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**Presidency University**

**Bengaluru**

**SCHOOL OF ENGINEERING**

**Make-Up Examinations July 2024**

**Course Code**: CIV2027

**Course Name**: Environmental Pollution and Control

**Program** : B.Tech,

**Date**: 19/JULY/2024

**Time**: 09:30 AM – 12:30 PM

**Max Marks**: 100

**Weightage**: 50%

**Instructions:**

1. *Read the all questions carefully and answer accordingly.*
2. *Do not write any matter on the question paper other than roll number.*

**Part A [Memory Recall Questions]**

**Answer all the Questions. Each question carries FIVE marks. (6Qx5M=30M)**

**1**. What is lake stratification? Explain lake stratification with figure. (C.O.NO.1) [Knowledge]

**2.** What is Oxygen sag curve? Explain the zones of Oxygen sag curve. (C.O.NO.1) [Knowledge]

**3**. Define carbon credit? Differentiate VER and CER. (C.O.NO.2) [Knowledge]

**4.** What is Infrasound? Explain the sources of noise pollution. (C.O.NO.3) [Knowledge]

**5.** What is environmental compliance audit? List the benefits of environmental compliance audit.

(C.O.NO.4) [Knowledge]

**6.** Enlist the categories of waterborne Infectious diseases with examples.(C.O.NO.4) [Knowledge]

**Part B [Thought Provoking Questions]**

**Answer all the Questions. Each question carries TEN marks. (4Qx10M=40M)**

**7.** Trickling Filter also known as percolating or sprinkling filter, is like a well having depth up to about 2m and filled with some granular media. The sewage is sprinkled over the media which percolates through filter media and is collected through the under-drainage system. Explain the working principle of trickling filter with neat sketch. (C.O.NO. 2) [Comprehension]

**8.** Temperature actually increases with altitude near the ground before it begins to decrease with altitude. This results in inversion with warm, low density air riding on top of cool high density air; a very stable air column that traps pollution near the ground. Explain the inversion types, which occurs during night time and in mountain region with figures. (C.O.NO. 3) [Comprehension]

**9.** On a mission to save the world's soils from extinction, the Save Soil campaign reached Bonn on 13 April 2022. The 100-day journey led by Isha foundation, India will cover 30,000 km across 25 nations to call on the policymakers and the public to make soil regeneration a priority. Suggest any ten remedial technologies to curb soil pollution. (C.O.NO.4) [Comprehension]

**10.** Biodegradation is a natural and complex process of decomposition facilitated by biochemical reactions of aerobic and anaerobic bacteria. Discuss aerobic anaerobic biodegradation processes with biochemical reactions. (C.O.NO.1) [Comprehension]

**Part C [Problem Solving Questions]**

**Answer all the Questions. Each question carries FIFTEEN marks. (2Qx15M=30M)**

**11.** In the move of clean energy fuel in 2017, the Indian government announced that it would increase the share of natural gas in its energy mix to 15% by 2030. As of September 2021, natural gas made up 6.5% of India's energy mix and in March 2021, the government introduced GRAM UJALA scheme for rural households, under which it aims to distribute LED bulbs at an affordable price of Rs.10 per bulb. (C.O.NO.4) [Comprehension]

**a)** “Natural gas is a clean fuel” justify this statement by comparing with diesel fuel.

**b)** The light-emitting diode (LED) is today's most energy-efficient source. Write comparative advantages of LED over incandescent lighting.

**12.** The **Air (Prevention and Control of Pollution)** Act was enacted in 1981 and amended in 1987 to provide for the prevention, control and abatement of air pollution causing by Industries and vehicular emissions in India. (C.O.No.2) [Comprehension]

**a)** Discuss the control measures for industrial and vehicular air pollution.

**b)** Identify and depict the working principle of the device which can be used remove submicroscopic particles.