M.A. Examination, 2022
SEMESTER-IV
ECONOMICS
Course: OP-12
(Environment and Resource Economics)

Time: 3 Hours **Full marks: 40**

Questions are of value as indicated in the margin
Answer ***any four*** questions

1. Discuss the possible relationship between poverty and environment. Explain in this context the logic behind the Environmental Kuznets Curve hypothesis. 5+5 = 10

2. Define sustainable development. Critically examine Hartwick's rule in this context. What are the alternative approaches to achieve sustainable development? 2+3+5=10

3. (a) In the context of pollution control, assuming usual shape of Marginal Abatement Cost (MAC) schedules of all polluters, derive the condition for a targeted total abatement that minimizes the aggregate abatement cost for the society.

   (b) Show how a system of tradable permits can achieve the conditions you derived above. 4+6 =10

4. Explain the concepts of 'user cost' and Hotelling's Rule for extraction of an exhaustible natural resource. Derive the time path of price for such a resource. When do you think the time path may be different? 4+4+2=10

5. How 'effort' is defined in the context of fisheries economics? Derive, mathematically or with diagrams, the relationship between sustainable harvest (yield) and effort level. Show that for sustainable harvesting, the effort level is always more under open access compared to monopoly ownership of fishery resources. 2+4+4=10

6. For a forest stand with homogeneous trees, what do you mean by 'stumpage value'? How it changes over time? Explain how the optimum harvesting time of timber for a privately owned forest stand might be related to the monetary policy of the country. 2+3+5=10

7. Make a comparative assessment of 'revealed' and 'stated' preference methods of environmental valuation. Give example of an ecosystem service that can be valued by hedonic property price method with a brief description of the method. 6+4 = 10

8. Write short notes on <u>*any two*</u> of the following: 5+5 = 10
   (i) Common pool resources and tragedy of commons
   (ii) Ambient pollution and transfer coefficient
   (iii) Total Economic Value (TEV) of ecosystem services