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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 :

 $10 \times 1 = 10$

- i) Which is the direct greenhouse gas?
 - a) SO_2

b) CO

c) CO_2

- d) None of these.
- ii) Acid rain occurs at the pH range of
 - a) 1to 3

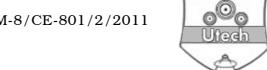
b) 2 to 4

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.

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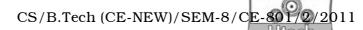


- EMP stands for iv)
 - Environment Management Planning a)
 - b) **Environment Monitoring Programme**
 - **Environmental Management Programme** c)
 - None of these. d)
- Environmental Impact Assessment (EIA) relates to v)
 - Past impact a)
- b) Present impact
- c) Future impact
- d) None of these.
- If P stands for pressure of sound wave and P_{ref} stands vi) for reference pressure, then sound pressure level is given by
 - a)
- $20 \log_{10}(P/P_{ref})$ b) $\frac{1}{20} \log_{10}(P/P_{ref})$
- $20\log_{10}\left(\frac{P_{ref}}{P}\right)$ d) $\frac{1}{20}\log_{10}\left(\frac{P_{ref}}{P}\right)$.
- 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
 - physical a)
 - chemical b)
 - biological c)
 - 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.

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(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.

 $5 + (5 \times 2)$

 3×5

- 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 :
 - 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

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