MECE-104: ECONOMICS OF SOCIAL SECTOR AND ENVIRONMENT
Tutor Marked Assignment

Course Code: MECE-104
Assignment Code: MEC-108/AST/2025-26
Maximum Marks: 100

Note: Answer all the questions. While questions in Section A carry 20 marks each (to be answered in about 500 words each) those in Section B carry 12 marks each (to be answered in about 300 words each). In the case of numerical questions word limits do not apply.

Section A

1) Discuss the various situations of 'market failure' leading to environmental degradation.

2) Discuss the significance of 'efficiency wage' in contributing to health and productivity of workers.

Section B

3) Explain how 'poverty' is not the sole determinant of malnutrition.

4) Specify the fundamental challenges of using the non-renewable resources optimally.

5) Derive the results for the optimal use of renewable resources under the discrete and continuous time frames.

6) Describe the concept of 'quasi markets' in the provisioning of public services.

7) Derive the conditions of optimality for buying health insurance in cases of absence/presence of free riders.

1) Discuss the various situations of ‘market failure’ leading to environmental degradation.

Answer

Market failure occurs when the decisions of individual buyers and sellers do not produce the allocation of resources that is best for society. Environmental resources are especially exposed to this problem because clean air, water, forests and the capacity of nature to absorb waste are not always traded in well-defined markets. A factory may earn revenue from production while nearby residents bear the cost of its smoke. The market price of the product then gives a misleading picture of its total cost. Several related situations explain how such failures lead to degradation.

Negative externalities and the gap between private and social costs

A negative externality arises when production or consumption harms people who are not involved in the transaction. Industrial emissions damage health and crops; untreated sewage worsens river quality; heavy traffic causes noise and air pollution. Producers generally compare their marginal private cost (MPC) with marginal benefit, ignoring the marginal external damage (MED). The true marginal social cost is MSC = MPC + MED. Consequently, the privately chosen output is greater than the socially desirable output when damage is unpriced. A thermal power plant, for instance, may use cheaper high-emission fuel because households rather than the plant bear much of the resulting respiratory and environmental cost.

The correct efficiency condition is marginal social benefit equal to marginal social cost. Pollution charges, emissions standards and liability rules can move private incentives towards this condition. However, measuring the damage and enforcing these rules are often difficult.

Public goods and missing markets

Environmental protection frequently has the characteristics of a public good. A stable climate or improved ambient air is broadly non-excludable, meaning that people cannot easily be prevented from enjoying the benefit, and largely non-rival at the relevant scale. A person benefits from cleaner air even without paying for pollution control. As each household hopes others will finance protection, private contributions tend to be inadequate. The result is under-provision of conservation and excessive use of the environmental services supplied by nature. A missing market also exists when no workable price is attached to biodiversity, landscape beauty, flood protection by wetlands or the long-term storage of carbon in forests.