

# 12173

**21314**

**3 Hours / 100 Marks**

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.  
(2) Answer each next main Question on a new page.  
(3) Illustrate your answers with neat sketches wherever necessary.  
(4) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

1. a) Attempt any **THREE** of the following: 12
- i) Define:
- 1) Atmosphere
  - 2) Lithosphere
  - 3) Hydrophere
  - 4) Biosphere
- ii) Classify air pollution.
- iii) Define the terms:
- 1) Alkalinity
  - 2) Biological O<sub>2</sub> demand.
- iv) How CRDI concept of fuel injection helps to reduce pollution from engine?

P.T.O.

- b) **Attempt any ONE of the following:** **6**
- i) Write the sources and effects of following air pollutant on human health.
    - 1) particulate matter
    - 2) carbon monoxide
    - 3) NO<sub>x</sub>
  - ii) Write a short note on noise mapping.
2. **Attempt any TWO of the following:** **16**
- a) Describe economic effect of air pollution.
  - b) State and describe various steps in water treatment.
  - c) List the sources of noise and describe effects of noise on human health.
3. **Attempt any FOUR of the following:** **16**
- a) Classify pollutants depending upon their sources.
  - b) Describe photochemical air pollution.
  - c) Which pollutants are produced under following conditions?  
How?
    - i) Idling of engine
    - ii) Running of vehicle at normal speed.
  - d) Define the terms:
    - i) Air quality
    - ii) Emission standards.
  - e) Describe Indian standards for drinking water.

- 4. a) Attempt any THREE of the following:** **12**
- i) Write importance of bio diversity.
  - ii) Write the pollution norms of Bharat Stage III & IV of a petrol car.
  - iii) List eight sources of water pollution.
  - iv) State acceptable noise levels at residential buildings, schools, banks and libraries.
- b) Attempt any ONE of the following:** **6**
- i) Discuss air pollution due to automobiles in city of Delhi.
  - ii) What are agricultural pollutants? Suggest methods to reduce pollution due to agricultural pollutants.
- 5. Attempt any TWO of the following:** **16**
- a) What are the parameters of CI engine responsible for emission? How they can be controlled?
  - b) What is radiation pollution? State sources and effects of radiation.
  - c) Describe steps involved in solid waste management.
- 6. Attempt any FOUR of the following:** **16**
- a) Describe significance of carbon unit.
  - b) State causes and remedial procedures of air pollution due to fertilizer industries.
  - c) List any four terms used in chemical analysis of water.
  - d) State four effects of acid rain.
  - e) Describe concept of ecosystem and enlist different types of ecosystem.
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