



**The University of Fiji**  
(An Entity of Arya Pratinidhi Sabha of Fiji)



**SCHOOL OF SCIENCE AND TECHNOLOGY**  
**DEPARTMENT OF SCIENCE**  
**Semester 1, 2026**

**FINAL EXAMINATION PAPER**

**ESC303: ENVIRONMENTAL IMPACT ASSESSMENT**

**Important Instructions to Students:**

1. There are six (6) pages. Read the questions, instructions carefully and answer the questions.
2. You are allowed an **extra 10 minutes reading time** (during this time, you are not allowed to write with pen) and **180 minutes (3 Hours) to complete this paper**.
3. Silent, non-programmable calculators are allowed, but not supplied.
4. Write all your answers in the answer booklet provided. If you need extra sheets, please ask from the supervisor. Write your name, course code and student identification number in the answer booklet and in the attendance sheet.
5. This paper contains four (4) sections A, B, C and D. All questions are compulsory to answer.
6. Write all your answers legibly. The marker has the right to award zero for answers that are not legible.
7. This is a **Closed Book Examination**. The University views plagiarism, cheating and dishonest practice as serious offences and if found, offenders are penalized.

**Examination Paper Content (Format):**

| <b><u>Section</u></b> | <b><u>Question</u></b> | <b><u>Content</u></b>  | <b><u>Marks</u></b> | <b><u>Suggested Time</u></b> |
|-----------------------|------------------------|------------------------|---------------------|------------------------------|
| <b>A</b>              | <b>1-10</b>            | Multiple Choice        | 10                  | 18 minutes                   |
| <b>B</b>              | <b>11-20</b>           | Matching               | 10                  | 18 minutes                   |
| <b>C</b>              | <b>21-26</b>           | Short Answer Questions | 40                  | 72 minutes                   |
| <b>D</b>              | <b>27-30</b>           | Long Answer Questions  | 40                  | 72 minutes                   |
|                       |                        | <b>TOTAL</b>           | <b>100</b>          | <b>180 Minutes</b>           |

Registered with the Fiji Higher Education Commission as a University under the Higher Education Act 2008.  
Registration Certificate Number (RGN0020/11)

**Section A****Multiple Choice****(10 marks)**

There are 10 compulsory multiple-choice questions in this section. Each question is worth 1 mark. **Write the numbers 1–10 on your answer booklet. Beside each one, write the letter of the BEST answer.**

1. EIA has been an instrumental tool in the pursuit of UN sustainable development goals. In which of the following summits/convention was EIA recognized as a tool for achieving sustainable development?
  - A. COP21
  - B. Ramsar Convention
  - C. Earth Summit 1992
  - D. Convention on Biological Diversity
2. Which of the following is the foundation legislation guiding the application of EIA in Fiji?
  - A. EIA Guidelines 2008
  - B. Environment Management Act 2005
  - C. EIA Regulations 2007
  - D. All of the above
3. The process of determining whether an EIA study needs to be undertaken for a particular project is known as:
  - A. Impact prediction
  - B. Screening
  - C. Baseline monitoring
  - D. Scoping
4. Public consultation is an important aspect of the EIA process contributing to the robustness of the EIA study and final report. At which step of the EIA process is public consultation required?
  - A. Scoping
  - B. Impact Assessment
  - C. EIA Report Review
  - D. All of the above
5. Which of the following methods of screening involves evaluating project proposals according to categories such as characteristics, anticipated impacts and project location?
  - A. Preliminary screening
  - B. Threshold screening
  - C. Case by case screening
  - D. None of the above

6. What process or relationship does the following phrase define?

“An investigative process of identifying and assessing key social issues and factors, including risks and impacts relevant to the preparation and implementation of development proposals/projects.”

- A. EIA
  - B. Physical Impact Assessment
  - C. Social Impact Assessment
  - D. None of the above
7. During the EIA study, assessing impacts through systematic methods is often recommended. Which of the following is an impact characteristic?
- A. Nature
  - B. Magnitude
  - C. Duration
  - D. All of the above
8. A “Strategic Environmental Assessment”,
- A. Represents a proactive approach to integrate Environmental considerations into high-level decision making
  - B. Represents a proactive approach to integrate social considerations only into high-level decision making
  - C. Represents a proactive approach to integrate climate change considerations into high-level decision making
  - D. None of the above
9. What is meant by the “impact”, in the context of an EIA for a proposed project?
- A. A change in an environmental parameter
  - B. A negative occurrence in the future
  - C. A change in an environmental parameter which results from a project activity
  - D. A change in an environmental parameter which occurs in the area of the project.
10. Which phase of a project usually has the greatest impact, and is the most socially and physically disruptive?
- A. Planning
  - B. Construction
  - C. Operation
  - D. Decommissioning

**Section B****Matching****(10 marks)**

Match Column A with Column B. In your answer booklet, write down Column A. and write the correct Roman numeral in Column B next to Column A as your response. Responses are worth 1 mark each.

Example:

- A. x
- B. ii
- C. vii

| Column A                               | Column B                                                                      |
|----------------------------------------|-------------------------------------------------------------------------------|
| A. Geographic Information System (GIS) | i. Unwanted sound that disrupts the environment.                              |
| B. Predictive modelling                | ii. Disruption of ecosystems leading to loss biodiversity.                    |
| C. Air quality                         | iii. Degradation of land due to water runoff and loss of topsoil.             |
| D. Water quality                       | iv. Uses spatial data to analyze and visualize environmental data.            |
| E. Soil erosion                        | v. Contamination of bodies of water by pollutants.                            |
| F. Qualitative assessment              | vi. Utilizes mathematical models to forecast future environmental conditions  |
| G. Cumulative impact assessment        | vii. Based on expert judgement and descriptive analysis.                      |
| H. Habitat destruction                 | viii. Utilizes numerical data and statistical analysis for impact evaluation. |
| I. Noise pollution                     | ix. Presence of harmful substances on the atmosphere affecting human health   |
| J. Quantitative assessment             | x. Assesses the combined effects of multiple projects or activities.          |

## Section C

## Short Answer Questions

(40 marks)

There are six (6) questions in this section. **All questions are compulsory.**

21. Define Environmental Impact Assessment (EIA) in your own words and explain why it is described as a preventive tool. (8 marks)
22. Explain how EIA contributes to SDG 13 Climate Action and SDG 14 Life Below Water. Use one Fiji/Pacific example. (8 marks)
23. Most EIAs are not able to effectively assess the cumulative effects. What are cumulative effects? Why is it such a challenging task in EIA assessments? (5 marks)
24. A Terms of Reference (ToR) may require that the executive summary of the EIA report is to be written in “non-technical language”. Describe what is meant by “non-technical language” and, with reference to the principle of Free, Prior and Informed Consent, explain why this is a requirement. (8 marks)
25. List four EIA methods or techniques and state their purpose. (5 marks)
26. What are the possible consequences if stakeholder engagement is poor or ignored during the scoping stage? (6 marks)

## Section D

## Long Answer Questions

(40 marks)

There are four (4) questions in this section worth 40 marks. **All questions are compulsory.**

27. Imagine that you wish to construct a 300-room hotel on an uninhabited, undeveloped, coral atoll in the Fiji Group. The island is surrounded by healthy coral reefs.
  - i. Describe two environmental assessments and the methods of assessments you would want to be done. (4 marks)
  - ii. Identify and describe three potential environmental impacts your proposal can have on the island and its surroundings. (3 marks)
  - iii. Identify and describe one mitigation measure or activity you would implement for each of the 3 impacts. (3 marks)
28. Assume that a developer is proposing to build an electricity power plant using diesel fuel in a coastal area which connects to a large watershed leading to the ocean. There are two coastal villages close to the site. You have been asked to manage the EIA study for the project.
  - i. What kind of experts would you want on your team? (2 marks)

- ii. What information about the project would you need to know before you could carry out the EIA scoping stage? (2 marks)
  - iii. What types of project alternatives might be relevant? (2 marks)
  - iv. What technique would you use to identify the impacts of the projects, and why? (2 marks)
  - v. What type of socioeconomic information would you need to gather during the EIA study? (2 marks)
29. An international company wants to build a waste plant in your town for the generation of electricity. The proposed project, aims to address growing waste management challenges while generating energy. However, concerns have been raised regarding potential environmental and social impacts. transport waste to the facility using. During its operation phase, the company intends to collect, process, and combust waste to generate electricity while managing emissions, wastewater, and solid residues. These activities may create environmental impacts such as air pollution, noise, wastewater contamination, and greenhouse gas emissions, which must be managed through mitigation and monitoring measures. Assuming your consultancy firm has won a contract to undertake Environmental Impact Assessment (EIA) study on this proposed project:
- i. Discuss who you would consider to be the **key stakeholders** to participate in the EIA public participation process. Give reasons for your answer. (3 marks)
  - ii. Outline in detail the issues which you would discuss during consultations (4 marks)
  - iii. What kind of expert would you need to lead the consultations/participation? Explain why with some details. (3 marks)
30. Scoping Process.
- i. “Scoping” is described as a process of “interaction”. Explain what this means. (2 marks)
  - ii. Under the Fiji Environment Management Act 2005, scoping is undertaken by two different individuals, entities or agencies. Name these individuals or agencies and compare their different roles in scoping. (2 marks)
  - iii. Describe four purposes of scoping. (2 marks)
  - iv. Name and explain the roles or contributions that four stakeholders provide to the scoping process. (4 marks)

— The End —