

**POST GRADUATE DIPLOMA IN  
SUSTAINABILITY SCIENCE (PGDSS)**

**Term-End Examination**

**June, 2015**

00390

**MSD-012: ECOSYSTEM AND NATURAL RESOURCES**

*Time : 3 hours*

*Maximum Marks : 100*

**Note :** Answer *all* questions as per the instructions given in each question.

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1. Attempt any *ten* questions. Answer the following questions in about 100 words each. Each question carries 2 marks.  $10 \times 2 = 20$
- (i) Differentiate between food chain and food web.
  - (ii) Why is biodiversity loss a concern ?
  - (iii) Discuss in short the different levels of biodiversity.
  - (iv) List down the various uses of water.
  - (v) What are the different methods of rain-water harvesting ?

- (vi) Differentiate between land suitability and land capability.
- (vii) Differentiate between surface mining and subsurface mining.
- (viii) What is the relation between gender and agrobiodiversity ?
- (ix) What is participatory plant breeding ?
- (x) What are the different types of resources ?
- (xi) How can geothermal energy be harnessed for electric generation ?
- (xii) Give the various methods to deal with mineral scarcity.
- (xiii) What are the different agrobiodiversity management practices for its sustainable use ?
- (xiv) What is integrated land management ?
- (xv) Write a short note on energy conservation.

2. Attempt any **eight** questions. Answer the following questions in about 300 words each. Each question carries 5 marks. 8×5=40

- (i) What is hydrological cycle ? Describe hydrological cycle with the help of a diagram.

- (ii) What are the impacts of current agricultural practices on agrobiodiversity ?
- (iii) Write a note on future alternative sources of energy. Give the advantages and disadvantages of these sources to support your answer.
- (iv) What are the major challenges in meeting the goal of biodiversity conservation ?
- (v) What is the relation between agrobiodiversity and food security ?
- (vi) How does agriculture intensification affect on-farm and off-farm biodiversity ?
- (vii) Discuss the issue of sustainability in relation to exploitation of resources.
- (viii) Discuss the various types and groups of mineral resources.
- (ix) What are the various methods to improve energy efficiency ? How can government play a significant role in this direction ?
- (x) Give a detailed account of unsustainable land use practices.
- (xi) Write notes on the following :
  - (a) Soil profile
  - (b) Management of soil fertility
- (xii) What are the different parameters of water quality ?

3. Attempt any **four** questions. Answer the following questions in about 500 words each. Each question carries 10 marks.  $4 \times 10 = 40$

- (i) Describe the concept of ecology and ecosystem. What do you understand by ecosystem component ?
- (ii) Write a note on the emergence of global concern for biodiversity conservation. Give a brief account of global conventions related to biodiversity conservation.
- (iii) How is changing climate affecting the water resources of the world ? Give a brief write-up on efforts to conserve water internationally.
- (iv) Write notes on the following :  $4+3+3$ 
  - (a) Solar thermal energy utilization and Solar photovoltaic cell
  - (b) Hydropower
  - (c) OTEC
- (v) Write a note on policy and institutional framework for agrobiodiversity conservation in India.
- (vi) Give an overview of shrinking agrobiodiversity. What are the major gaps in knowledge about agrobiodiversity and its depletion ?