



Name :

Roll No. :

Invigilator's Signature :

CS/B.Tech(OLD)/SEM-1/CH-101/2010-11

2010-11

ENVIRONMENT & ECOLOGY

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following :
10 × 1 = 10

- i) Lithosphere means
 - a) air
 - b) organisms
 - c) water
 - d) rocks and soils.
- ii) Food chain always starts with
 - a) decay
 - b) nitrogen fixation
 - c) photosynthesis
 - d) respiration.
- iii) Solar energy is an example of
 - a) renewable resource
 - b) old resource
 - c) non-renewable resource
 - d) both (a) and (b).



- iv) Kyoto protocol is related with
- a) ozone layer depletion b) greenhouse gas
 - c) SPM d) water pollution.
- v) Acidity in rain is measured by
- a) hygrometer b) ammeter
 - c) pH meter d) barometer.
- vi) Tree hugging movement is
- a) silent valley movement
 - b) green movement
 - c) Chipko Andolan
 - d) none of these.
- vii) BOD determines the health of
- a) air b) water
 - c) ecosystem d) soil.
- viii) The cause of eutrophication is
- a) increase of pathogens
 - b) increase of BOD
 - c) increase in algae's productivity
 - d) increase in DO.
- ix) The blue baby syndrome observed in presence of
- a) NO_3^- b) NO_2^-
 - c) SO_4^{2-} d) PO_4^{3-} .
- x) Colloid particles remain suspended in solution because they have
- a) net negative surface charge
 - b) net positive surface charge
 - c) no charge on surface
 - d) none of these.



xi) Which one is not limiting nutrient ?

- | | |
|-----------|----------------|
| a) Carbon | b) Nitrogen |
| c) Oxygen | d) Phosphorus. |

xii) Full form of PAN is

- | | |
|-------------------------|--------------------------|
| a) Peroxy alkyl nitrate | b) Peroxy acyl nitrate |
| c) Peroxy acyl nitrite | d) Peroxy alkyl nitrite. |

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following. $3 \times 5 = 15$

2. Discuss the phosphorus cycle in the environment with a neat sketch.
3. What is meant by environment ? What are its function in relation to man ? $2 + 3$
4. Give a detailed description of factors that control population.
5. Explain what is biodiversity and the necessity for its preservation. $2 + 3$
6. What are renewable and non-renewable resources ? Give one example of each to illustrate. $2\frac{1}{2} + 2\frac{1}{2}$

GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

7. a) What is lithosphere ? What are different types of soil wastes ? Discuss about special care to be taken while disposing medical wastes.
- b) What is food chain ? What are different kinds of food chain ? Discuss with examples. $2 + 3 + 2 + 3 + 3 + 2$



8. a) What is ozone hole ? How does it happen chemically in the stratosphere ?
b) What measures can be taken to reduced depletion of ozone ?
c) What are ventilation coefficient and maximum mixing depth ? How many types of plume can be expected and why does the shape of plume differ ?
9. Distinguish between the following :
a) BOD and COD methods
b) Pollutant and contaminant
c) primary and secondary pollutants.
10. Write short notes on any *three* of the following :
a) Acid rain
b) Ecological pyramids
c) Electrostatic precipitator
d) Arsenic pollution and its effects
e) Montreal Protocol
f) Sanitary land filling.
11. a) State the harmful effects of aerosol on the environment.
b) What is eutrophication ? How can it be controlled ?
c) What are the adverse effects of nuclear pollution ?
d) What is noise pollution ? Define decibel. Describe the effects of noise pollution on human health.

2 + 3 + 3 + 3 + (2 × 2)

3 × 5

3 × 5

3 + 4 + 4 + 4