

Total No. of Questions : 10]

SEAT No. :

P3768

[Total No. of Pages : 2

[4760] - 74

M.E. (Civil) (Water Resource and Environmental Engg.)

ENVIRONMENTAL CHEMISTRY & MICROBIOLOGY

(2010 Pattern)

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates:

- 1) *Answer any three questions from each section.*
- 2) *Figures to the right indicate full marks.*
- 3) *Neat diagrams must be drawn wherever necessary.*

SECTION - I

Q1) Educate in detail how formation of various physical processes of pollutants in atmosphere takes place. **[16]**

Q2) Enlist various metrological parameters which influence the air pollution. Explain important reactions taking place during removal of pollutants. **[16]**

Q3) How characteristics of pollutants are classified? Give explanation of various physical and chemical and biological parameters found in wastewater. **[16]**

Q4) Explain in detail the importance of Environmental chemistry and microbiology in day todays life. **[16]**

Q5) Write short notes on : **[18]**

- a) Contaminants in soil.
- b) Oxidizing properties of Air pollutants.
- c) Hydrocarbon decay and its environmental effects.

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SECTION - II

Q6) Discuss various phases of bacterial growth. Also explain in short cell Morphology. [16]

Q7) Enlist various practices for analysis of trace pollutants. Discuss criterion for selecting particular technique. Also explain how HPLC is used in determination of particular pollutant. [16]

Q8) Discuss in detail about enzymes and their role in microbiology. [16]

Q9) Explain the importance of algae in the food chain of aquatic environment? Discuss the various uses of algae that make them commercially important. [16]

Q10) Write short notes on : [18]

- a) VU Spectrophotometer
- b) Staining techniques
- c) Polarography

