



國立臺灣海洋大學一〇〇學年度研究所碩士班暨碩士在職專班入學考試試題

考試科目： 營建材料

系所名稱： 材料工程研究所碩士班乙組

1.答案以橫式由左至右書寫。2.請依題號順序作答。

1. 請說明混凝土中孔隙之生成。(10%)
2. 請說明混凝土中孔隙對混凝土壓力強度之影響。(10%)
3. 請說明影響混凝土強度的因素。(10%)
4. 請說明混凝土坍度之試驗法。(10%)
5. 請詳述關於混凝土凝結時之下列問題：(20%)
 - a. 假凝結 (False setting)
 - b. 閃凝 (Flash setting)
6. 請詳述飛灰使用於混凝土之(a)限制及(b)優缺點。(20%)
7. 請概述下列兩段文章大意。(20%)

Concrete is a composite construction material, composed of cement and other cementitious materials such as fly ash and slag cement, aggregate (generally a coarse aggregate made of gravels or crushed rocks such as limestone, or granite, plus a fine aggregate such as sand), water, and chemical admixtures.

Concrete solidifies and hardens after mixing with water and placement due to a chemical process known as hydration. The water reacts with the cement, which bonds the other components together, eventually creating a robust stone-like material. Concrete is used to make pavements, pipe, architectural structures, foundations, roads, bridges, parking structures, brick walls and footings for gates, fences and poles.