

2014

( 5th Semester )

ENVIRONMENTAL SCIENCE

SEVENTH PAPER (EVS-503)

( **Environmental Chemistry and Geosciences** )

*Full Marks : 55*

*Time : 2 hours*

( PART : B—DESCRIPTIVE )

( Marks : 35 )

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

Answer **all** questions

1. Give a detailed account on the concept and scope of environmental chemistry. 7

Or

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

(a) Chemical equilibrium

(b) Conductance

2. What is COD? Explain in detail the process for the determination of COD.  $2+5=7$

G15—100/176a

( Turn Over )

Or

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

- (a) Water chemistry
- (b) Sedimentation

3. Discuss the working principle and components of spectrophotometry. Add a note on the application of spectrophotometry.  $5+2=7$

Or

Describe the principle and application of flame photometer.  $5+2=7$

4. Give an account of structure and components of the earth. 7

Or

Write a detailed account of the climates of India.

5. Describe the negative aspects of population explosion and its impact on the environment. 7

Or

Discuss the different models of population growth.

\*\*\*

2014

( 5th Semester )

**ENVIRONMENTAL SCIENCE**

SEVENTH PAPER (EVS-503)

**( Environmental Chemistry and Geosciences )**

( PART : A—OBJECTIVE )

( Marks : 20 )

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

Answer **all** questions

SECTION—A

( Marks : 5 )

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

1. In a state of chemical equilibrium

- (a) rate of forward reaction = rate of backward reaction ( )
- (b) concentrations of reactants and products stay constant ( )
- (c) no matter or energy enters or leaves the systems ( )
- (d) All of the above ( )

2. The procedure used for the determination of dissolved oxygen is known as

- (a) acid-base method ( )
- (b) wet-digestion method ( )
- (c) Winkler method ( )
- (d) oxidation-reduction method ( )

3. A colorimeter is a device commonly used to determine the concentration of a known solute in a given solution by the application of

- (a) Raoult's law ( )
- (b) Stokes' law ( )
- (c) Beer-Lambert law ( )
- (d) Henry's law ( )

4. Exterior of the earth is called

- (a) lithosphere ( )
- (b) atmosphere ( )
- (c) hydrosphere ( )
- (d) None of the above ( )

5. The number of babies produced per thousand individuals is called

- (a) natality ( )
- (b) mortality ( )
- (c) immigration ( )
- (d) emigration ( )

( 4 )

SECTION—B

( Marks : 15 )

**II.** Write short notes on the following : 3×5=15

1. Oxidation and Reduction

2. Difference between BOD test and COD test

- (a) factory
- (b) mortality
- (c) immigration
- (d) emigration

3. Titrimetry

1. Objective and Prediction

4. Origin of the earth

5. Affect of migration on population growth rate

(a) add-base method

(b) migration method

(c) register method

(d) birth-death method

3. A population is a device commonly used to determine the concentration of a liquid in a solution. It is used for the measurement of

(a) density

(b) viscosity

(c) Beer-Lambert law

(d) Henry's law

4. Exterior of the earth is called

(a) lithosphere

(b) atmosphere

(c) hydrosphere

(d) None of the above ★★★