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

FINAL EXAMINATION

TITLE OF PAPER	ENVIRONMENTAL IMPACT ASSESSMENT AND AUDITING
COURSE CODE	EHS448
DURATION	2 HOURS
DATE	September 2020
TOTAL NUMBER OF 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.

PART ONE: MULTIPLE CHOICE QUESTIONS

Question 1 [25 marks]

1. A systematic analysis of the environmental effects of development policies, plans and programmes is;
   (a) Strategic EIA
   (b) Rational EIA
   (c) Ethical EIA
   (d) Credible EIA
2. The classification of projects into various categories is contained in the;
   (a) Environmental Audit, Assessment and Review Regulations, 2000
   (b) Environmental Management Act, No. 5, 2002
   (c) Environmental Impact Assessment Act, No.2, 2000
   (d) Both (b) and (c) above are correct
3. Criticism levelled against EIA, at its introduction, did not include;
   (a) Subjectivity
   (b) Financial implications
   (c) Complexity
   (d) Delays
4. At its introduction in the UK, it was anticipated that there would be about;
   (a) 20 EIS per year
   (b) 10 EIS per year
   (c) 30 EIS per year
   (d) 40 EIS per year
5. A proactive approach to integrate environmental considerations into the higher levels of decision-making is;
   (a) Strategic EIA
   (b) Rational EIA
   (c) Ethical EIA
   (d) Credible EIA
6. An EIA process that addresses the environmental impacts of regional development plans is;
   (a) Sectoral EIA
   (b) Regional EIA
   (c) Collaborative EIA
   (d) Flexible EIA
7. An EIA process that addresses developmental activity in isolation and the impacts it exerts on the receiving environment is;
   (a) Sectoral EIA
   (b) Project-level EIA
   (c) Regional EIA
   (d) Strategic EIA
8. All EIA assessment decisions and their basis should be open and accessible. This principle is;
   (a) Objectivity
   (b) Transparency
   (c) Subjectivity
   (d) Accountability

9. The process and timing of the assessment should be agreed in advance and may be followed by all participants, so as to sustain for future. This principle is;
   (a) Flexibility
   (b) Certainty
   (c) Credibility
   (d) Accountability
10. The decision-makers are responsible to all parties for their action and decisions under the assessment process. This principle is;
   (a) Cost effectiveness
   (b) Accountability
   (c) Transparency
   (d) Certainty
11. They use qualitative and quantitative information. This applies to;
   (a) Checklists
   (b) Simple matrices
   (c) Overlay maps
   (d) All of the above
12. They compare against carrying capacity. This applies to;
   (a) Networks
   (b) Weighted matrices
   (c) Magnitude matrices
   (d) None of the above
13. They compare alternative options. This applies to;
   (a) Weighted matrices
   (b) Overlay maps
   (c) Networks
   (d) All of the above
14. They are not easy to use. This applies to;
   (a) Overlay maps
   (b) Weighted matrices
   (c) Checklists
   (d) Networks
15. They show secondary, indirect and cumulative impacts. This applies to;
   (a) Overlay maps
   (b) Checklists
   (c) Matrices
   (d) Networks
16. Assessment is undertaken with professionalism and objectivity. This principle is;
   (a) Accountability
   (b) Transparency
   (c) Credibility
   (d) Flexibility

17. The information and output provided by the assessment process are readily usable in decision-making planning. This principle is;
    (a) Certainty
    (b) Flexibility
    (c) Practicability
    (d) Credibility
18. They show negative versus positive impacts, reversible versus irreversible impacts, etc. This applies to;
    (a) Checklists
    (b) Networks
    (c) Magnitude matrices
    (d) Weighted matrices
19. New or proposed projects are classified into three categories according to the regulations, and the classifications are;
    (a) A, B and C
    (b) Small-medium size, medium size and large size
    (c) Category 1, 2 and 3
    (d) Minor impact, medium impact and large impact
20. EIA, as it is currently practiced in many countries, relates primarily to the period;
    (a) After the decision
    (b) During the decision
    (c) Before the decision
    (d) At all stages of the project (planning, construction, operation and decommissioning)
21. The measuring and recording of physical, social and economic variables associated with development impacts (e.g. traffic flows, air quality, noise, employment levels) is;
    (a) Monitoring
    (b) Auditing
    (c) Screening
    (d) Scoping
22. It can be used as an early warning system, to identify harmful trends in a locality before it is too late to take remedial action. This refers to;
    (a) Auditing
    (b) Monitoring
    (c) Screening
    (d) Scoping
23. Comparing the impacts predicted in an EIS with those that actually occur after implementation, in order to assess whether the impact prediction performs satisfactorily is;
    (a) Environmental auditing
    (b) Environmental management auditing
    (c) Environmental impact auditing
    (d) Auditing

24. It focuses on public and private corporate structures and programmes for environmental management and the associated risks and liabilities. This is;
    (a) Environmental impact auditing
    (b) Environmental auditing
    (c) Auditing
    (d) Environmental management auditing
25. They can contribute to an improvement in all aspects of the EIA process, from understanding baseline conditions to the framing of effective mitigating measures. These are;
    (a) Scoping and screening
    (b) Screening and monitoring
    (c) Monitoring and auditing
    (d) Auditing and cost-benefit analysis

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

Question 2 [25 Marks]

1. There is a plan to establish a major project, the impacts of which will include the emission of CO_2 soon after project initiation, as shown in Figure 1. Study the diagram carefully and answer the questions that follow.

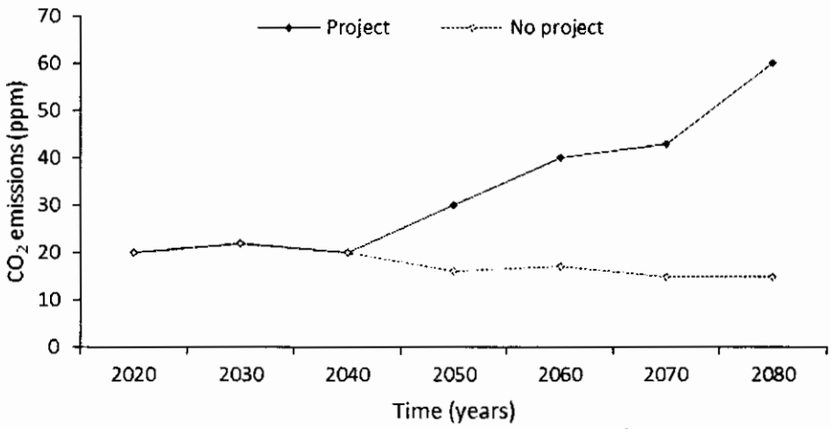

Figure 1: Projected CO_2 emissions between 2020 and 2080

(a) Generally, what are environmental impacts of a project? [3]
(b) In Figure 1, when will the project start? [1]
(c) In impact prediction, mitigation and enhancement, you studied a number of dimensions that must be considered during impact prediction. State (and expand on) three dimensions that are clearly shown in Figure 1 [6].
(d) In view of the projected CO_2 emissions, the proposed project was rejected by the Eswatini Environment Authority. Using the diagram, describe one possible reason for rejection [5].
(e) Apart from dimensions of prediction shown in Figure 1, state any other five dimensions [5]
(f) Describe one reason why CO_2 emissions, with or without the project, are not less than about 15 – 20ppm [5].

PART THREE: DEFINITION OF TERMS

Question 3 [25 marks]

Questions 1 to 9 are related to the various discussions that have taken place during the delivery of the EHS448 course. Define the terms.

1. Environmental impact assessment [3]
2. Environmental impact statement [2]
3. Description of the project/development action? [3]
4. Consideration of alternatives [3]
5. Sustainable development [3]
6. Environmental components [3]
7. Rational EIA process? [3]
8. Streamlined EIA process? [3]
9. Scope of an EIA? [2]

PART FOUR: TRUE OR FALSE

Question 4 [25 marks]

1. When EIA was first introduced, the United Kingdom (UK) Government was very instrumental in convincing developers to embrace it
2. When it was first introduced, EIA was called environmental assessment in the UK
3. Public participation is mainly concerned with the critical stages of EIA, especially scoping
4. Ideally, the EIA process should be cyclic instead of linear
5. The EIS is the official document through which the findings of scoping are reported
6. Post-decision monitoring is usually not mandatory in many countries
7. As far as sustainable development is concerned, the use of more inputs to produce more goods and services is detrimental
8. The documentation of the EIA process is presented under four important parts
9. A railway is an example of band infrastructure
10. The built heritage is a good example of all media susceptible to pollution
11. Worldwide, effects and impacts usually mean the same thing
12. An interdisciplinary team approach is strongly advocated for by the UK legislation
13. In EIA, a team project manager does not necessarily have to know about the project being undertaken
14. An ethical EIA is appropriate in situations where resources are limited, and where there very little data
15. The costs of carrying out an EIA tends to range from 0 to 10% of the capital cost of the project
16. In the planning and development lifecycle of major projects, there are usually five major stages
17. For small projects, EIA costs tend to be closer to 1% while for larger project, costs are closer to 10%
18. In some projects, planning and construction can take up to 20 years
19. An EIA for projects related to the marine environment is usually less costly compared to EIAs for many projects
20. One of the current issues in EIA is that there is tendency to focus on quantitative data
21. Scoping seeks to separate projects that require an EIA from those that do not require an EIA
22. Many EISs are for one-off projects

23. The screening stage seeks to focus on the impacts and alternatives that are more important than others
24. One of the functions of a project team leader is managing specialist's inputs
25. It can take about 6 – 18 months to complete an EIA process