

M.A./M.Sc. 2nd Semester Examination, 2023

ECONOMICS

PAPER – ECO-203

(Environmental and Resource Economics)

(Old and New Syllabus)

Full Marks : 40

Time : 2 hours

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

It is mandatory for them to write their answer in their own handwriting

GROUP—A

1. Answer any *two* questions from the following : 2×2
- (a) How does the second law of thermodynamics relate to environmental economics ?
- (b) What is Pigouvian tax ?

- (c) What is contingent valuation method ?
- (d) Distinguish between strong and weak concepts of sustainable development.

2. Answer any *two* questions from the following : 4 × 2

- (a) Explain the reasons for market failure in the context of environmental goods.
- (b) Explain the interlinkage between the economy and the environment, highlighting the key factors that demonstrate their interconnectedness.
- (c) Explain the Coase theorem in the context of environmental economics and discuss its implications for addressing externalities.
- (d) What are the key components and methods used in green accounting to measure the environmental impact of economic activities ?

3. Answer any *one* question from the following : 8×1

(a) Discuss the Travel Cost Method as a valuation technique for estimating the economic value of environmental goods. What are the limitations of this method ? $6 + 2$

(b) Write notes on the following : $4 + 4$

(i) Environmental Kuznets Curve (EKC)

(ii) Instruments for pollution control.

GROUP-B

4. Answer any *two* questions : 2×2

(a) Define preservation value.

(b) Briefly discuss the concept of the 'rate of exploitation'.

(c) Distinguish between Open Access and Common Property equilibria.

(d) State the 'Hotelling Rule' for exhaustible resources.

5. Answer any *two* questions : 4 × 2
- (a) Discuss the concept of MSY. If we include preservation value in our analysis then how does the equilibrium of the use of renewable resources change ? 1 + 3
- (b) Determine the profit maximizing solution for a renewable resource without considering the preservation value and time. 4
- (c) Prove that for an exhaustible resource : 4
- Optimal price = marginal extraction cost +
marginal user cost.
- (d) Discuss how the resource price of an exhaustible resource changes with the introduction of the backstop technology. 4
6. Answer any *one* question : 8 × 1
- (a) Distinguish between open access and common property solution for a single species of renewable resource. Does open access lead to extinction of the species ? Explain. 4 + 4

(b) Prove graphically that the initial price of an exhaustible resource denoted by P_0 , is a stable equilibrium price.

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