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ISLAMIC UNIVERSITY OF TECHNOLOGY (IUT)
ORGANISATION OF ISLAMIC COOPERATION (OIC)
DEPARTMENT OF BUSINESS AND TECHNOLOGY MANAGEMENT

Mid Semester Examination
Course Number: CEE 4461
Course Title: Civil and Environmental Engineering
Technology II

Summer Semester: 2022–2023
Full Marks: 75
Time: 1.5 Hours

There are 4 (Four) questions. Answer any 3 (Three) questions. The figures in the right margin indicate full marks. COs and POs are also specified in the right margin of the questions. The symbols have their usual meaning.

1. (a) Illustrate the process of obtaining Environmental Clearance Certificate for a project involving tannery processing. [CO3, PO6: 10]
(b) What is the purpose of scoping? Write down the steps of scoping process of EIA. [CO2, PO2: 10]
(c) What are the purposes of IEE? [CO1, PO1: 5]
2. A new coal-fired power plant is proposed to be constructed in a rural area of Bangladesh. The area is predominantly agricultural and is home to several small communities that rely on the nearby river for fishing, drinking water, and irrigation. The power plant would provide a significant source of jobs and tax revenue for the region, but it also raises concerns about air and water pollution, as well as noise and visual impacts. The plant would emit greenhouse gases and other pollutants that could impact air and water quality, and the construction and operation of the plant could result in the displacement of wildlife and the destruction of valuable habitats.
(a) What issues need to be addressed in the formulation of environmental policy for the proposed project? Describe the process of formulating the policy. [CO3, PO6: 10]
(b) What are the basic features of the Environment Conservation Act of 1995? List down any 8 different sectors that were considered for formulating the environmental policies of Bangladesh in 1992. [CO2, PO2: 10]
(c) Write down the differences between IEE and EIA? [CO1, PO1: 5]
3. In a hypothetical scenario, you, a developer, plan to build a hotel on the outskirts of a lush, biodiverse forest. Despite the beauty and ecological significance of the forest, your focus lies solely on profit. Ignoring environmental concerns, you proceed with construction, clearing vast swathes of trees and disrupting the delicate ecosystem. Despite warnings from environmentalists and concerned citizens, your relentless pursuit of profit continues unabated.
(a) Explain the potential impacts of the proposed project and create a network diagram or flowchart showing direct, indirect, and cumulative impacts and a simple matrix. [CO3, PO6: 10]
(b) Discuss the public participation methods needed to lessen the proposed project's impacts from the viewpoint of sustainability. At what stages of the EIA will the public be required to participate? [CO2, PO2: 10]
(c) Write down the differences among 'checklists', 'matrices', and 'networks'. [CO1, PO1: 5]
4. (a) EIA process for the proposed Khulna City Interim Water Supply Project assess the impacts on local communities and the water quality of the region by a team of researchers. They quantitatively established a cause and effect

relationship among the proposed actions and environmental parameter in Table 1.

- What is the name of the matrix shown in Table 1?
- List two most and least affected environmental parameters from the proposed action.
- List three most important project actions.

(b) Categorize the steps in the EIA process with respect to different to stages of EIA using a table [CO3, PO6: 10]

(c) Write down the factors which are considered for a project impact to be significant. [CO1, PO1: 5]

Table 1 for question 4(a)

Proposed action impacts	Project Location	Project construction	Project in operation	Solid waste disposal	Odor generation	Waste water discharge	Monitoring	Employment
Land value				4	5	3	5	5
Neighboring Operation	4	6	7	2	4	3	8	
Agriculture				2	3	4	6	
Surface drainage	2	5	3	3	5	4	5	
Air Quality				1	4	1	4	
Surface water Quality			4	2	4	9	7	9
Ground water quality				7	8	2	3	5
Human health	8	9	3	3	5	5	6	8
Fisheries				2	4	5	3	5
Navigation/hydrology								
Socio-economic condition	3	5	6	7	9			7