

# P. P. SAVANI UNIVERSITY

Third Semester of B.Sc. Examination  
December-2021

SSES2010- Environment Pollution and Human Health I

07.12.2021, Tuesday Time: 09:00 a.m. to 11:30 a.m. Maximum Marks: 60

## Instructions:

1. The question paper comprises of two sections.
2. Section I and II must be attempted in separate answer sheets.
3. Make suitable assumptions and draw neat figures wherever required.
4. Use of scientific calculator is allowed.

## Section-I (Total Marks - 30)

### Q.1 Short Questions

#### 1.1 Objectives

[10]

[05]

1.1a The main components of the photochemical smog result from the action of sunlight on \_\_\_\_\_ and nitrogen oxides produced by automobiles and factories.

- A Unsaturated hydrocarbons
- B Saturated hydrocarbons
- C Both a and b
- D None of the above

1.1b Byssinosis is caused by

- A Silica dust
- B Cotton dust
- C Asbestos dust
- D Coal dust

1.1c Effects of volatile organic compounds does not include

- A Irritation of the eye
- B Nausea
- C Loss of coordination
- D Hay fever

1.1d Air quality index category is decided based on \_\_\_\_\_ values of air pollutants and their likely health impacts.

- A Ambient concentration
- B Maximum concentration
- C Minimum concentration
- D All of the above

1.1e When it rains water that is not absorbed into the ground \_\_\_\_\_ by vegetation or evaporated flows into surface waters.

- A Intercepted
- B Precipitated
- C Agitated
- D Accumulated

1.1f With rise in temperature level of dissolved oxygen \_\_\_\_\_ in water.

- A Remains same
- B Increases

- C Decreases  
 D First increase then decrease
- 1.1g E. coli is considered as the best indicator of \_\_\_\_\_  
 A Fecal pollution  
 B Surface water pollution  
 C Ground water pollution  
 D Soil pollution
- 1.1h Arsenic occurs in water as  
 A As (III)  
 B As (II)  
 C As (IX)  
 D As (VII)
- 1.1i These pollutants do not persist in the form in which they are added to the environment.  
 A Primary pollutants  
 B Qualitative Pollutants  
 C Both a and b  
 D None of the above
- 1.1j In India CPCB has been executing a nationwide programme of ambient air quality monitoring known as  
 A National Air Monitoring Programme  
 B National Air Quality Control Programme  
 C National Monitoring Programme  
 D National Air Quality Monitoring Programme
- 1.2 Answer the Following: (MCQ/Short Question/Fill in the Blanks) [05]**
- 1.2a \_\_\_\_\_ is considered to be the species of coliform bacteria that is the best indicator of fecal pollution.
- 1.2b \_\_\_\_\_ is an in situ remediation method that enhances the biodegradation of contaminants (organic compounds) in the unsaturated soil zone.
- 1.2c Electrostatic precipitator do works on the principle of electrical charging of particulate matter and collecting it on a charged surface. (True/False)
- 1.2d Fertilizers like ammonium sulphate, ammonium chloride and urea increase the soil pH. (True/False)
- 1.2e Certain substances deplete the amount of ozone in the stratosphere, increasing the amount of UV-a radiation. (True/False)
- Q.2 Short Notes (Attempt any two) [06]**
- A Enlist different types of pollutants according to their persistence, existence, nature of disposal, origin.  
 B Differentiate between classical smog and photochemical smog. Discuss health effects of London Smog.  
 C What do you understand by national air quality monitoring programme and why it is undertaken in India?
- Q.3 Explain in detail (Attempt any two) [14]**
- A Describe sources of noise pollution.  
 B Discuss causes of soil degradation.  
 C Describe the primary and secondary treatment processes involved in Effluent



Treatment (ETP).

**Section-II (Total Marks - 30)**

[10]

**Q.1 Short Questions**

[05]

**1.1 Objectives**

**1.1a** Radioactive strontium affects bones by depositing in the bones instead of

- A Iron
- B Zn
- C Ca
- D K

**1.1b** The quantity of DDT at each trophic level in food chain

- A Decreases
- B Remains the same
- C Increases
- D Changes

**1.1c** What happens to the soil during soil pollution

- A Incorporation of unwanted chemical
- B Plants die because of human ignorance
- C The soil become contaminated
- D None of the above

**1.1d** Which of the following is not a major pollutants which causes soil pollution?

- A Heavy metal
- B Mineral oil
- C Nitrogen oxides
- D Hydrocarbon

**1.1e** What is the dB of a threshold of pain?

- A 100
- B 110
- C 146
- D 120

**1.1f** The sound beyond which level is regarded as pollutant

- A 40dB
- B 80dB
- C 120dB
- D 150dB

**1.1g** Occupational noise comes from

- A Industries
- B Houses
- C Transport
- D All of above

**1.1h** Pesticide fertilizer causes which pollution

- A Air pollution
- B Water pollution
- C Soil pollution

D Oil pollution

1.1i Following is used for measuring intensity of sound

- A Sound level meter
- B Frequency meter
- C Both A and B
- D None of above

1.1j In which unit sound is measured?

- A Km
- B Pa
- C Kg
- D Decibel

1.2 Answer the Following: (MCQ/Short Question/Fill in the Blanks)

[05]

1.2a Ozonation is a water treatment process that destroys harmful bacteria and other microorganisms through \_\_\_\_\_ of ozone.

1.2b A \_\_\_\_\_ called slime is formed over the individual rocks and this film consumes wastes trickling through rock bed.

1.2c Primary treatment removes about .10% of the total suspended particles.(True/False)

1.2d The cultural eutrophication process consists of a continuous increase in the contribution of nutrients, mainly nitrogen and boron.(True/False)

1.2e Values in excess of those mentioned under acceptable render the water not suitable.(True/False)

Q.2 Short Notes (Attempt any two)

[06]

- A Explain Bioventing.
- B Explain Biomagnification
- C Discuss National air quality monitoring programme and ambient air quality standards.

Q.3 Explain in detail (Attempt any two)

[14]

- A What is soil pollution and discuss major causes of soil pollution?
- B Discuss various control measures of noise pollution?
- C What are the effects of soil and noise pollution?