the key environmental components that are likely to be affected are; flora, water quality, air quality, and soil. The importance weightings of these components are 19, 44, 17, (correspondingly). As far as the local communities are concerned, the magnitudes of the proposed project on these components are 4, 7, 3, 9 (correspondingly) for site A; 6, 3, 4, 7 (correspondingly) for site B; and 2, 5, 3, 9 (correspondingly) for site C. Based on this information, propose the most suitable site for the project [10].

QUESTION 4 [20 MARKS]: TYPES/EXAMPLES

1. State any four types of environmental impact [4]
3. State any four types of environmental parameters [4]
4. State any four types of EIA styles [4]
5. State any four types of alternatives [4]
6. State any four examples of matrices [4]

QUESTION 5[20 MARKS]: DEFINITION OF TERMS

1. What is EIA? [3]
2. What are environmental impacts of a project? [2]
3. According to the United Nations World Commission on Environment and Development, what is sustainable development? [3]
4. What is environmental impact statement? [3]
5. What is environmental baseline [3]
6. What is the process of scoping [3]
7. What is environmental impact auditing [3]