國立成功大學
111學年度碩士班招生考試試題

編　號：277

系　所：臨床藥學與藥物科技研究所

科　目：藥劑學

日　期：0220

節　次：第 1 節

備　註：不可使用計算機

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※ 考生請注意：本試題不可使用計算機。　請於答案卷(卡)作答，於本試題紙上作答者，不予計分。

1. Describe the physical, chemical and biological characteristics of a drug to be considered in designing its dosage form. (10%)

2. Describe three methods to prepare the dosage form of tablets. What excipients are commonly used in tablets and their purposes? (10%)

3. Please compare the mechanisms, advantages, and disadvantages of the four sterilization methods used in pharmaceutical industry. (10%)

4. For different ointment bases, use O or × to indicate their characteristics and give one example each in the following table. (20%)

	Oleaginous base	Absorption base	W/O emulsion	O/W emulsion
Water soluble				
Water removable				
Water absorbable				
Occlusive				
Example				

5. Describe the factors that affect the area under plasma concentration-time curve (AUC) of a drug following oral administration. (10%)

6. The plasma concentration (Cp, mg/L) of a drug after a single iv bolus injection (180 mg) in a healthy adult male volunteer is best described by the following equation. (15%)

$$Cp = 3.2e^{-6.4t} + 0.8e^{-0.2t} \qquad t:hr$$

(1). Estimate the clearance of the drug. (5%)

(2). Estimate the central volume of distribution of the drug. (5 %)

(3). How long would you suggest to take the blood sample in order to describe adequately this plasma concentration-time profile? (5 %)

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7. The plasma concentration-time profiles of Drug A after a single iv bolus injection to a subject in the absence and presence of Drug B, a plasma protein binding displacer, are displayed in the following figure. (25%)

(1). Describe the effect of this drug-drug interaction on the pharmacokinetic parameters of Drug A. (15%)

(2). Does Drug A have a relatively large volume of distribution? Why? (5%)

(3). Does Drug A have a relatively high systemic clearance? Why? (5%)