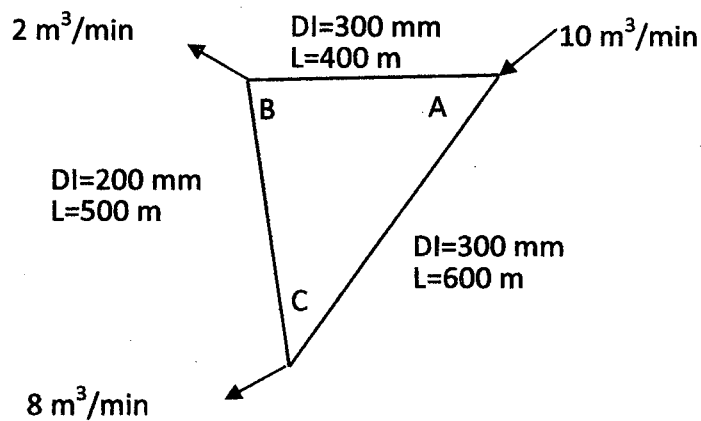


1. 說明比速的物理意義及在自來水及渾水抽水機選擇上之應用。(15分)
2. 「海綿城市」為都市舒緩氣候變遷影響的調適方法之一，其中透水性瀝青鋪面已在台灣施做。說明透水性瀝青鋪面的作用及可能的缺點。(15分)
3. 已知一小區塊的管網如下，供水量、需水量及各節點間之管徑(DI)及管長(L)如圖所示，計算各管中之流量及流速，並說明所得結果是否符合一般設計規範。提示： $h = KQ^{1.85}$, h:水頭損失, Q:流量 (20分)



4. Explain the purpose to remove natural organic matter (NOM) from surface water to meet the drinking-water quality. (8分)
5. What is the difference between free chloride and combined chloride? (7分)
6. What is the electrical double layer (EDL) theory? How to use it to explain the electrical properties of particles in aqueous solutions? Give an example of where the EDL theory is applied in drinking-water treatment process. (10分)
7. Improved degrees of nitrogen removal would be beneficial in controlling the nutrients in municipal wastewater treatment plant effluents. Please describe a flow diagram of A2O process for biological nitrogen removal. Identify the function for each process. (10分)
8. To address the water scarcity and stress, reclaimed water from wastewater has been introduced as a strategic solution to secure water supply.
 - (a) Describe a flow diagram of water reclamation process of converting domestic wastewater into water that can be reused for industrial use (i.e., cooling water). Identify the function for each treatment process. (10分)
 - (b) Propose a method to improve the energy-efficiency for the above water reclamation process. (5分)

試題隨卷繳回