



Name :

Roll No. :

Invigilator's Signature :

CS/B.Tech (CE-NEW)/SEM-8/CE-801/2/2011

2011

ENVIRONMENTAL POLLUTION & CONTROL

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) Which is the direct greenhouse gas ?
 - a) SO₂
 - b) CO
 - c) CO₂
 - d) None of these.
- ii) Acid rain occurs at the pH range of
 - a) 1 to 3
 - b) 2 to 4
 - c) 3 to 5
 - d) None of these.
- iii) Sea level rise and Global warming are two environmental hazards generally associated with
 - a) Ozone depletion
 - b) Greenhouse effect
 - c) None of these.



- iv) EMP stands for
- a) Environment Management Planning
 - b) Environment Monitoring Programme
 - c) Environmental Management Programme
 - d) None of these.
- v) Environmental Impact Assessment (EIA) relates to
- a) Past impact
 - b) Present impact
 - c) Future impact
 - d) None of these.
- vi) If P stands for pressure of sound wave and P_{ref} stands for reference pressure, then sound pressure level is given by
- a) $20 \log_{10}(P/P_{ref})$
 - b) $\frac{1}{20} \log_{10}(P/P_{ref})$
 - c) $20 \log_{10}\left(\frac{P_{ref}}{P}\right)$
 - d) $\frac{1}{20} \log_{10}\left(\frac{P_{ref}}{P}\right)$.
- vii) Electrostatic precipitator is a cleaning device of
- a) Air
 - b) Water
 - c) Land
 - d) None of these.
- viii) Nature of pollutants in waste water is
- a) physical
 - b) chemical
 - c) biological
 - d) any combination of (a), (b), (c).



- ix) Act on environment is to protect
- a) air
 - b) water
 - c) land
 - d) all of these.
- x) Basic concept of an ecological system is most appropriate when it is
- a) inter-relationship between organisation and the environment
 - b) relationship between human & industry
 - c) relationship between human & nature
 - d) relationship between human & air.
- xi) Pollution is a
- a) event or fact
 - b) harmful material
 - c) beneficial material
 - d) none of these.

GROUP – B

(Short Answer Type Questions)

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

2. Differentiate between the following :
 - a) Particulates and aerosols
 - b) Super-adiabatic and sub-adiabatic.
3. Define Greenhouse Effect. How does it relate to global warming ? Name the gases related to greenhouse effect.
4. Describe the phenomena of the following :
 - a) Coning
 - b) Looping.
5. Mention the basic methods of treatment for waste water.
6. Explain the relation between ambient and adiabatic lapse rates and determine the temperature at 2100 m.



GROUP – C

(Long Answer Type Questions)

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

7. What are the pollution characteristics for the following industries :

- a) Pulp and paper mills
- b) Fertilizers
- c) Dairy
- d) Tannery
- e) Textile.

Suggest treatment for each.

$5 + (5 \times 2)$

8. Explain in detail the basic concept of EIA. Also give a note on probable environmental impact of a thermal power plant & a mining industry.

9. Write short notes on any *three* of the following :

3×5

- a) Noise pollution
- b) Acid rain
- c) Ozone depletion
- d) Water Act, 1974.

10. a) What do you mean by self cleaning properties of environment w.r.t air pollution control ? Give a light on dilution method for it.

- b) Name and explain the basic principles of three numbers of waste water treatment methods ?

$5 + 5 + 5$
