

**POST GRADUATE DIPLOMA IN  
ENVIRONMENT AND SUSTAINABLE  
DEVELOPMENT (PGDESD)**

**Term-End Examination**

**June, 2013**

**MED-001 : UNDERSTANDING THE  
ENVIRONMENT**

*Time : 2 hours*

*Maximum Marks : 50*

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*Note : All questions are compulsory.*

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1. (a) Identify one example of man-made and one man-modified environment out of the following : 2x5=10  
Sugarcane fields, the river Ganges, the Bhakra dam, the Keoladeo bird sanctuary and a dense forest.
- (b) Name two renewable and two non renewable resources. Justify both the views in one sentence each.
- (c) Name the four components which influence the size and structure of a population.
- (d) Construct two food chains to show that humans may occupy the second trophic level in one food chain and the third trophic level in the other.

(e) Name the kingdoms of organisms, one with cell walls containing nitrogenous polysaccharide and the other with cell walls made of a polymer of polysaccharide chains covalently crosslinked by short amino acid chains.

2. What does the term 'Symbiosis' mean ? Explain the three categories of symbiosis and cite one example of each. 1+6+3

**OR**

(a) What are adaptations ? 1+3+6

(b) How are mangroves adapted for survival on :

(i) saline soils and

(ii) poorly aerated soils, and at

(iii) water's edge

(c) In what ways do marine invertebrates face strong wave action ? Use examples to mention three different adaptations.

3. It is estimated that by the third quarter of the century, warming of the global surface will increase between 1.5° C and 4.5° C. 1+4+5

What is causing this warming ? Give an account of its cycling in nature. How did its volume increase in nature ? Explain.

**OR**

- (a) What is Nitrogen fixation ? Explain three ways by which Nitrogen is fixed in nature. 5+5
- (b) What are stony corals ? State their role in the marine environment. Write one sentence each on the help that is rendered to stony corals by algae and dinoflagellates.
4. (a) Explain the terms 'bioconcentration and 'biomagnification'. 4+6
- (b) How does a water body become entrophic ? What impact does entrophication have on life in that waterbody ? Why does entrophication occur only in stagnant water bodies and not in flowing waters ?

**OR**

Give an account of the various strategies and methods necessary for conservtion of our water resources. 10

5. (a) What impact did industrialised societies have on the environment at the local, regional and global levels ? 5+5
- (b) What is meant by 'biological structure' of a community ? Write a sentence each on keystone species, species richness and evenness.

**OR**

- (a) State the GAIA hypothesis by James Lovelock. Why was it considered revolutionary ? **2+8=10**
- (b) In what ways has human population growth affected biodiversity, forests and land surface of earth and air quality ?
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