

國立臺北護理健康大學 114 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 10 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刮號置於其中文翻譯後方。請勿混用。

*配分指引：除第三部分問答題每題為 12 分外，其餘部分皆為一題一分。

第一部分：中文題目

選擇題

1. 聲音是如何產生的？

- A. 空氣在喉嚨內靜止
- B. 聲帶震動產生聲波
- C. 鼻腔產生聲音
- D. 唇部摩擦空氣

2. 在語音學中，語音的基本頻率是指什麼？

- A. 聲音的音量
- B. 聲帶每秒震動的次數
- C. 句子的節奏
- D. 語音的長度

3. 哪個構造是負責調節聲音共鳴的主要部位？

- A. 鼻腔
- B. 喉頭
- C. 咽腔
- D. 舌頭

4. 語音中的「輔音」是如何分類的？

- A. 根據共鳴腔的位置
- B. 根據語音的長度
- C. 根據發音部位與發音方式
- D. 根據語音的語調

5. 什麼是聲學中的「振幅」？

- A. 聲音的頻率
- B. 聲音的強度或音量
- C. 聲音的長度
- D. 聲音的共鳴頻率

6. 在語言聲學中，什麼是「共振峰」？

- A. 鼻腔內的振動
- B. 音波中的強音頻率

- C. 語音訊號中共鳴的特徵頻率
- D. 喉頭產生的原始聲音

7. 語音在口腔中發出的「清音」與「濁音」主要是如何區別的？

- A. 發音的長短
- B. 是否使用聲帶震動
- C. 共鳴腔的位置
- D. 發音的氣流大小

8. 口腔內的哪個器官對語音的產生最為重要？

- A. 牙齒
- B. 舌頭
- C. 喉頭
- D. 鼻腔

9. 語音的節奏與韻律主要取決於以下哪一項？

- A. 聲帶震動的強度
- B. 詞彙的使用
- C. 聲調與停頓模式
- D. 鼻音的產生

10. 當一個人說話時，聲音的音高是由什麼控制的？

- A. 肺部的空氣流量
- B. 聲帶的緊張程度
- C. 舌頭的形狀
- D. 咽腔的長度

填充題

1. 聲帶震動產生的聲音稱為 _____ 聲音。
2. 「共振峰」是由聲音在 _____ 中共鳴形成的頻率峰值。
3. 語音中表達詞語重音或句子焦點的方式稱為 _____。
4. 在發音時，阻止氣流通過鼻腔的解剖結構是 _____。
5. 當聲帶沒有震動時產生的語音類型被稱為 _____。
6. 在聲學語音學中，描述語音頻率範圍的物理單位是 _____。
7. 在語音分析中，描述氣流從肺部通過聲帶的過程，稱為 _____。
8. 元音的共振峰位置主要由舌頭的 _____ 和 _____ 決定。
9. 在語音生理學中，喉部的主要功能之一是控制 _____ 以產生音調。
10. 描述語音中最小且具有對比功能的單位是 _____。

第二部分：英文題目

選擇題

1. Which cranial nerve primarily controls the movement of the tongue?

- A. Trigeminal (CN V)
- B. Hypoglossal (CN XII)
- C. Facial (CN VII)
- D. Vagus (CN X)

2. Which acoustic parameter is most closely associated with vowel identity?

- A. Fundamental frequency (F0)
- B. Formant frequencies (F1, F2)
- C. Spectral slope
- D. Amplitude

3. In the source-filter theory of speech production, the “source” refers to:

- A. The vocal tract resonance
- B. The airflow through the oral cavity
- C. The sound generated by the vibrating vocal folds
- D. The nasal cavity contribution to speech

4. What is the term for a speech sound produced with complete closure of the vocal tract, followed by a burst of air?

- A. Nasal
- B. Fricative
- C. Plosive
- D. Glide

5. Which of the following muscles is primarily responsible for adducting the vocal folds during phonation?

- A. Posterior cricoarytenoid
- B. Lateral cricoarytenoid
- C. Cricothyroid
- D. Thyroarytenoid

6. What does the term "harmonics-to-noise ratio" (HNR) measure in speech analysis?

- A. The fundamental frequency variation

- B. The amplitude of formants
- C. The periodicity of the voice signal
- D. The duration of phonemes

7. The McGurk Effect demonstrates the interaction between which two modalities in speech perception?

- A. Auditory and tactile
- B. Auditory and visual
- C. Auditory and proprioceptive
- D. Visual and proprioceptive

8. What is the primary acoustic cue for distinguishing voiced and voiceless stops in English?

- A. Fundamental frequency
- B. Voice onset time (VOT)
- C. Formant transitions
- D. Nasal resonance

9. Which area of the brain is most associated with speech motor planning?

- A. Broca's area
- B. Wernicke's area
- C. Angular gyrus
- D. Heschl's gyrus

10. The term "coarticulation" refers to:

- A. The separation of phonemes during speech production
- B. The simultaneous movement of speech articulators for adjacent sounds
- C. The resonance created in the nasal cavity
- D. The variability in vocal pitch during connected speech

11. Which cortical region is primarily involved in the integration of auditory and motor information during speech production?

- A. Inferior parietal lobule
- B. Superior temporal sulcus
- C. Dorsal premotor cortex
- D. Sylvian parietal temporal area (Spt)

12. The phenomenon in which the perceived pitch of a complex sound is determined by its fundamental frequency, even when the fundamental is absent, is called:

- A. Frequency masking
- B. Harmonic resonance
- C. The missing fundamental effect
- D. Spectral reduction

13. In phonetics, which term describes the aerodynamic principle where reduced pressure due to faster airflow facilitates vocal fold closure?

- A. Laminar flow
- B. Bernoulli effect
- C. Subglottal pressure
- D. Turbulent flow

14. Which formant frequency is most influenced by the position of the tongue height during vowel production?

- A. F0
- B. F1
- C. F2
- D. F3

15. In the DIVA model of speech production, which neural component is responsible for detecting discrepancies between intended and produced speech?

- A. Auditory feedback loop
- B. Somatosensory feedback loop
- C. Feedforward control system
- D. Error monitoring subsystem

16. In terms of acoustic phonetics, the term “anti-formant” (or anti-resonance) is primarily associated with which class of sounds?

- A. Nasals
- B. Stops
- C. Glides
- D. Vowels

17. During speech production, the myoelastic-aerodynamic theory explains which aspect of vocal fold behavior?

- A. The role of neural input in pitch regulation
- B. The balance between tissue elasticity and airflow dynamics
- C. The generation of subglottal pressure for phonation
- D. The resonance of the vocal tract

18. In speech perception, categorical perception refers to:

- A. The continuous perception of speech sounds based on frequency
- B. The inability to distinguish acoustic differences within a phonemic category
- C. The brain's ability to group non-speech sounds into distinct categories
- D. The tendency to perceive phonemes as distinct units despite acoustic variation

19. The Lombard effect refers to:

- A. An increase in speech amplitude in response to background noise
- B. A decrease in articulation precision during rapid speech
- C. The reliance on visual cues in noisy environments
- D. A shift in speech pitch when speaking in different languages

20. What is the primary acoustic correlate of stress in spoken language?

- A. Formant frequencies
- B. Increased intensity, duration, and pitch
- C. Rapidly changing spectral tilt
- D. Reduced voice onset time

第三個部分：問答

可以用中文或英文回答。請以至少一段但不超過三段的篇幅回答。

Please answer in least one paragraph and no more than three paragraphs. You may answer in either Chinese or English.

1 請簡要解釋聲源-濾波理論如何描述語音的生成過程。

Briefly explain how the source-filter theory describes the process of speech production.

2 請解釋「共振峰」在語音學中的作用與意義。

Explain the role and significance of "formants" in phonetics.

3 為什麼您想在本校學習語言治療學？請說明您的動機與目標。

Why do you wish to study speech-language pathology at this university? Please explain your motivations and goals.

4 在研究所期間，您計劃研究的主題是什麼？請簡要說明您的研究興趣。

What topic do you plan to research while in graduate school? Please briefly describe your research interests.

5 您認為這個研究主題將如何影響語言治療學領域以及語言治療師的工作？請簡要說明您的看法。

How do you think this research topic may impact the field of speech-language pathology and the work that speech-language pathologists do? Please briefly explain your perspective.