

Exec MBA (IIS) Sem.-1 (Rep) Examination**IISe-EMS3****Ecosystem Services****December-2024****Time : 2-30 Hours]****[Max. Marks : 70****Instructions:**

- *Question no 1 to 4 carry 14 marks each, with both the questions mentioned in question 1 to 4 of 7 marks each.*
- *Question no 5 carries 14 marks (each question of 2 marks). Out of the 12 questions, attempt any seven.*

Question 1

- i. What is the role of ecosystem service indicators? What criteria should be considered during their identification and selection process?
- ii. Why is sun considered to be the ultimate source of Energy on Earth? Explain primary, secondary, and tertiary consumers in a specific ecosystem?

OR

- i. What is the 10% Energy law in ecosystem? How are producers and consumers arranged on an ecological pyramid?
- ii. Define Ecosystem Services. How are they classified globally? Give examples of two important ecosystem services in your region that benefit you.

Question 2

- i. What is Butterfly Effect? How can you link this to the current scenario of climate change issue?
- ii. Explain the concepts of consumer surplus and producer surplus graphically.

OR

- i. How are the Economics-based concepts of consumer surplus and producer surplus utilized in the field of Ecosystem Services?
- ii. "If you cannot measure it, you cannot manage it"-How relevant this quote is with respect to Planet Earth's health? Justify.

Question 3

- i. Changing climate and extreme weather events impact the poor people most-how and why? Explain with examples.
- ii. Write a note on Biomimetics. Which kind of ecosystem service it is?

OR

- i. Why carbon sequestration is a term discussed quite often these days? How valuation for carbon storage is done in forest ecosystem?
- ii. Define the following: a) GEP b) Extent in ecosystem accounting c) NTFP d) Biotic factors e) Abiotic factors f) Mainstreaming g) Ecosystem

P.T.O.

Question 4

Read the passage below about ecosystem services, and answer the linked questions:

There are multiple approaches to uncover socio-cultural values of ES depending on data availability and the purpose of the valuation.

Preference assessment is a direct consultative method that assesses the individual and social importance of ES by analysing motivations, perceptions, knowledge and associated values of ES. Data is collected through free-listing exercises, ecosystem service ranking, rating, or other selection mechanisms. Techniques for weighting the preferences related to impacts on the ecosystem service of different management alternatives such as multi-criteria analysis are examples of integrated preference assessment valuation.

In the same manner but aiming at a more quantitative indicator of socio-cultural values of ES, the time use method creates hypothetical scenarios for willingness to give up time (WTT). This method estimates the value of ES by asking people how much time they are willing to dedicate for a change in the quantity or quality of a given ecosystem service. This method is not only a non-monetary metric, but also a way of measuring the willingness to actively contribute to nature conservation through practical actions.

Photo-elicitation surveys seek to uncover the socio-cultural value of ES by translating people's visual experiences, perceptions and preferences of landscapes into ecosystem service values. The use of photo-elicitation surveys has proven to be a useful technique for eliciting socio-cultural values of ES as it uses a communication channel (i.e. photographs) which is easily understood by multiple social actors.

Narrative methods differ from the previous three as they are mainly used to collect qualitative data. By using narrative methods (e.g. structured, semi-structured and unstructured interviews, focus groups, participant observation, content analysis, voice and video recording of events, artistic expression, etc.), participants can articulate the plural and heterogeneous values of ES through their own stories and direct actions (both verbally and visually).

Three other approaches, frequently used in socio-cultural valuation, focus on the integration of knowledge systems, disciplines and diverse data. Participatory mapping of ES (or sometimes referred to as participatory geographical information systems or review and standardized PGIS (Participatory GIS) assesses the spatial distribution of ES according to the perceptions and knowledge of stakeholders via workshops and/or surveys. PGIS facilitates the participation of various stakeholders (e.g. community members, environmental professionals, NGO representatives, decision-makers, etc.) integrating their perceptions, knowledge and values in maps of ES.

- i. Why is understanding the socio-cultural values of ecosystem services important? Give examples of such services from your native country/region.
- ii. In the current time of high penetration of social media, how relevant PGIS would be? Elaborate giving examples

OR

- i. Do you think socio cultural valuation of ecosystem services can be monetized? How practical it can be in Indian scenario?
- ii. From the Indian subcontinent, choose regions for which "Preference Assessment", "Photo elicitation surveys", and "Narrative methods" respectively will be useful for understanding socio-cultural values of ecosystem services.

Question 5

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Attempt any seven out of twelve questions mentioned below:

1. Nagarhole National Park is a part of _____
 - i. Eastern Ghats
 - ii. Western Ghats
 - iii. Eastern Himalaya
 - iv. None of the above
 2. Bay of Bengal is not surrounded by which of the below mentioned country?
 - i. India
 - ii. Myanmar
 - iii. Bhutan
 - iv. Sri Lanka
 3. How metric and measures are different?
 4. What is TEEB & SOC in relevance of this subject?
 5. Give two examples of RAMSAR sites in India.
 6. Write the full form of UNFCCC.
 7. What do you understand by the term "ecological indicator"?
 8. What is Grey Literature?
 9. Give two examples of non-consumptive recreational activity in an ecosystem.
 10. Give two examples of Ecosystem Disservice.
 11. Give two examples of regulating ecosystem services.
 12. What is a tree canopy? Forest cover in India includes Bamboo. True or False?
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