UNIVERSITY OF ESWATINI

FACULTY OF HEALTH SCIENCES

DEPARTMENT OF ENVIRONMENTAL HEALTH SCIENCE

RESIT 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]: ADVANTAGES ASSOCIATED WITH CERTAIN EIA STAGES

1. Describe any three benefits of the scoping process in EIA [6].
2. Describe any three benefits of considering alternatives in EIA [6].
3. Describe any three benefits of monitoring in EIA [6].
4. Describe one benefit of the thresholds approach to screening [2].

QUESTION 2 [20 MARKS]: MANAGEMENT OF THE EIA PROCESS

1. It has been said that the EIA process always involves an interdisciplinary team approach. Describe one benefit of such an approach [2].
2. Describe any three roles of the team project manager [6].
3. State any three qualities of a good interdisciplinary EIA team [6].
4. State any three desirable skills of an EIA team project manager [6].

QUESTION 3 [20 MARKS]: MULTIPLE CHOICES

1. 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) Multi-attribute utility theory (MAUT)
   (d) Planning balance sheet (PBS)
2. The use of scientific laws, computer models, statistical analysis is a predominant practice in;
   (a) Cost-benefit analysis
   (b) Monetary valuation techniques
   (c) Planning balance sheet (PBS)
   (d) Mathematical models
3. The simplest impact identification methods involve the use of;
   (a) Networks
   (b) Causal chain analysis
   (c) GIS maps
   (d) Lists of impacts
4. The most complex impact identification methods include the use of;
   (a) Lists of impacts
   (b) GIS maps
   (c) Delphi panels
   (d) Interactive computer programmes
5. In classification of mitigation measures, restoration, afteruse/aftercare are examples of;
   (a) Mitigation hierarchy
   (b) Project phase
   (c) Levels of mitigation
   (d) Understanding environmental baseline
6. A disadvantage of one of the impact identification methods is that it does not usually include direct cause-effect links to project activities. This method is;
   (a) Delphi panels
   (b) Checklists
   (c) GIS mapping
   (d) Qualitative methods
7. The choice of discount rate is a disadvantage of;
   (a) Mathematical models
   (b) Cost-benefit analysis
   (c) Multi-criteria decision analysis (MCDA)
   (d) Planning balance sheet (PBS)
8. In classification of mitigation measures, project management measures are an example of;
   (a) Mitigation hierarchy

(b) Levels of mitigation
(c) Project phase
(d) Understanding environmental baseline

9. An advantage of one of the impact identification methods is that it is easy to use. This method is;
   (a) Delphi panels
   (b) GIS mapping
   (c) Checklists
   (d) Qualitative methods
10. In classification of mitigation measures, abatement on site is an example of;
   (a) Project phase
   (b) Levels of mitigation
   (c) Mitigation hierarchy
   (d) Understanding environmental baseline
11. One impact identification method operates by providing a scale for classifying estimated impacts, from highly adverse to highly beneficial. This method is;
   (a) GIS mapping
   (b) Weighted matrices
   (c) Questionnaire checklist
   (d) Distributional questionnaires
12. The use of a designated lorry route, and day-time working only, the establishment of buffer zones, etc., are examples of;
   (a) Repair, rehabilitate and/or restore methods
   (b) Compensation for adverse effects
   (c) Methods to reduce adverse effects
   (d) Methods to avoid adverse effects
13. Various components of a development project (e.g. construction, operation, decommissioning; buildings, access road) have different impacts. An impact identification method that represents this is;
   (a) Matrices
   (b) Qualitative matrices
   (c) Quantitative matrices
   (d) Distributional matrices
14. The use of construction-site hostels, and coaches for journeys to work are examples of;
   (a) Methods to reduce adverse effects
   (b) Repair, rehabilitate and/or restore methods
   (c) Compensation for adverse effects
   (d) Methods to avoid adverse effects
15. Various components of a development can have positive and/or negative impacts on various components of the environment. An impact identification method that represents this is;
   (a) Magnitude matrices
   (b) Weighted matrices
   (c) Qualitative matrices
   (d) Quantitative matrices
16. A river or stream diverted by a road project can be unconverted and re-established with similar flow patterns as far as is possible. This is an example of;
   (a) Repair, rehabilitate and/or restore methods
   (b) Compensation for adverse effects
   (c) Methods to reduce adverse effects
   (d) Methods to avoid impacts
17. From the same project, some sectors of the public might experience positive impacts and others might experience negative impacts. An impact identification method that represents this is;
   (a) Case by case checklists

(b) Cost benefit analysis
(c) Area-based distributional impacts
(d) Distributional impact matrices

18. For the loss of privacy, quietness and safety in houses next to a new road, the provision of sound insulation and/or the purchase by the developer of badly affected properties. This is an example of;
    (a) Compensation for distributional effects
    (b) Compensation for longitudinal effects
    (c) A method to avoid impacts
    (d) Compensation for adverse effects
19. A major downside of one of the impact identification methods is that it requires considerable knowledge of the environment. This is;
    (a) Checklists
    (b) Questionnaires
    (c) Qualitative matrices
    (d) Networks
20. They work backwards from desired outcomes to assess whether a project, in its environmental context, is adequate to achieve them (desired outcomes). These are;
    (a) Extrapolative approaches
    (b) Mathematical approaches
    (c) Computer-based approaches
    (d) Normative approaches

QUESTION 4 [20 MARKS]: PURPOSES OF EIA

Under each of the four purposes of EIA stated below, write brief notes (two clear sentences) to demonstrate your understanding.

(a) EIA is an aid to decision-making [5]
(b) EIA is an aid to the formulation of development actions [5]
(c) EIA is a vehicle for stakeholder consultation and participation [5]
(d) EIA is an instrument for sustainable development [5]

QUESTION 5 [20 MARKS]: APPLICATION QUESTIONS

1. All project proposals submitted to the Eswatini Environment Authority (EEA) are usually subjected to the full EIA process. Consequently, many developers are now reluctant to submit new proposals because it takes a long time to get feedback from the EEA.
    (a) Suggest one EIA process that the EEA is most likely failing to utilize/apply properly [2].
    (b) Describe your reasons for the choice you made in (a) above [6].
2. Prior to the re-opening of the Ngwenya iron ore mine, there was a full EIA process, in which it was clear that all impacts would be managed properly. However, five years down the line, it has been found that there is poor management of impacts.
    (a) Suggest one EIA process that may have been neglected immediately after the re-opening of the mine [2].
    (b) Describe your reasons for the response that you have given in (a) above [5].
    (c) Suggest one EIA process that may have been used in the discovery of the poor impact management at Ngwenya [2].
    (d) Describe your reasons for the response that you have given in (c) above [3].