

17646

21819

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) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. (A) Attempt any THREE : 12
- (a) Write any four effects of various air pollutions on humans.
 - (b) Define terms : (i) BOD, (ii) COD, (iii) DO, (iv) TDS.
 - (c) List any four pollutants produced from fertilizer industry.
 - (d) Name the types of material present in biomedical waste.
- (B) Attempt any ONE : 6
- (a) Explain construction and working of High Volume Sampler. State its application.
 - (b) Explain 3R principle with example. State its application in chemical industry.
2. Attempt any FOUR : 16
- (a) List four sources of air pollutions & write the names of four air pollutants.
 - (b) State the role of pollution control board in controlling the industrial pollution.
 - (c) Explain working of bar screens with diagram.
 - (d) Write classification of domestic solid waste.
 - (e) Write business benefits of ISO 14001.
 - (f) Give the meaning of (i) Grab sampling, (ii) Freeze out sampling, (iii) Absorption, (iv) Adsorption.

- 3. Attempt any FOUR :** **16**
- (a) List advantages & disadvantages of bag filter. State its two application.
 - (b) Write working of gas absorber used for pollution control.
 - (c) Draw neat sketch of trickling filter & name it.
 - (d) Explain working of electrostatic precipitator with neat diagram.
 - (e) Explain working of activated sludge method.
 - (f) Explain sludge thickening process.
- 4. (A) Attempt any THREE :** **12**
- (a) State any four Physical & Chemical characteristics of waste water.
 - (b) Name any four sources of water pollution. Write long form of MPCB & WHO.
 - (c) Draw neat sketch of cyclone separator. State its two uses w.r.t. pollution control in industry.
 - (d) Explain procedure of environmental audit.
- (B) Attempt any ONE :** **6**
- (a) Explain recovery of chemicals from black liquor to reduce pollution in paper industry.
 - (b) Explain importance of environment management in chemical industry with example.
- 5. Attempt any FOUR :** **16**
- (a) Explain working of thermal incinerator used for pollution control.
 - (b) Explain any one treatment method for biomedical waste.
 - (c) Explain sanitary landfill method for domestic waste treatment.
 - (d) Write need of ISO 14001.
 - (e) Write significance of BOD & COD.
 - (f) Explain waste water sampling methods.
- 6. Attempt any FOUR :** **16**
- (a) Explain working of Bag filter.
 - (b) Write any four air quality standards given by CPCB.
 - (c) Explain working of trickling filter.
 - (d) Explain any one method for pollution control in fertilizer industry.
 - (e) Explain sludge dewatering method.
 - (f) Explain any one method for solid waste collection.
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