

國立中央大學 112 學年度碩士班考試入學試題

所別： 環境工程研究所碩士班

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科目： 環境工程概論

1. Term explanation. Please write as much as you can to get the entire score (36%)
 - (A) Global warming potential (GWP)
 - (B) Flue gas desulfurization (FGD)
 - (C) Ozone depletion
 - (D) Life cycle assessment (LCA)
 - (E) Selective catalytic reduction (SCR)
 - (F) AQI

2. Please draw a schematic diagram of a typical domestic wastewater treatment process, and label and simply explain each unit. (17%)

3. An industry discharges its liquid waste into a river that has a minimum flowrate of $10 \text{ m}^3/\text{s}$. The major pollutant in the waste is a nonreactive organic material. The waste discharge stream has a flowrate of $0.5 \text{ m}^3/\text{s}$ and an organic concentration of 5000 mg/L . Upstream pollution has caused an organic concentration of 20 mg/L in the river upstream of the industrial discharge under the minimum flowrate conditions. The state regulatory agency has set a maximum limit of 100 mg/L for the pollutant in the river. Assume complete mixing occurs in the river. Will the industry be able to discharge the waste without treatment? (15%)

4.
 - (1) In November 2022, the Government of Egypt host the 27th session of the Conference of the Parties of the UNFCCC (COP 27). What are the most important issues discussed in COP 27? (5%)
 - (2) Please describe what is Net Zero 2050 in Taiwan? (5%)
 - (3) What is carbon sink? (5%)

5.
 - (1) Please define and classify “waste” according to Taiwan Waste Disposal Act. (7%)
 - (2) Please describe the two common thermal methods that can treat solid wastes. (10%)