

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

Term-End Examination

00370

December, 2014

MSD-012: ECOSYSTEM AND NATURAL RESOURCES

Time : 3 hours

Maximum Marks : 100

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

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 autotrophs and heterotrophs.
 - (ii) What do you understand by Biodiversity ?
 - (iii) What are the major goals of Convention of Biological Diversity ?
 - (iv) What are the major challenges to water resources in an era of Economic Development ?
 - (v) Highlight the possible conflicts that arise due to water resource sharing between Communities and Nations.
 - (vi) Describe in short the land use pattern and management in India.

- (vii) Describe in short individual and community level efforts required to conserve water.
- (viii) Write a note on the role of soil organic matter in soil.
- (ix) Describe in short the factors responsible for scarcity of mineral resources.
- (x) The current trends of resource use are unsustainable. Comment.
- (xi) Enlist the three main steps to exploit and upgrade a mineral deposit during mining phase.
- (xii) How is agrobiodiversity related to livelihood of small farmers ?
- (xiii) Write a short note on the role of traditional knowledge on agrobiodiversity.
- (xiv) What is Millennium Ecosystem Assessment ?
- (xv) Write a note on Ganga Action Plan.

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

- (i) Describe energy flow in an ecosystem with the help of a diagram.
- (ii) What is IUCN Red list ? Give a brief description of various categories of IUCN list.

- (iii) Give a brief account of initiatives taken in India to conserve biodiversity.
- (iv) Is nuclear energy a non-renewable source of energy ? Give your answer with proper justification.
- (v) Give an account of wind energy potential of India.
- (vi) What are biofuels ? Describe various types of biofuels used for harnessing energy.
- (vii) Give a detailed account of impact of mining on environment.
- (viii) Draw a well-labelled diagram of a sustainable low waste or Earth Wisdom Society based on energy flow and matter recycling. How is it different from high waste or high throughput societies ?
- (ix) Why is conservation of resources important ? Give a brief account of conservation approaches for resources.
- (x) Give distinctive features of agrobiodiversity that makes it different from other components of general biodiversity.
- (xi) What is GMO ? How does GMO affect agricultural biodiversity ?
- (xii) Write a note on plant variety protection in India and PPVFR Act, 2001.

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

- (i) Ecosystem services are the planet's life support system. Comment on this giving an account of ecosystem services and their global status.
 - (ii) What are the two basic strategies for biodiversity conservation ? Differentiate between the two with suitable examples.
 - (iii) What are resources ? Differentiate between non-renewable and renewable energy resources with suitable examples.
 - (iv) Give a detailed account of water resources of India with emphasis on status, use and management.
 - (v) Write a note on policy framework for Agrobiodiversity conservation on International level.
 - (vi) Comment on the following :
 - (a) Community based agrobiodiversity conservation
 - (b) Participatory plant breeding
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