

**ER-1393**

**M. Sc. (Third Semester) Examination, Nov.-Dec. 2019**

**CHEMISTRY**

**Paper : Third**

**ENVIRONMENTAL CHEMISTRY**

**Time Allowed : Three hours**

**Maximum Marks : 40**

**Note : Attempt all two sections. Distribution of marks is given with sections.**

**Section-‘A’**

**(Short Answer Type Questions) 5×3=15**

**Note : Attempt all five questions. Each questions carries 03 marks.**

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**PTO**

**1. Describe how global mean temperature is calculated?**

**Or**

**Explain biogeochemical cycles of phosphorous or oxygen.**

**2. Write a note on green house effect.**

**Or**

**Write cause of air pollutants and their classification.**

**3. Write method for the determination of BOD or COD.**

**4. Describe bioaccumulation and sources of pollutants heavy metals.**

**Or**

**Explain biochemical and damaging effects of heavy metals.**

**5. Write a note on London smog or three mile island.**

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**Section-'B'**

**(Long Answer Type Questions) 5×5=25**

**Note :** Attempt all five questions. Each questions carries 05 marks.

6. Describe mechanism of photochemical decomposition of  $\text{NO}_2$  and formation of ozone.

**Or**

Explain and show the impact of hydroxyl radicals with methane and other compounds.

7. Write a detailed note on climate change and its consequences. <http://www.ujjainstudy.com>

**Or**

Describe damaging effects and control strategies of CO and Ozone.

8. Write a detailed note on aerobic and anaerobic reaction in water.

**Or**

Explain :

- (a) Acid base chemistry of fresh water

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(b) Redox chemistry in natural waters

9. Write sources, structures of polynuclear aromatic hydrocarbons as pollutants.

**Or**

Write detection and damaging effect of ionosphere pesticides.

10. Describe in detailed Bhopal gas tragedy, it causes and impact.

**Or**

Give an account of sil composition and presence of micro and macro-nutrients and their effects.

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