

**ISLAMIC UNIVERSITY OF TECHNOLOGY (IUT)**  
**ORGANISATION OF ISLAMIC COOPERATION (OIC)**  
**DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING**

Semester: Final Semester Examination

Summer Semester: 2018-2019

Course No.: CEE 4831

Full Marks: 100

Course Title: Environmental and Social Impact Assessment

Time: 3 hours

There are 8 (Eight) Questions. Answer any 6 (Six) questions. All questions carry equal marks. Programmable calculators are not allowed. Do not write on this questions paper. The symbols have their usual meaning. Assume reasonable data if needed.

1. (a) Write short notes on- (08)
- Direct impact
  - Indirect impact
  - Cumulative impact
  - Interactive impacts
- (b) It is not true to assume that the 'no-go' alternative is necessarily the best from an environmental perspective. Why?  $(3\frac{2}{3})$
- (c) Calculate total EIV from the data following data and comment on your result. 5.0

Scale: +5 severely positive impact    0: no change    -5 severely negative impact

| ENVIRONMENTAL PARAMETERS          | Relative Importance Value | Degree of Impact | ENVIRONMENTAL PARAMETERS          | Relative Importance Value | Degree of Impact |
|-----------------------------------|---------------------------|------------------|-----------------------------------|---------------------------|------------------|
| <b>I. ECOLOGICAL</b>              |                           |                  | <b>III. HUMAN INTEREST</b>        |                           |                  |
| Fisheries                         | 10                        | -2               | Loss of Agricultural Lands        | 10                        | +3               |
| Forest                            | 5                         | 0                | Employment Opportunities          | 12                        | +5               |
| Tree Plantation                   | 2                         | +2               | Navigation/Boat Communication     | 10                        | -3               |
| Wetland/Wetland Habitat           | 5                         | 0                | Commercial and Service Facilities | 14                        | +2               |
| Nuisance Plant/Eutrophication     | 2                         | -1               | Industrial Activities             | 8                         | +3               |
| <b>II. PHYSICO-CHEMICAL</b>       |                           |                  | Irrigation Facilities             | 5                         | +4               |
| Erosion and Siltation             | 2                         | -2               | Landscape                         | 5                         | -1               |
| Regional Hydrology/Flooding       | 8                         | -1               |                                   |                           |                  |
| Drainage Congestion/Water logging | 5                         | -2               |                                   |                           |                  |
| Obstruction to Waste Water Flow   | 3                         | 0                |                                   |                           |                  |
| Dust Pollution/Noise Pollution    | 2                         | 0                |                                   |                           |                  |

2. An important Liquefied Natural Gas (LNG) industry will be established in a coastal region of Bangladesh. The activity of this company is to be very intensive and require to conduct an EIA. As a consultant you are conducting a baseline study in the area. The project action may affect several physical, biological, and social environments like topography, soil, geology, seismology, meteorology, air quality, noise, hydrology, groundwater, surface water. Flora, fauna, social impact, land use pattern.

- (a) What are the purposes of baseline study?  $(2\frac{2}{3})$

- (b) Mention three parallel activities of data acquisition processes for baseline study. (04)
- (c) Prepare a table showing all the mentioned (above) environmental compartments, parameters to be studied, and sources of data. (10)
3. A car washing and lubricating company has been proposed to establish close to an estuary branch in which they will discharge all the disposals directly. As a consultant you are have identified several significant environmental impacts from the proposed project. Now you are in the final stage of the report and preparing an EMMP to protect environment from deterioration.
- (a) What is EMMP? What are the components of EMMP? (06)
- (b) What are the measures to be considered to enhance positive impacts of environment? (04)
- (c) What would be your prescribed EMMP (make a table) for the following environmental impacts from the car-wash and lubricating company project? (consider operation and maintenance phase only) (6 $\frac{2}{3}$ )
- Heavy metals
  - Surface water quality from oil and grease
  - Disruption of aquatic habitat
4. You are a part of a team of renowned consultancy group working for the Bangladesh Economic Zones Authority (BEZA) on "Development of Economic Zones in Bangladesh" project. You must undertake a detailed environmental Impact Assessment (EIA) report for the economic zone at Mongla. (4 $\frac{2}{3}$ )
- (a) Write down the characteristics of a good quality EIA report. (6 $\frac{2}{3}$ )
- (b) Prepare an outline for an EIA report on the proposed project. (10)
5. The review of an EIA report helps to ensure the information submitted is reliable and sufficient for decision-making purposes. The quality of EIA reports can be significantly improved by review, resulting in more informed approvals and better environmental outcomes. A framework for EIA review comprises of a list of questions aids to check the quality of any EIA report.
- (a) What questions should be asked for reviewing of the EIA process in each step of the report? (08)
- (b) How many approaches can be used to conduct an EIA report review?. (05)
- (c) How to achieve a good quality EIA review? (3 $\frac{2}{3}$ )
6. (a) Who are involved as stakeholders in public participation process? (05)
- (b) In which stages of EIA public involvements are required? Why? (05)
- (c) Mention different public participation techniques for ensuring maximum involvement. (6 $\frac{2}{3}$ )



7. Zanzibar is part of the United Republic of Tanzania, but have their own independent government. Due to poor planning for tourism developments, the industry has suffered due to social degradation. The SIA assessments need to be done for this project focus on the social problems that need to upgrade to improve the quality of life, health, and economy.
- (a) Define SIA. What answers do you need to seek for finding out appropriate stakeholders from Zanzibar? (5 $\frac{2}{3}$ )
  - (b) What types of social Impacts should be addressed while conducting SIA? (06)
  - (c) Write down different methods of data acusion in SIA. (05)
8. (a) Define SEA. What are the basic principles of SEA? (06)
- (b) SEA consists of evaluating environmental impact of 3 levels of PPP. (06)
    - i. What does PPP stand for? Define each term.
    - ii. How does issues of 'why' and 'if' are strategic?
  - (c) Make a comparisons between SEA and EIA (4 $\frac{2}{3}$ )