

N.B.: (1) All questions are compulsory.

(2) Use of log table or nonprogrammable calculator is permitted.

- Q.1 A Attempt any Two of the following 8
- How is particulate matter act as air pollutant? How such pollution can be controlled?
 - What is PUC of an automobile? Give its significance.
 - How is the sampling done from the stag?
 - Explain the concept of carbon credit related to global warming.
- B How are ammonia and organic vapour analyzed from air sample? 4
- OR
- B What are the air pollutants introduced by chemical industry? How can it be controlled? 4
- Q.2 A Attempt any Two of the following 8
- Give details of formalities required to be done before bringing a new brand of bottled mineral water in the market.
 - Why a bore well water needs purification? How is it purified?
 - What are the properties water should posses for its use as potable water?
 - Compare distilled water and mineral water.
- B A sample of water contains following impurities: 4
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| Mg(HCO ₃) ₂ = 75 mg / lit. | MgSO ₄ = 119 mg / lit. |
| Ca(NO ₃) ₂ = 160 mg / lit. | CaCl ₂ = 220 mg / lit. |
- Convert the concentration of impurities into CaCO₃ equivalent in terms of PPM.
[Ca = 40, Mg = 24, C = 12, S = 32, N = 14, H = 1 and Cl = 35.5]
- OR
- B Give direct and indirect pollution of potable water reservoir. 4
- Q.3 A Attempt any Two of the following 8
- What is soil analysis? Give its importance.
 - Explain working of cooling towers with suitable diagram.
 - What are the sources of radioactive pollution?
 - What is the responsibility of an individual citizen in controlling pollution with respect to article 51A?
- B What is the difference between sound and noise? Give various sources of noise. 4
- OR
- B What is the effect of allergy on human health? Give any two medicines used in treatment of allergy with their side effects. 4

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- Q.4
- A Attempt any Two of the following 8
- i "Pesticides are more dangerous than the pests" justify the statement.
 - ii Explain the chromatographic technique of determination of sulphur in insecticide.
 - iii Describe the method of quantitative determination of oxygen release capacity of the detergent.
 - iv Explain Flash point and Fire point with respect to petrochemical products. —
- B How the detergents are classified? Give various components of the detergents. 4
- OR
- B What are fuels? What properties a good fuel should possess? 4
- Q.5 Attempt any Four of the following. 12
- i What are the sources of air pollution? How are the pollutants classified?
 - ii How is the air sample processed for analysis?
 - iii What do you mean by hard water? What are its properties? How is it converted into soft water?
 - iv What are the steps used to convert water from natural source to potable municipal water?
 - v What is thermal Pollution? Give its sources.
 - vi Explain the role of Pollution Control Board in pollution free operation of an industry.
 - vii How are the pesticides classified? —
 - viii How are various products separated from crude oil by fractional distillation?
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