Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER II
SESSION 2022/2023

COURSE NAME	:	ENVIRONMENTAL MANAGEMENT
COURSE CODE	:	BFA 40103
PROGRAMME CODE	:	BFF
EXAMINATION DATE	:	JULY / AUGUST 2023
DURATION	:	3 HOURS
INSTRUCTION	:	1. ANSWER ALL QUESTIONS 2. THIS FINAL EXAMINATION IS CONDUCTED VIA **CLOSED BOOK.** 3. STUDENTS ARE **PROHIBITED** TO CONSULT THEIR OWN MATERIAL OR ANY EXTERNAL RESOURCES DURING THE EXAMINATION CONDUCTED VIA CLOSED BOOK

THIS QUESTION PAPER CONSISTS OF **FOUR (4)** PAGES

Q1 (a) Accumulation of microplastic waste in the environment would contribute to adverse effects on ecosystems and human health. However, steps can be taken to reduce its impact.

(i) Briefly explain **TWO (2)** industrial sources of microplastic pollution.
(4 marks)

(ii) Review and recommend **TWO (2)** methods in achieving sustainable development goals indicators regarding microplastic pollution in Malaysia. Justify your responses with examples.
(6 marks)

(b) Malaysia has implemented regulations and legislation for environmental protection since 1974. Despite these efforts, the current regulations have proven inadequate in achieving high environmental standards. Based on your analysis of the current related international regulations;

(i) Explain **TWO (2)** challenges in implementing and enforcing environmental protection laws in Malaysia, particularly in relation to emerging pollutants.
(4 marks)

(ii) Justify your answers with examples.
(3 marks)

(c) Transportation contributes to several adverse impacts on air quality. However, different technologies can be used to mitigate these impacts to control particulate matter and volatile organic compounds (VOCs) due to transportation.

(i) Identify and explain **two (2)** impacts resulting from transportation.
(4 marks)

(ii) Propose **TWO (2)** treatment technologies suitable for mitigating the air pollution associated with the transportation sector.
(4 marks)

Q2 (a) In Malaysia, there is increasing interest in nanotechnology, which offers potential benefits for sustainable development.

(i) Explore how nanotechnology can serve as a green alternative approach to enhance the suitable development of the environment.

(5 marks)

(ii) Support your answer with a diagram for a nanotechnology application.

(2 marks)

(b) Environmental pollution resulting from the mismanagement of food waste is a global problem. Evaluate the effects of waste mismanagement in developing nations, focusing on ecological contamination and social concerns, providing **TWO (2)** examples.

(8 marks)

(c) Construction and demolition waste are among the predicted wastes in the future due to population growth, technological advancements, and changing consumer behaviour, based on the understanding of the environmental management system (EMS).

(i) Develop a process and action plan for construction companies to meet business and environmental goals.

(5 marks)

(ii) Predict the benefits gained by the company from implementing the EMS.

(5 marks)

Q3 (a) In various developed countries, business must comply with ISO 14000, whereas only a limited number of companies have obtained this certification. Provide a rationale for the implementation of ISO 14000 in developing countries.

(5 marks)

(b) The Environmental Management System (EMS) audit is based on the fundamental concept of auditing. As an auditor engaged in the auditing process, evaluate the responsibilities of the leader, team, and your role in accomplishing the objectives of the audit.

(8 marks)

(c) The existing high-rise building construction has been linked to sustainability through 5G technology and artificial intelligence.

(i) Propose the primary development that is needed.

(6 marks)

(ii) Comment on the potential impact of 5G and artificial intelligence on high-rise building construction.

(6 marks)

Q4 (a) In addressing frequent pollution issues due to manufacturing sectors involving chemicals in Johor Bahru, the State Government has initiated a construction project to expand the drainage system in the industrial area. As an environmental officer involved in the project, the task is to develop an environmental management plan for toxic waste generated during the project based on the Environmental Impact Assessment (EIA) principles.

(i) Assess the existing environment.

(6 marks)

(ii) Analyze the relevant environmental concerns.

(9 marks)

(iii) Recommend the mitigating measure plans for selected environmental concerns.

(10 marks)

– END OF QUESTIONS –