

POST GRADUATE DIPLOMA IN SUSTAINABILITY SCIENCE (PGDSS)

Term-End Examination

December, 2019

MSD-012 : ECOSYSTEM AND NATURAL RESOURCES

Time : 3 hours

Maximum Marks : 100

Note : Attempt any ten questions. Each question carries equal marks.

1. Discuss the major functional aspects of an ecosystem giving emphasis on : 10
 - (a) energy flow
 - (b) production
 - (c) decomposition

2. How is biodiversity evolved ? Discuss the goods and services provided by the biodiversity. 10

3. Write short notes on any four of the following : 2½x4=10
 - (a) IUCN red list categories and its significance
 - (b) *Ex situ* conservation strategies
 - (c) Major challenges in meeting goals of biodiversity conservation
 - (d) Land use planning and evaluation
 - (e) Soil composition and structure

4. Write note on any four of the following : 2½x4=10
 - (a) Transboundary impacts of water pollution
 - (b) Parameters of water quality
 - (c) Climate change impacts on water resources
 - (d) Conflicts arising due to sharing of water resources
 - (e) Role of vegetation in hydrological cycle

5. Discuss major types of natural resources. Differentiate between non-renewable and renewable resources. 10

6. What are biofuels ? Discuss various stages of converting biomass to biofuels. 10

7. Highlight various types of waste generated during different mining steps. Also discuss the various mining waste management methods. 10
 8. Discuss various approaches for dealing with mineral scarcity. Highlight various measures to improve energy efficiency for a sustainable future. 10
 9. What is agrobiodiversity ? Discuss its features and role in food security and biodiversity conservation. 10
 10. Discuss the major factors leading to agrobiodiversity erosion. How agrobiodiversity can be managed sustainably ? 10
 11. Write note on **any two** of the following : 5x2=10
 - (a) Transition from traditional to intensive agriculture and its impacts
 - (b) Policy framework for agrobiodiversity conservation at International level
 - (c) IPR and plant variety protection
 12. Justify land as a natural resource. What are the major categories of land use ? Make a note on Integrated land management approach. 10
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