Doon University, Dehradun
Mid Semester Examination, 2016
School of Social Science
MSc Semester – IV (Economics)
Course – SSEI –SSEI-224
Environmental Economics

Time Allowed: 2hrs   Maximum Marks: 30

Section - A   (5x1 = 5 Marks)

Attempt all questions

1. Explain sustainable development.
2. State the different sources of environmental damage.
3. What do you mean by environmental quality?
4. What is an externality?
5. Explain the dilemma of free-ridership.

Section - B

Attempt all questions

1. Suppose a society is at the competitive equilibrium and a policy initiative sets the price above the competitive equilibrium price. With the help of the diagram explain the effect on society's welfare.   (3 Marks)
2. Explain consumer's surplus with the help of a hypothetical schedule and a diagram.(3 Marks)
3. Explain Coase theorem with the help of a suitable example.   (2 Marks)
4. What are public goods? Explain its characteristics with the help of suitable examples.
                                                                        (2 Marks)

Section - C   (3x5=15 Marks)

Attempt **all** questions.

1. There are two firms producing steel and laundry respectively. Suppose the costs of producing steel are $C_s(S) = S+8$ and costs of producing laundry are $C_l(L,S)=L^2+LS+4$. Thus each of these cost functions involves a fixed cost, which we assume is not sunk. If the price of

steel (P_s) = 8 and price of Laundry (P_l) = 10. Examine the following situations in determining how the two firms will operate:

(a)There are no transfers and no bargaining.

(b) Laundry is closed

(c)Steel mill is closed

(d)Merged Firms

(e) Steel mill has the rights to pollute

(f)Laundry has the rights to clean air

<div align="center">OR</div>

Suppose there are two firms laundry and steel mill operating and laundry has the right to clean air. Determine the efficient amounts of laundry and steel that would be produced.

2. Explain the explicit relationship between economic activity and the natural environment with the help of materials balance model.

3. A textile mill releases pollution into nearby wetlands, and the associated health and ecological damages are not considered in the private market. Suppose you are an environmental economist working with the following marginal benefits and costs for this market, where Q is thousands of pounds and P is price per pound.

MPB= 800-0.5Q

MPC=20+0.3Q

MEB=0

MEC-0.4Q

a. Find the competitive equilibrium, Q and P, and the efficient equilibrium, Q and P.

b. Suppose the textile mill owned the rights to the wetlands and it is negotiating with a private environmental group that is willing to pay the mill to produce less output. For 800th unit of output, determine the range within which a payment would be acceptable to both parties.