Q.P. Code: 05443

[Time: 2 ½ Hours]  [Marks: 60]

Please check whether you have got the right question paper.

N.B: 1. All questions are compulsory.
    2. Use of log table/non-programmable calculator is allowed.

Q.1 A) Answer any two of the following:

i) What are the various air pollutants and their sources?

ii) Discuss the role of particulate matter in air pollution. How is the particulate matter in air sampled?

iii) How do the vehicles contribute to air pollution? How can it be controlled?

iv) With the help of neat diagram, elaborate the stag process to remove pollutants from industrial exhaust.

B) Elaborate the term- "Carbon credit".

OR

B) How are "ammonia" and "organic vapour" analyzed from air sample?

Q.2 A) Answer any two of the following:

i) What requirements the water sample should satisfy for its use as potable water?

ii) Give the direct and indirect sources of potable water pollution.

iii) Discuss the pollutants present in bore well water. How can it be purified?

iv) What is hardness of water? How does it restrict its use in industry?

B) 25 cm³ of sample A and 25 cm³ of sample B required 1.6 cm³ and 2.2 cm³ respectively of 0.01M EDTA for its calcium content. Calculate the CaCO₃ hardness and the amount of same EDTA required for 25.0 cm³ of sample prepared by mixing equal amount of sample A and Sample B. [At. wt. Ca = 40, C = 12 and O = 16].

OR

B) What are the various treatments given to the water from natural reservoirs for converting it to bottled mineral water?

Q.3 A) Answer any two of the following:

i) What is fertility of soil? How does soil analysis help to improve it?

ii) Elaborate various methods of disposal of radioactive waste.


iv) Discuss the role of Pollution Control Board in pollution free operation of industry.

TURN OVER
Q.4 A) Answer any two of the following:-

i) State different ways of action of insecticide on insects.

ii) How are the detergents classified? Give various components of the detergents.

iii) With the help of diagram, describe fractional distillation of petroleum.

iv) What are fuels? List properties of ideal fuel.

B) What are the factors to be considered while selecting the detergent?

OR

Q.5 Answer any four of the following:

i) How are the air samples collected? Explain any one method for collection of it.

ii) Give the permissible limits of air pollutant in urban area as per MPCB norms. Explain with any three examples.

iii) Why is deionized distilled water not recommended as potable water?

iv) Discuss the need of analysis of bore well water prior to its use.

v) What is difference between sound and noise? State various sources of noise.

vi) Explain the concept of environmental audit.

vii) "Detergents are preferred over soaps in washing process" justify the statement.

viii) Explain 'Flash point' and 'Fire point' with respect to petrochemical products.