

Advanced Phonetics: Scientific Principles and Theories

Phonetics · Answer Key · 8 Questions

1. According to the acoustic theory of speech production, the primary acoustic correlate of vowel quality is determined by the relative positions of which two formants?

A) F1 and F2

B) F0 and F1

C) F2 and F3

D) F0 and F3

2. Which phonetic feature is characterized by the presence of a sudden, significant drop in acoustic energy and a decrease in fundamental frequency (F0) at the end of an utterance?

A) Terminal F0 Fall (downstep)

B) Laryngealization

C) Glottal Stop

D) Voiceless Plosive Aspiration

3. The perceptual phenomenon of auditory enhancement, where the perception of a speech sound is influenced by surrounding sounds, is most directly explained by which concept?

A) Articulatory undershoot

B) Phonemic restoration

C) Auditory masking

D) Coarticulation

4. In the spectrographic analysis of speech, what acoustic feature typically distinguishes a voiced alveolar stop from a voiceless alveolar stop?

A) Voice bar (voicing bar)

B) Burst noise

C) Acoustic phase coherence

D) Spectral tilt

5. Which theory posits that the motor commands sent from the brain to the articulators are the primary units of speech production, rather than acoustic targets?

A) Motor theory of speech perception

B) Direct real-time feedback theory

C) Auditory feedback theory

D) Auditory theory of speech perception

6. The phenomenon of 'sonority sequencing principle' in phonology, which describes the typical pattern of increasing sonority within a syllable, is most closely related to which phonetic concept?

- A) Gestural overlap
- B) Prosodic contour
- C) Articulatory ease**
- D) Acoustic intensity variation

7. What acoustic parameter is most reliably used to distinguish between different types of fricatives (e.g., /s/ vs. /ʃ/)?

- A) Spectral distribution of noise energy**
- B) Fundamental frequency (F0)
- C) Duration of the frication interval
- D) Amplitude envelope

8. The concept of 'phonetic space' in modeling speech perception and production suggests that phonemes are represented as points in a multi-dimensional space where proximity reflects similarity in which domain?

- A) Articulatory or acoustic features**
- B) Orthographic representation
- C) Semantic meaning
- D) Grammatical function