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UNIVERSITI KUALA LUMPUR
INSTITUTE OF MEDICAL SCIENCE TECHNOLOGY

FINAL EXAMINATION

OCTOBER 2025 SEMESTER

COURSE CODE	:	HGB40203
COURSE TITLE	:	ENVIRONMENTAL IMPACT ASSESSMENT
PROGRAMME NAME	:	BACHELOR OF ENVIRONMENTAL HEALTH (HONS)
DATE	:	03 FEBRUARY 2026
TIME	:	2:00PM - 5:00PM
DURATION	:	3 HOURS

INSTRUCTIONS TO CANDIDATES

1. Please read the instructions given in the question paper CAREFULLY.
2. This question paper is printed on both sides of the paper.
3. This question paper consist of TWO sections.
4. Answer ALL questions for Section A.
5. Section B consist of four questions. Answer THREE (3) questions only.
6. Please write your answer on the answer booklet provided.
7. Please answer all questions in English only.
8. Please answer MCQ/EMQ questions using OMR sheet. ☐ *Tick if applicable*
9. Refer to the attached Formula/ Appendies. ☐ *Tick if applicable*

THERE ARE 22 PAGES OF QUESTIONS INCLUDING THIS PAGE

SECTION A (Total: 40 marks)

Answer ALL questions.

Please use the answer booklet provided.

1. What is the Zone of Impact (ZOI) in a Health Impact Assessment?

   A. The region where mitigation measures are implemented.

   B. The administrative boundary of the project-affected communities.

   C. The specific location where project waste is disposed.

   D. The area within a 5 km radius of the project site where human health impacts may occur.

2. Which step in the EIA process involves determining whether a proposed project requires an EIA and identifying the level of review needed?

   A. Scoping

   B. Monitoring

   C. Mitigation

   D. Screening

3. Which of the following correctly describes the use of matrices in impact identification methods for EIA?

   A. Provide a simple checklist of potential impacts for easy reference.

   B. Link actions to impacts and are effective for displaying results.

   C. Address direct impacts and overlook indirect effects.

   D. Heavily rely on expert knowledge and advanced systems.

4. You are tasked with evaluating the potential socio-economic impacts of a proposed resort development. Which of the following factors should be considered?

I. Employment opportunities generated by the project.
II. Compatibility of the project with existing land use.
III. Impacts of air pollution on ambient air quality.
IV. Changes in local infrastructure and utilities.

A. I, II, III, and IV

B. II, III, and IV.

C. I, II, and IV.

D. I and II.

5. Which tools or techniques are appropriate for determining significant impacts in an EIA?

I. Checklists for prioritizing site selection.
II. Matrices for linking actions to impacts.
III. Overlays for identifying indirect impacts.
IV. Expert systems for quantitative impact analysis.

A. II and IV

B. I, III, and IV

C. I, II, and IV

D. I and III

6. What is the purpose of the screening process in the EIA?

A. To identify specific mitigation measures.

B. To review stakeholder input.

C. To finalize project approval.

D. To determine if a project requires an EIA.

7. An industrial plant plans to discharge wastewater into a river. Which steps are critical to ensure compliance with water quality standards?

I. Procure relevant surface water quality standards.
II. Identify baseline water quality conditions.
III. Use public opinion to determine acceptable discharge limits.
IV. Design effluent treatment facilities to meet discharge standards.

A. I, III, and IV

B. I, II, and IV

C. II and IV

D. I and II

8. A controversial project is planned near a residential area, and the community has raised concerns about environmental and health impacts. How should the project team address these concerns?

I. Identify material and psychological impacts on the community.
II. Monitor changing environmental values through surveys.
III. Exclude public input to avoid delays.
IV. Incorporate local environmental information shared by the community.

A. I and II

B. I, III, and IV

C. I, II, and IV

D. II, III, and IV

9. A proposed project involves constructing a coal-fired power plant with a capacity of 15 megawatts. What actions are necessary for legal compliance under EIA Order 2015?

I. Conduct a public display of the EIA report.
II. Include mitigation measures to reduce air and water pollution.
III. Ensure the project site is not near an environmentally sensitive area.
IV. Obtain approval from the Director General of the DOE.

A. I, III, and IV

B. I and II

C. II, III, and IV

D. I, II, and IV

10. A mining project plans to operate within an environmentally sensitive area. Which considerations should be addressed in the EIA report?

I. Conduct a risk assessment to evaluate potential impacts.
II. Outline mitigation strategies for biodiversity conservation.
III. Identify potential impacts on local water sources.
IV. Avoid public display as per First Schedule requirements.

A. I, III, and IV

B. I and II

C. I, II, and III

D. II, III, and IV

11. A logging company intends to convert 150 hectares of forest to agricultural use. What steps are necessary to ensure compliance with EIA regulations?

I. Identify the project as a First Schedule activity.
II. Submit a report outlining the environmental impacts of logging.
III. Propose mitigation measures for biodiversity conservation.
IV. Avoid public display as the activity falls under the First Schedule.

A. I and II

B. I, II, and III

C. II, III, and IV

D. I, III, and IV

12. A developer plans to undertake a prescribed activity requiring an EIA report. What legal steps must they follow according to Section 34A of the Environmental Quality Act?

I. Appoint a qualified person registered with the DOE to prepare the report.
II. Ensure the EIA report complies with DOE-prescribed guidelines.
III. Obtain public approval before submitting the report to the Director General.
IV. Include proposed mitigation measures in the EIA report.

A. I and II

B. II, III, and IV

C. I, II, III, and IV

D. I, II, and IV

13. What are the responsibilities of a qualified person under Section 34A(2B) of the Environmental Quality Act?

I. Ensure the EIA report does not contain false or misleading information.
II. Recommend mitigation measures for environmental impacts.
III. Submit the EIA report directly to the approving authority.
IV. Take professional indemnity insurance for liabilities arising from the EIA process.

A. II, III, and IV

B. I, II, and IV

C. I and II

D. I, III, and IV

14. A project initiator is planning a prescribed activity. Under Section 34A(6), what must they do before beginning the activity?

I. Submit the EIA report to the DG for approval.
II. Provide proof of compliance with attached conditions during project implementation.
III. Obtain approval for the activity under the First Schedule.
IV. Publicly display the EIA report for transparency.

A. I, II, and IV

B. I, III, and IV

C. I and II

D. II and III

15. A proposed industrial estate will discharge effluents into a coastal waterbody. What actions should be taken to reduce impacts on surface water?

I. Conduct a hydrodynamic study to predict effluent dispersion.
II. Treat effluents to meet coastal water quality standards.
III. Monitor changes in coastal water salinity and biodiversity.
IV. Construct pipelines to discharge effluents directly into deep-sea zones without treatment.

A. I and II

B. II, III, and IV

C. I, II, and III

D. I, III, and IV

16. Which criteria are used to define environmentally sensitive areas (ESA) in project site selection?

I. Areas above 1000 m contour (ESA Rank 1).
II. Buffer zones around forests (ESA Rank 2).
III. Critical coastal erosion areas (ESA Rank 3).
IV. Proximity to urban centers.

A. I, II, III, and IV

B. I, II, and III

C. II, III, and IV

D. I and II

17. Which of the following statements about scoping in the Environmental Impact Assessment (EIA) process is correct?

I. Scoping determines the significance of issues to focus on during the EIA.
II. Stakeholders and the public are not involved in scoping discussions.
III. Scoping outlines the Terms of Reference for the EIA study.
IV. Scoping prevents unnecessary expenditures and time delays.

A. I, III, and IV

B. I, II, III, and IV

C. II and IV

D. I and II

18. A project is facing opposition from the local community due to its potential environmental impacts. Which public participation methods can be implemented to address community concerns effectively?

I. Conduct public hearings and workshops to share project details.
II. Organize field trips to the project site for transparency.
III. Create a hotline for community feedback and inquiries.
IV. Limit public involvement to minimize delays.

A. I, III, and IV

B. II, III, and IV

C. I and II

D. I, II, and III

19. What are the key functions of soil in environmental assessment?

A. Producing biomass and reducing greenhouse gas emissions.

B. Filtering substances, supporting biodiversity, and protecting archaeological sites.

C. Providing atmospheric regulation and serving as a base for aquatic ecosystems.

D. Acting as a renewable energy source and supporting industrial development.

20. In applying the EIA process, which activities reflect the best practices for project proponents?

I. Reviewing project options for sustainable outcomes
II. Ensuring early public involvement
III. Ignoring potential cumulative environmental impacts
IV. Proposing feasible mitigation measures for identified risks

A. I and III.

B. I, II, and IV.

C. I, II, III, and IV.

D. II and IV.

21. A company is proposing a development project in an area classified as ESA Rank 2 under Malaysia's National Physical Plan. As an environmental consultant, which of the following recommendations would you provide during the scoping phase of the EIA?

I. Allow sustainable logging practices with strict constraints.
II. Permit low-impact nature tourism under monitored conditions.
III. Avoid all forms of agriculture and industrial development.
IV. Recommend urban expansion projects for local economic growth.

A. I, II, and III.

B. I and II.

C. III and IV.

D. I, II, III, and IV.

22. A proposed construction project is expected to generate noise pollution during its operational phase. Which measures can be applied to mitigate its impacts?

I. Constructing physical barriers like walls or vegetation.
II. Using noise-dampening equipment on machinery.
III. Relocating the project to a less populated area.
IV. Conducting road-side noise count to assess public exposure.

A. II and IV.

B. I, II, III, and IV

C. I and III.

D. I, II, and IV.

23. Which factors should be considered during the prediction of impacts on air quality in an Environmental Impact Assessment (EIA)?

I. Evaluation of ambient air quality and meteorological conditions.
II. Compilation of emission inventories.
III. Impact of noise pollution on local fauna.
IV. Use of models like the Gaussian Plume Model for pollutant dispersion.

A. I and II

B. II, III, and IV

C. I, II, III, and IV

D. I, II, and IV

24. What is the key consideration in evaluating the impact of soil erosion due to construction activities?

A. Estimation of sediment yield and its effect on streams.

B. Evaluation of air quality using emission inventories.

C. Noise reduction through vegetation barriers.

D. Analysis of socio-economic benefits.

25. What factors are important when evaluating impacts on flora in an EIA?

I. Conservation status of plant species.
II. Economic value of species for ornamental or medicinal use.
III. Endemic nature of species in the project area.
IV. Impact of noise on nearby plant growth.

A. II, III, and IV

B. I, II, III, and IV

C. I, II, and III

D. I and III

26. A mining project is expected to release heavy metals into surface water. What mitigation strategies can be implemented to reduce the impact?

I. Treat wastewater before discharge to remove heavy metals.
II. Monitor water quality for heavy metal concentrations.
III. Relocate aquatic species to unaffected areas.
IV. Implement a waste containment system to prevent leachate.

A. I and II

B. II and IV

C. I, III, and IV

D. I, II, and IV

27. What is the primary goal of public participation in the Environmental Impact Assessment (EIA) process?

A. To increase the project's profitability.

B. To ensure the project is completed on time.

C. To involve stakeholders in decision-making and address community concerns.

D. To minimize the cost of the project.

28. Why are digital participation platforms increasingly important in the EIA process?

A. They eliminate the need for public hearings.

B. They allow stakeholders to participate remotely and inclusively.

C. They reduce the cost of the project.

D. They provide immediate project approvals.

29. A construction project has caused topsoil stripping and compaction. Which measures can be applied to mitigate these impacts?

I. Reuse stripped topsoil for land restoration.
II. Conduct regular soil compaction tests.
III. Use heavy machinery to increase soil stability.
IV. Establish vegetation to stabilize soil structure.

A. II, III, and IV

B. I, III, and IV

C. I and II

D. I, II, and IV

30. What are key considerations for ensuring EIA aligns with international good practices?

I. Adhering to a standardized methodology.
II. Engaging multidisciplinary expertise.
III. Avoiding public disclosure of findings.
IV. Incorporating feedback to refine project designs.

A. II, III, and IV.

B. I, II, and IV.

C. I and III.

D. I, II, III, and IV.

31. You are tasked with assessing the potential impact of a dam construction project on a river's ecosystem. Which method would be the most suitable to determine its effects on migratory fish species?

A. Cost-Benefit Analysis.

B. Universal Soil Loss Equation (USLE).

C. Gaussian Plume Model.

D. Field and Laboratory Experimental Methods.

32. During the scoping process, which stakeholders are commonly involved?

I. Government departments
II. Local communities
III. NGOs
IV. Financial institutions

A. II, III, and IV

B. I and II

C. I, II, III and IV

D. I, II, and III

33. Which steps are essential in assessing the impact of a development project on aquatic ecosystems?

I. Sampling plankton using nets and tallying species counts.
II. Measuring changes in the physical and chemical quality of water.
III. Analyzing the social carrying capacity of the surrounding community.
IV. Sampling larger aquatic fauna like fish through direct observation and netting.

A. I and IV

B. I, II, and IV

C. II and III

D. I, II, III, and IV

34. Which are key steps in evaluating the impact of a development project on soil erosion?

I. Estimating sediment yield contributed to streams.
II. Applying the Universal Soil Loss Equation (USLE).
III. Using Geograpihal Information System (GIS) for mapping erosion-prone areas.
IV. Conducting cost-benefit analysis for sediment removal.

A. I, III, and IV

B. II, III, and IV

C. I, II, and III

D. I and II

35. A tourism project near a coastal area has caused an increase in eutrophication. What measures should be taken to mitigate this issue?

A. Focus on increasing recreational activities to dilute nutrients.

B. Limit public access to affected areas without addressing the root cause.

C. Conduct a socioeconomic survey of nearby residents.

D. Regulate nutrient runoff and monitor water quality using Water Quality Index (WQI).

36. A power generation project will use water from a nearby river for cooling. What actions should be taken to address potential thermal pollution?

I. Install cooling towers to minimize heat discharge into the river.
II. Monitor river temperature and aquatic species near the discharge point.
III. Conduct periodic evaluations of the river's thermal carrying capacity.
IV. Increase the volume of hot water discharged to dilute pollutants.

A. I and II

B. I, III, and IV

C. II, III, and IV

D. I, II, and III

37. Which of the following is NOT a common tool used for public participation in the EIA process?

A. Focus groups.

B. Public hearings.

C. Stakeholder surveys.

D. Environmental monitoring.

38. Which of the following are core elements of the Environmental Impact Assessment (EIA)?

I. Prediction of environmental impacts.
II. Evaluation of project alternatives.
III. Mitigation measures for adverse effects.
IV. Stakeholder engagement and consultation.

A. I, II, and III.

B. II, III, and IV.

C. I and III.

D. I, II, III, and IV.

39. A project proponent is considering a site for industrial development. Which criteria should be prioritized to ensure environmental sustainability during the screening process?

I. Avoid sites located in national parks and other protected areas.
II. Ensure proximity to sensitive receptors like schools and hospitals.
III. Select areas with existing high air pollution levels.
IV. Avoid siting near water catchment areas critical for public use.

A. II, III, and IV

B. I, II, and III

C. I, III, and IV

D. I and IV

40. What type of data is the most relevant for predicting the dispersion of air pollutants?

A. Soil quality and erosion risk.

B. Species population data.

C. Meteorological conditions and emission rates.

D. Noise levels and their attenuation.

SECTION B (Total: 60 marks)

Answer THREE (3) questions only.

Please use the answer booklet provided.

Question 1

A company proposes to construct a solid waste disposal facility near a residential area. The project includes a landfill, incinerator, and composting plant. During the EIA process, the following issues were identified:

1. Potential air pollution from the incinerator impacting local air quality.
2. Leachate leakage from the landfill contaminating nearby groundwater.
3. Community resistance due to health concerns and lack of consultation.

As an environmental consultant, evaluate the feasibility of the project and recommend actionable steps to address the identified issues.

(a) Explain FOUR (4) of the environmental and social impacts.

(8 marks)

(b) Recommend FOUR (4) mitigation measures for air pollution, water contamination, and community engagement.

(8 marks)

(c) Discuss with justification on recommendation whether the project should proceed.

(4 marks)

Question 2

The operational phase of a Waste-to-Energy (WTE) plant can pose various environmental challenges, such as air pollution, waste residue management, and impacts on surrounding ecosystems. As part of the Environmental Impact Assessment (EIA) process, mitigation actions must be critically evaluated and implemented to address these challenges effectively. This ensures that the project operates sustainably while balancing environmental, economic, and social considerations.

(a) Discuss FIVE (5) significant environmental challenges that might arise during the operation of the plant.

(10 marks)

(b) Recommend FIVE (5) detailed mitigation actions for the challenges identified in part (a). Justify how each action can minimize or resolve the respective impacts.

(10 marks)

Question 3

BERT Corporation has hired AGV Environment Sdn Bhd. to perform an EIA study for proposed expansion of recycle pulp and packaging paper plant at Mahkota Industrial Park, Kuala Langat, Selangor. BERT intended to expand the existing paper mill's annual production of high-strength packaging paper from 700,000 tons per year to 1,400,000 tons per year. The expansion will include the acquisition of the adjacent land (17.97 acres) to a combined area of 132.72 acres. For the proposed Project, BERT intends to increase its existing water abstraction volume of 45 MLD to 100 MLD and an average water consumption of 80 MLD. Two (2) additional pumps will be installed at the Intake Station to increase the volume of water abstraction.The raw water intake station is located 1.6 km south of the site, at the banks of Sg. Langat. The diameter of one of the two (2) existing pipelines will be increased from 800 mm to 900 mm. The discharge pipeline of 1,000 mm remains unchanged. The existing water intake station, Water Treatment Plant (WTP) and Wastewater Treatment Plant (WWTP) had a capacity of 45 MLD. The existing natural gas co-generation plant has a capacity of 60 MW and the Thermal Treatment Plant (TTP) providing an additional 30 MW and 140 ton/hour of steam. For the proposed expansion, two (2) additional paper packaging lines with combined capacity of 700,000 tons/year will be constructed. The capacity of the raw water intake station, WTP and WWTP will be increased by 55 MLD from 45 MLD to 100 MLD. A biomass co-generation plant will supply an additional 50 MW and 260 ton/hour of steam.

(a) Choose the activities that falls under the prescribed activities.

(8 marks)

(b) Determine FOUR (4) impacts which could occur from this prescribed activity. The impacts should be divided into project phases.

(12 marks)

Question 4

In the implementation of EIA involved various parties. Figure below shows the parties that are involve in the implementation of EIA.

Refer Below - Figure1 : the parties that are involve in the implementation of EIA .

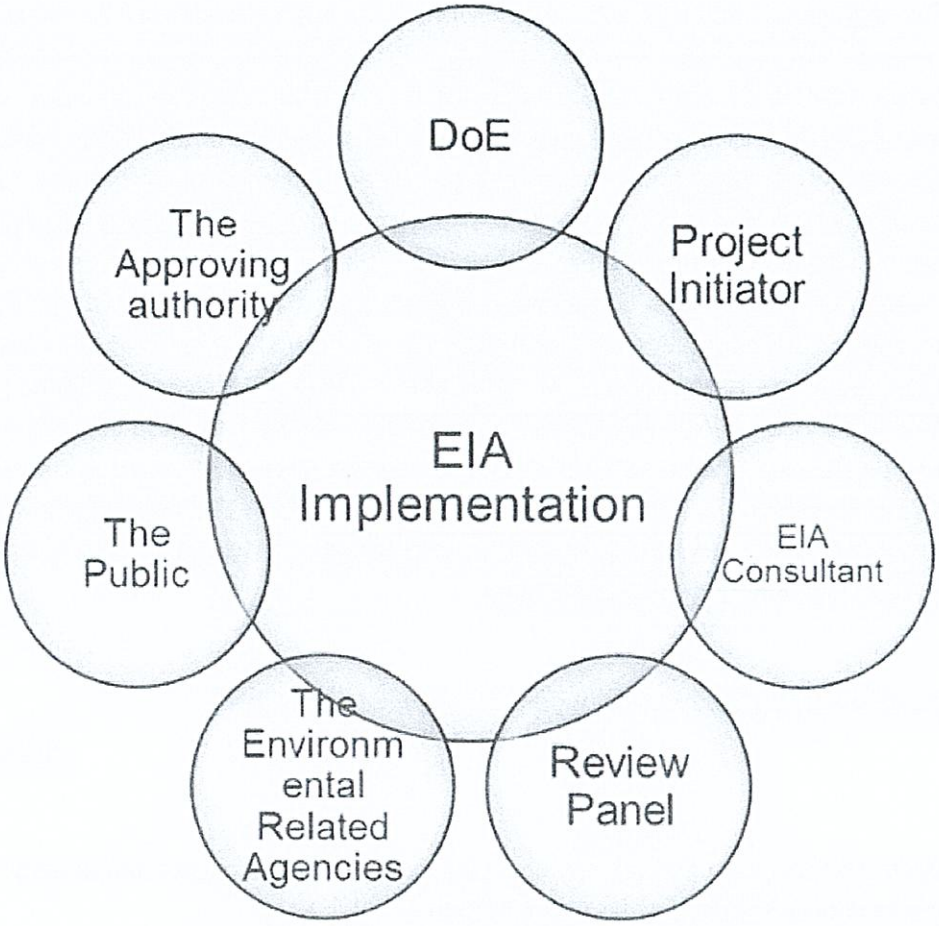

Figure 1: the parties that are involve in the implementation of EIA

(a) Identify FOUR (4) responsibilities of an EIA consultant.

(8 marks)

(b) Propose THREE (3) key tools or methods to facilitate meaningful stakeholder input during the EIA. Justify the selection of these tools and their relevance to the project.

(12 marks)

END OF EXAMINATION PAPER