
UNIVERSITY OF ESWATINI
FACULTY OF HEALTH SCIENCES
DEPARTMENT OF ENVIRONMENTAL HEALTH SCIENCE



RESIT EXAMINATION

TITLE OF PAPER	ENVIRONMENTAL IMPACT ASSESSMENT AND AUDITING
COURSE CODE	EHS448
DURATION	2 HOURS
DATE	September 2020
TOTAL NUMBER OF MARKS	100
INSTRUCTIONS	<ol style="list-style-type: none">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.

PART ONE: MULTIPLE CHOICE QUESTIONS

Question 1 [25 marks]

1. The incompatibility of monetary and non-monetary units is a disadvantage of;
 - (a) Mathematical models
 - (b) Multi-criteria decision analysis (MCDA)
 - (c) Planning balance sheet (PBS)
 - (d) Cost-benefit analysis
2. Some problems associated with the cost-benefit analysis approach to evaluation can be eased by the application of;
 - (a) Multi-criteria decision analysis (MCDA)
 - (b) Goals achievement matrix (GAM)
 - (c) Planning balance sheet (PBS)
 - (d) Multi-attribute utility theory (MAUT)
3. In classification of mitigation measures, abatement on site is an example of;
 - (a) Project phase
 - (b) Levels of mitigation
 - (c) Understanding environmental baseline
 - (d) Mitigation hierarchy
4. In classification of mitigation measures, project management measures are an example of;
 - (a) Mitigation hierarchy
 - (b) Project phase
 - (c) Levels of mitigation
 - (d) Understanding environmental baseline
5. In classification of mitigation measures, restoration, afteruse/aftercare are examples of;
 - (a) Mitigation hierarchy
 - (b) Levels of mitigation
 - (c) Understanding environmental baseline
 - (d) Project phase
6. The basic evaluation principle is to measure in monetary terms where possible. This is a principle of;
 - (a) Planning balance sheet (PBS)
 - (b) Community impact evaluation (CIE)
 - (c) Cost-benefit analysis (CBA)
 - (d) Multi-attribute utility theory (MAUT)
7. They can be simple or complex, formal or informal, quantitative or qualitative, and aggregated or disaggregated. This refers to;
 - (a) Impact prediction methods
 - (b) Mitigation methods
 - (c) Methods for enhancement of potential benefits
 - (d) Evaluation methods

8. If the authorising agency considers that the proposed project is unlikely to have any significant adverse environmental impacts, the project may be placed in;
 - (a) Category 2
 - (b) Category 3
 - (c) Category 1
 - (d) Category 4
9. If the authorising agency considers that the proposed project is likely to have some significant adverse environmental impacts but that the impacts are relatively well-known and easy to predict, the project may be placed in;
 - (a) Category 1
 - (b) Category 3
 - (c) Category 4
 - (d) Category 2
10. If the authorising agency considers that the proposed project is likely to have some significant adverse environmental impacts but that the measures that can be taken to prevent or mitigate these impacts are well-known, the project may be placed in;
 - (a) Category 1
 - (b) Category 3
 - (c) Category 2
 - (d) Category 4
11. If the authorising agency considers that the proposed project is likely to have some significant adverse environmental impacts, and that an in-depth study is required to determine the scale, extent and significance of the impacts, the project may be placed in;
 - (a) Category 3
 - (b) Category 1
 - (c) Category 2
 - (d) Category 4
12. An environmental compliance certificate is issued within ten (10) days. This is a requirement for projects classified as;
 - (a) Category 2
 - (b) Category 3
 - (c) Category 1
 - (d) Category 4
13. The proponent shall prepare an IEE report and a CMP. This is a requirement for projects classified as;
 - (a) Category 2
 - (b) Category 1
 - (c) Category 3
 - (d) Category 4
14. The proponent shall, before preparing an EIA report and CMP, effect a consultation process to involve or include concerned and affected parties. This is a requirement for projects classified as;
 - (a) Category 1
 - (b) Category 3
 - (c) Category 2
 - (d) Category 4

15. One of the international responses to meet the goal of sustainable development was;
- (a) The United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro in 1992
 - (b) The Maputo Summit in 1995
 - (c) The United Nations Conference on Sustainable Development (UNCSD) held in Durban in 2000
 - (d) All of the above
16. Agenda 21 was a result of;
- (a) The Maputo Summit in 1995
 - (b) The UNCSD in Durban in 2000
 - (c) The UNCED in Rio de Janeiro in 1992
 - (d) United Nations Environment Programme
17. In EIA, LULU refers to;
- (a) Locally unacceptable land-uses
 - (b) Largely undetected land-impacting uses
 - (c) Long-range undesirable land-use changes
 - (d) Lasting and unacceptable land-uses
18. LULU has largely been applied in;
- (a) UK
 - (b) Africa
 - (c) USA
 - (d) Australia
19. An example of point infrastructure/projects is;
- (a) Power stations
 - (b) Electricity transmission lines
 - (c) Sewerage pipes
 - (d) Potable water supply pipes
20. An example of band infrastructure is;
- (a) Power stations
 - (b) Bridges
 - (c) Roads
 - (d) Harbours
21. Major projects can be defined according to;
- (a) Size of rural population affected
 - (b) Financial investment and type of activity
 - (c) The extent of environmental population and area covered by the project
 - (d) Distance of the project from environmentally-sensitive areas
22. One of the following characteristics is a distinguishing factor for large projects;
- (a) Site of the project
 - (b) Number of people employed
 - (c) Characteristics of pollutants produced
 - (d) Environmental components affected (e.g., land, water, air, flora, etc.)

23. Planning, conflict resolution, construction, operation, close down, etc., are examples of;
- (a) Environmental impact statement
 - (b) Project life-cycle
 - (c) Scoping of project life-cycle
 - (d) Non-technical summary
24. Previously polluted and derelict land is brought back into productive use. This refers to;
- (a) Socio-economic impact
 - (b) Physical impact
 - (c) Distributional impact
 - (d) Strategic impact
25. Pressure on local health services and on the local housing market, and increases in community conflict and crime. This is a;
- (a) Actual and perceived impact
 - (b) Socio-economic impact
 - (c) Qualitative impact
 - (d) Direct impact

PART TWO: DESCRIPTION OF PROCESSES

Question 2 [25 marks]

1. Describe the two main approaches to screening [10]
2. Describe the scoping process under the following subthemes; beginning of scoping, discussions and key issues to be considered, and results of scoping [15]

PART THREE: APPLICATION OF KNOWLEDGE/SKILLS GAINED FROM THE COURSE

Question 3 [25 marks]

1. Flora, water quality, air quality, and soil with their importance weightings (a) being 19, 44, 17, (respectively), are some of the environmental components that are likely to be affected by the proposed power generation project. As far as the local communities are concerned, the magnitudes (c) 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. With an aid of a table, state the site where the proposed project will be located [15].
2. Figure 1 below shows Type A (mainly related to crime rate, anxiety and stress) and Type B (levels mainly related to water quality, air quality and soil quality) EIA evaluation reports that are concluded each year. Describe one possible reason for the differences in A and B [5].

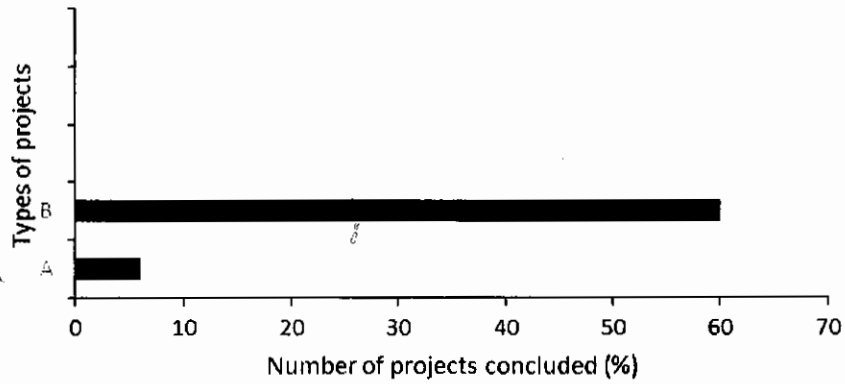


Figure 1: Types of EIA projects completed each year

3. Five projects, which were completed at the end of 2019, are shown in Figure 2. Study the diagram carefully and answer the questions that follow.

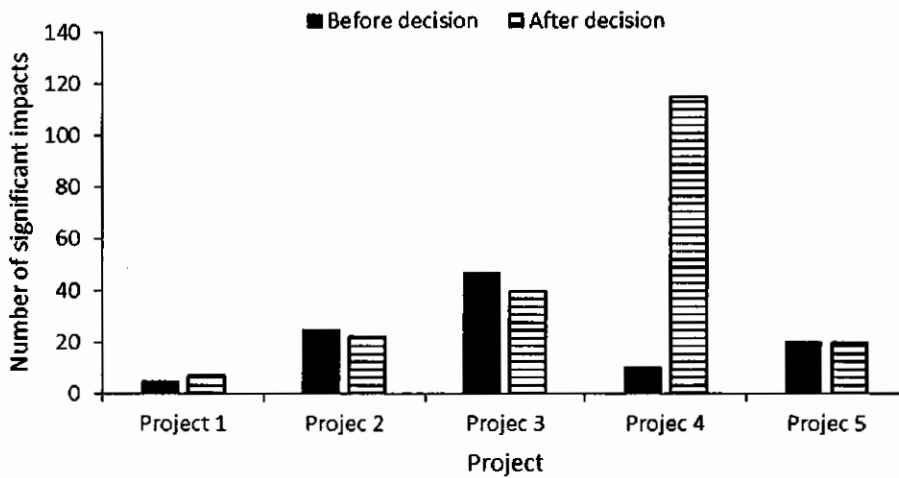


Figure 2: Pre- and post-decision impacts in five projects completed in December 2020

- (a) As a specialist in the EIA process, suggest one step of the EIA process that was possibly not done at all in project 4 [1].
- (b) Describe your reasons for your answer in (a) above [4].

PART FOUR: ADVANTAGES AND DISADVANTAGES

Question 4 [25 marks]

1. Describe any three advantages of scoping [3]
2. Describe any three advantages of considering alternatives [6]
3. Describe any two advantages of weighted matrices [4]
4. Describe any two disadvantages of weighted matrices [4]
5. Describe two disadvantages of causal chain analysis [4]
6. Describe any two advantages of overlay maps [4]