

110 EPO

國立臺北科技大學 110 學年度碩士班招生考試

系所組別：3210 環境工程與管理研究所甲組

第一節 環境工程 試題

第 1 頁 共 1 頁

注意事項：

1. 本試題共 5 題，每題 20 分，共 100 分。
2. 不必抄題，作答時請將試題題號及答案依照順序寫在答案卷上。
3. 全部答案均須在答案卷之答案欄內作答，否則不予計分。

1. Determine the mg/L of O_2 required for a BOD test if 0.1 mmol of urea, $(NH_2)_2CO$, is completely oxidized into CO_2 , NO_3^- and water in a 50 ml sample.
(20 points)
2. A stack gas contains carbon monoxide (CO) at a concentration of 10 % by volume. What is the concentration of CO in $\mu g/m^3$? (assuming 25 °C and 1 atmosphere pressure) (20 points)
3. Express 10 mg/L of Mg^{+2} as $CaCO_3$. (Mg=24, Ca=40, C=12, O=16) (20 points)
4. A stack emission has the following characteristics: 90 % SO_2 , 10 % N_2 and no particulates. What treatment device would you suggest and why? (20 points)
5. A one liter cylinder is used to measure the settleability of 0.5 % suspended solids sludge. After 30 min the settle sludge occupy 600 ml. Calculate the Sludge Volume Index (SVI)??
(20 points)