

國立臺北護理健康大學 113 年度碩士班招生考試

語言治療與聽力學系碩士班【語言治療組】

言語科學 試題

注意事項	<ol style="list-style-type: none">1. 本試題共有 3 頁。2. 請用中文或英文作答。3. 選擇題請作答於答案卡。4. 填空題、申論題請於答案卷上標明題號，並依序作答。
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(請將答案書寫至答案卷，勿書寫在此)

Instructions: Please write your answers in a coherent and structured way. You may answer in Traditional Chinese or in English. If you opt to answer in Chinese, please put specific English terms in parentheses immediately following the translated Chinese terms. Please do not code mix.

答題指引：請確保書寫邏輯與架構完好。可使用繁體中文或英文答題。若選擇使用中文答題，請將被翻譯成中文的專有名詞之英文原詞以括號置於其中文翻譯後方。請勿混用。

1. It is important that you understand how speech production and perception interact in the motor control of speech.
 - a. Please describe how the feedforward control system and feedback control system function in speech acquisition and speech production. You can organize your discussion according to the DIVA (Directions into Velocities of Articulators) model or in the context of other speech motor control theories or models. (12%)
 - b. Consider an adult with sensory impairment (auditory or somatosensory), how might her/his speech production be if s/he acquires this impairment

pre-lingually, and why? How might her/his speech production be if the impairment was acquired post-lingually, and why? (12%)

2. The production of speech depends on pulmonary air supply. In order to produce speech, a speaker breathes into the lungs, and then the expiratory airstream vibrates the vocal folds to provide the voicing source of speech. Please answer the following questions about the respiratory system.
 - a. Please describe how lung volume changes during inspiration and during expiration, and how these changes are associated with the flow of air into and out of the lungs (i.e., the aerodynamics of breathing). (8%)
 - b. Consider the following muscles or muscle groups. Please describe the affects of their contractions on the rib cage (and perhaps the abdominal wall) and in turn how they change (increase/decrease) the lung volume.
 - i. Diaphragm (4%)
 - ii. External intercostals (4%)
 - c. Please list two differences between tidal breathing and speech breathing. You are only graded for the first two you list. (4%)

3. The laryngeal system is located inside the neck. It is important that you know its functions, and the ways its components achieve these functions.
 - a. What are the three functions of the laryngeal system? (6%)
 - b. Please list the intrinsic laryngeal muscles and how their activations contribute to vocal fold movements. (15%)
 - c. Please describe how the vocal folds are set to vibrate according the myoelastic-aerodynamic theory of voice production. (9%)

4. The articulatory/resonatory system include the nasal cavity, oral cavity, and part of the pharyngeal cavity. These structures play important roles in speech sound shaping. Please answer the following questions about articulation and resonance.
- a. Please describe how the three corner vowels /i/, /u/, and / a / are produced. You need to consider at least the position/configuration of the tongue in the mouth. (6%)
 - b. Please describe how the following consonant manners of articulation are produced, and list three examples that have different places of articulation for each manner. (15%)
 - i. Stop-plosives
 - ii. Fricatives
 - iii. Nasals
 - c. Please define coarticulation and give an example in your explanation. (5%)