



# UNIVERSITY OF THE PUNJAB

Seventh Semester – 2019

Examination: B.S. 4 Years Program

Roll No. in Fig. ....

Roll No. in Words. ....

**PAPER: Environmental Chemistry**  
**Course Code: CHEM-401 Part-I (Compulsory)**

**MAX. TIME: 15 Min.**  
**MAX. MARKS: 10**

Signature of Supdt.:

**Attempt this Paper on this Question Sheet only.**

**Please encircle the correct option. Division of marks is given in front of each question.**

**This Paper will be collected back after expiry of time limit mentioned above.**

**Q.1. Encircle the right answer, cutting and overwriting is not allowed. (1x10=10)**

- i) Which of the following is major source of hydrocarbons emission
  - a) Automobile
  - b) Coal
  - c) Wood
  - d) Petroleum
  
- ii) Which of the following is classified as INDOOR pollutant
  - a) Sulphur Dioxide
  - b) Nitrous Oxide
  - c) Radon
  - d) Helium
  
- iii) Which of the following conditions show the polluted environment
  - a) pH of rain water is 5.6
  - b) BOD of wastewater is 10ppm
  - c) Eutrophication
  - d) All of these
  
- iv) As suggested by EPA, permissible value of BOD in wastewater is
  - a) Upto 80ppm
  - b) Upto 100ppm
  - c) Upto 150ppm
  - d) Upto 180ppm
  
- v) The process of nutrient Enrichment is termed as
  - a) Eutrophication
  - b) Enrichment
  - c) Leaching
  - d) Bioaccumulation
  
- vi) Which of the following energy resource less contribute Global Warming?
  - a) Coal
  - b) Petroleum products
  - c) LPG
  - d) Nuclear Energy

**P.T.O.**

vii) Temporary acid rain due to the release of \_\_\_\_\_ by volcanic eruption.

- a)  $\text{H}_2\text{SO}_4$
- b)  $\text{HCl}$
- c)  $\text{HNO}_3$
- d)  $\text{H}_2\text{CO}_3$

viii) The top of an underground area where the soil and rock particles are saturated with water is called

- a) Leachate
- b) Water Table
- c) Run off
- d) All of these

ix) Following cause alkalinity as well as hardness in water

- a)  $\text{CaCO}_3$
- b)  $\text{Ca}(\text{HCO}_3)_2$
- c)  $\text{CaCl}_2$
- d)  $\text{CaSO}_4$

x) Which of the following is an example of point source pollution?

- a) Acid Rain
- b) Fertilizer Run off
- c) Untreated Sewage
- d) Pathogen contamination



# UNIVERSITY OF THE PUNJAB

Seventh Semester – 2019

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**PAPER: Environmental Chemistry**  
**Course Code: CHEM-401 Part – II**

**MAX. TIME: 2 Hrs. 45 Min.**  
**MAX. MARKS: 50**

**ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED**

**Q.2. Give short answers of the following questions.**

**(10x2=20)**

- i. What do you mean by the term Bioaccumulation?
- ii. Give temperature and pressure variation in Troposphere?
- iii. How COD of wastewater can be measured?
- iv. Give the Sources and Sink of oxides of Carbon in atmosphere.
- v. Discuss Radon as Indoor pollutant.
- vi. Differentiate between Primary and Secondary pollutants.
- vii. What do you mean by the term POLAR VORTEX?
- viii. How fertilizers affects the quality of waterways?
- ix. What are the harmful effect of lead in water ways?
- x. How Acid Rain affects the Masonry Buildings?

**Q.3. Give brief answers of the following questions.**

**(6x5=30)**

- a) Discuss CFC's and Methane as Green House Gases?
- b) How Heavy Metals contribute water pollution?
- c) Give various types of water pollution.
- d) Briefly explain the physical classification of Environment.
- e) Explain Activated Sludge Process.
- f) Discuss Environmental Management System (EMS)?