

2014

(5th Semester)

ENVIRONMENTAL SCIENCE

FIFTH PAPER (EVS-501)

(Biodiversity and Sustainable Development)

Full Marks : 55

Time : 2 hours

(PART : B—DESCRIPTIVE)

(Marks : 35)

*The figures in the margin indicate full marks
for the questions*

1. Define biodiversity. Describe the importance and values of biodiversity to mankind. 1+6=7

Or

Write notes on the following : 3½+3½=7

(a) Pattern and levels of biodiversity

(b) Biogeographical classification of India

2. Define community-conserved areas. Discuss the essential features and different kinds of community-conserved areas. 2+5=7

G15—100/174a

(Turn Over)

Or

Write notes on the following : $3\frac{1}{2}+3\frac{1}{2}=7$

- (a) *In situ* conservation
- (b) *Ex situ* conservation

3. Describe, in detail, the floristic regions of India. 7

Or

Write notes on the following : $3\frac{1}{2}+3\frac{1}{2}=7$

- (a) Microbial components of water
- (b) Microorganisms in soil

4. Describe, in detail, the zoogeography of the Indian subregion. 7

Or

Define zoogeography. Write a note on different zoogeographical realms of the world. $2+5=7$

5. What is meant by sustainable development? Discuss, in detail, the important fundamentals concerning sustainable development. $1+6=7$

Or

Write notes on the following : $3\frac{1}{2}+3\frac{1}{2}=7$

- (a) Causes of Unsustainability
- (b) World Commission on Environment and Development

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(PART : A—OBJECTIVE)

(Marks : 20)

The figures in the margin indicate full marks for the questions

Answer **all** questions

SECTION—A

(Marks : 5)

Put a Tick (✓) mark against the correct answer in the brackets provided : 1×5=5

1. The most common measure of species diversity is/are

- (a) Whittaker diversity index ()
- (b) Wilson and William index ()
- (c) Simpson index and Shannon-Wiener index ()
- (d) None of the above ()

2. The Earth Summit held at Rio de Janeiro in 1992 resulted into

- (a) conservation of natural resources ()
- (b) IUCN ()
- (c) convention on biodiversity ()
- (d) reducing greenhouse gases ()

3. India is divided into nine floristic regions by

- (a) D. Chatterjee, 1962 ()
- (b) Champion and Seth, 1968 ()
- (c) Rodgers and Panwar, 1988 ()
- (d) Bharucha, 1955 ()

4. The division of zoogeographical realm was confirmed by Wallace in

- (a) 1867 ()
- (b) 1876 ()
- (c) 1786 ()
- (d) 1768 ()

5. The term 'sustainable development' was first used by the

- (a) Brundtland Commission Report, 1986 ()
- (b) Brundtland Commission Report, 1987 ()
- (c) WCED, 1988 ()
- (d) WCED, 1989 ()

SECTION—B

(Marks : 15)

Write notes on the following :

1. India as a megadiversity nation

2. Afforestation

- (a) Brundland Commission Report, 1986
- (b) Brundland Commission Report, 1987
- (c) WCED, 1983
- (d) WCED, 1989

3. Indo-Burma hot spot

(Marks: 15)

Write notes on the following:

1. India as a mega-diversity nation

4. Three rare, endemic and threatened animal species of N-E India

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(PART : A - OBJECTIVE)

(Marks : 20)

The figures in the margin indicate full marks for the questions

Answer all questions

SECTION - A

(Marks : 5)

Put a Tick (✓) mark against the correct answer in the brackets provided.

1. The most precise measure of species diversity is/are

- (a) Whittaker diversity index ()
- (b) Whittaker and Williams index ()
- (c) Simpson index and Shannon-Wiener index ()
- (d) None of the above ***

5. Intergenerational equity and intragenerational equity

(a) conservation of natural resources

(b) IUCN

(c) convention on biodiversity

(d) reducing greenhouse gases

3. India is divided into six floristic regions by

(a) D. Chatterjee, 1962

(b) Champion and Seth, 1968

(c) Hodgson and Panwar, 1968

(d) Eklund, 1965

4. The division of zoogeographical realm was confirmed by Wallace in

(a) 1857

(b) 1876

(c) 1786

(d) 1768

5. Arithmetic mean

(a) *Platyedra* and *Platyedra*

(b) *Platyedra* and *Platyedra*

(c) *Platyedra* and *Platyedra*

(d) *Platyedra* and *Platyedra*

3. Formation of tyloses in plants is a

(a) physical defense mechanism

(b) chemical defense mechanism

(c) biological defense mechanism

(d) biochemical defense mechanism

4. Red rot of sugarcane is caused by

(a) *Phytophthora infestans*

(b) *Alternaria solani*

(c) *Colletotrichum falcatum*

(d) *Sporisoriumgraminis* ★★★