

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:-

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- What are the various air pollutants and their sources?
- Discuss the role of particulate matter in air pollution. How is the particulate matter in air sampled?
- How do the vehicles contribute to air pollution? How can it be controlled?
- With the help of neat diagram, elaborate the stag process to remove pollutants from industrial exhaust.

B) Elaborate the term- "Carbon credit".

04

OR

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

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

08

- What requirements the water sample should satisfy for its use as potable water?
- Give the direct and indirect sources of potable water pollution.
- Discuss the pollutants present in bore well water. How can it be purified?
- What is hardness of water? How does it restrict its use in industry?

B) 25cm^3 of sample A and 25cm^3 of sample B required 1.6 cm^3 and 2.2 cm^3 respectively of 0.01M EDTA for its calcium content. Calculate the CaCO_3 hardness and the amount of *same* EDTA required for 25.0 cm^3 of sample prepared by mixing equal amount of sample A and Sample B. [At. wt. Ca = 40, C = 12 and O = 16].

04

OR

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

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

08

- What is fertility of soil? How does soil analysis help to improve it?
- Elaborate various methods of disposal of radioactive waste.
- What is meant by allergy? Give an account of medicines used for its treatment.
- Discuss the role of Pollution Control Board in pollution free operation of industry.

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B) Explain water binding capacity of soil. How does soil pollution affect it?

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OR

B) What is thermal pollution? Discuss its sources.

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

08

- State different ways of action of insecticide on insects.
- How are the detergents classified? Give various components of the detergents.
- With the help of diagram, describe fractional distillation of petroleum.
- What are fuels? List properties of ideal fuel.

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

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OR

B) Describe the chromatographic method for chloride determination in insecticide sample.

04

Q.5 Answer any **four** of the following: -

12

- How are the air samples collected? Explain any one method for collection of it.
- Give the permissible limits of air pollutant in urban area as per MPCB norms. Explain with any three examples.
- Why is deionized distilled water not recommended as potable water?
- Discuss the need of analysis of bore well water prior to its use.
- What is difference between sound and noise? State various sources of noise.
- Explain the concept of environmental audit.
- "Detergents are preferred over soaps in washing process" justify the statement.
- Explain 'Flash point' and 'Fire point' with respect to petrochemical products.