

Introduction to Phonetics

Unit-1

PHONOLOGY AND PHONETICS

Phonology and phonetics are the branches of linguistics. Sometimes, they are used as synonyms. They have many things in common; but they are not synonyms.

Phonology is a set of phones (speech sounds) within a given language. It has a single distinct sounds. The sounds help to form words. They distinguish (differentiate) words from one another.

We study the spoken sounds of only one particular language in Phonology (like nursery students). It focuses on the organization of sounds in patterns. Eg. K, ka, ki, kee, ku, koo (in Marathi), tr, spr, str, sp, st, tr, br, th (in English), and so on. It also studies syllables, words, and sentence patterns, but only at their **theoretical** level.

Examples: phonology of English (a, b, c, d, ..., z), and phonology of Marathi (a, aa, i, ee, ...dnya).

Phonetics refers to the study of sounds of human languages in general. It studies how the sounds are produced and how they are perceived (heard). In other words, phonetics is the study of speaking and listening to sounds, words, and sentences. It is also called a scientific study of pronunciation. It involves practice /**practical**.

Phonetics focuses on the physical properties of speech sounds. These sounds (phonemes) are called the International Phonetic Alphabet (IPA). They are designed by the International Phonetic Association (1949). They are 44 in number. Hence, we speak of the phonetics of language in general.

PHONEMES

A **phoneme** is the smallest unit of sound. It came from the Greek word 'phone', meaning sound. A phoneme is a single sound, such as /m/ or /b/. It carries meaning to a word. Phonemes distinguish between words. For example, the difference between "hat" and "cat" is because of one phoneme (/h/ and /k/). The phonemes at the beginning of the words make them different. A word is made of one or more phonemes. Examples, A and I.

A phoneme is **the smallest meaningful unit of sound in a language**. A sentence is made of words. Words are made of syllables. And syllable is made of one or more phonemes.

Sometimes, every letter in a written word is not a phoneme - some letters work together to form a single sound. Example, Ph, th, ch, si, ti, etc.

There are 44 phonemes used in English: Out of them, 24 are consonant phonemes, and 20 are vowel phonemes.

Phonemes are conventionally placed between slashes, ex. /p/, /ʊ/, /ʃ/. In Phonetic transcription, speech sounds (phones) are placed between square brackets, ex. [pʊ] for the word 'push'.

The word "sit" comprises three phonemes, or sounds: /s/, /i/, /t/.

Phonemes in English and Other Languages:

Phonemes in English are not always the same as phonemes in other languages. They are language-specific. Some phonemes of one language cannot be found in another language and vice versa. For example, l and dnya in Marathi are not available in English. Hindi has 46, Tamil 41, Kannada 47, and Marathi 46 phonemes.

ALLOPHONES

Benjamin Lee Whorf coined the term "allophone" in 1929. It is an important term in phonetics. Allophones are phonetic variations of sound. They are the different pronunciations of the same phoneme. A phoneme is the smallest meaningful unit of sound.

The word **allophone** is from Greek meaning 'other' and 'sound'. It is one of the multiple possible spoken sounds of a phoneme. For example, in English, the voiceless plosive /t/ (as in *stop* ['stop]); but the /t^h/ is aspirated as in *top* ['t^hɒp]. So, /t/ and /t^h/ are allophones for the phoneme /t/ in English.

Other examples of allophones are: /p/ and /p^h/ are the allophones of phoneme /p/. [p^hen], [nɪp]

/k/ and /k^h/ are the allophones of **phoneme** /k/. [k^hɪp], [bæk].

DEFINITION, SCOPE, AND SIGNIFICANCE OF PHONETICS

The term 'phonetics' is derived from the Greek root 'phone'. In Greek, phone means sound or voice. Hence, 'Phonetics' is the systematic study of speech sounds of any language.

Definition of Phonetics:

The science that studies language is known as linguistics. Phonetics is a branch of linguistics. But Phonetics studies only speech sounds in all languages. Phonetics deals with two aspects of human speech:

- (1) production—how we articulate (speak) sounds, and
- (2) perception—how we understand (hear) speech.

O'Grady defines: "**Phonetics** is a branch of linguistics that studies how humans produce and perceive sounds."

Scope of Phonetics:

Phonetics starts its study from the phoneme. The study goes further to syllable, word and finally sentence.

All the spoken languages are under the scope of Phonetics. The Received Pronunciation (RP) of BBC English is a standard form of Spoken English. So, BBC English is studied for the standard pronunciation of English. This RP is also spoken at Oxford and Cambridge Universities.

By keeping in mind the BBC English, the International Phonetic Alphabet (IPA) was designed. IPA are 44 signs / symbols to speak with correct pronunciation. They are /p/, /b/, /t/, /d/, /k/, /g/, /f/, /v/, /i:/, /u/, /e/, etc. They help to solve the problem of wrong pronunciation of words and sentences.

Significance of Phonetics:

Since 20th century, the need to learn spoken English has increased globally. It is due to world wars and globalization. The world needs a medium of communication. English had already occupied a large space in the world. Around one-third (37%) of the world was under British rule. They were 56 countries in Asia, Africa, Australia, and America. So, it was easy to set English as the language of communication for all countries.

But there was a problem with pronunciation among these countries. The native languages affected the pronunciation of English. Example, the word 'school' is pronounced as 'iskool' or 'sakool'. 'Show' is pronounced as 'sow'. So, there was a need to set standards for pronunciation. Phonetics brings standard pronunciation.

Summary:

° English has 26 letters. But English has 44 sounds (IPA).

° We need Phonetics because:

- English spelling and pronunciation do not go hand-in-hand. (Palm, education)
- Some letters have more than one sound. (census, cup, chair)
- Sometimes letters are not pronounced at all. (listen, mother, hour)
- The same sound may be represented by different letters. (census, sun, cut, keep)
- Sometimes, syllables indicated by the spelling are not pronounced at all. (subtle)

So, we need to study Phonetics.

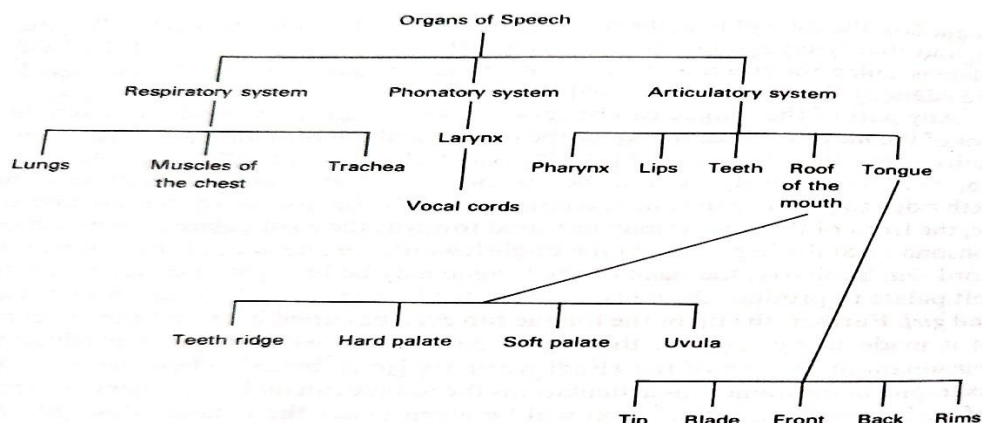
Unit-2

THE ORGANS OF SPEECH: RESPIRATORY, PHONATORY AND ARTICULATORY SYSTEMS

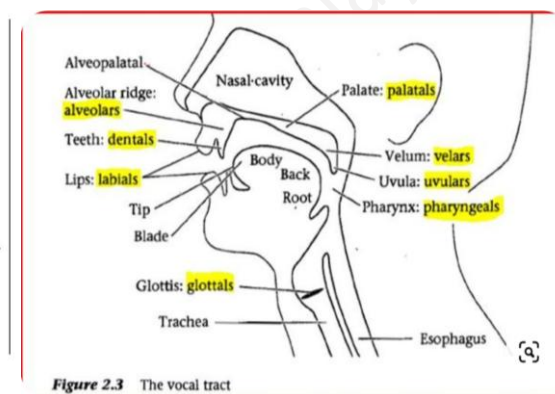
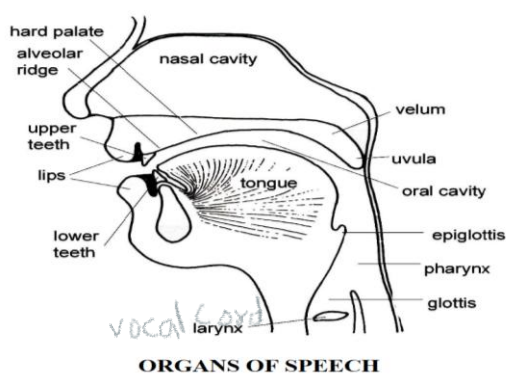
Introduction:

Organs of speech are the parts of human body. They help to produce (speak) different speech sounds. They create disturbance in the air from lungs to produce sounds. They are – the muscles of the chest, the vocal cords, the tongue, the lips, and so on. Actually, the primary

functions of these organs of speech are different. Speech is the secondary function of these organs. They are:



The organs of speech are divided into three systems: Respiratory, Phonatory and Articulatory Systems.



i) The Respiratory System:

This system includes the lungs, the muscles of the chest, and the windpipe (trachea). The primary function of these organs is respiration. Respiration means taking air into the lungs (inhale) and throwing it out (exhale). Inhaling means breathing in; and exhaling means breathing out.

Lungs provide air to other organs of speech. Without air, we cannot produce sound. Almost all the sounds are produced when we breathe out (exhale).

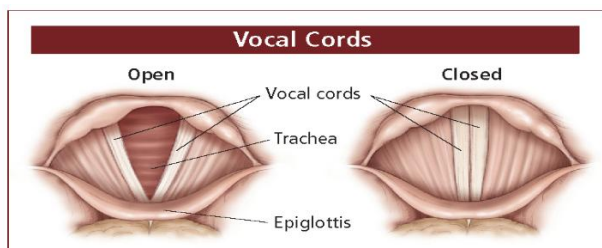
ii) The Phonatory System:

The air from lungs passes through larynx (throat), and vocal cords. These organs modify the airstream to produce certain sounds.

Larynx: It is a part of windpipe. It includes vocal cords. It is also known as 'Adam's Apple'. Larynx also acts like a valve. It closes windpipe while eating and drinking.

Vocal Cords: There is a pair of vocal cords inside the larynx. It is similar to our lips. They are joined at the front side. Its back side makes movements to modify the airstream. It has three

positions: widely opened, loosely closed, and tightly closed. The open place between the vocal cords is called glottis.



For some sounds, the vocal cords are widely opened. The air passes through the cords without any disturbance. There is no vibration in cords. At such times, '**voiceless sounds**' are produced. They are /p/, /t/, /k/, /θ/, /tʃ/, /f/, /s/, /ʃ/, /h/.

For some sounds, the vocal cords are loosely closed. The air passes through the cords with some disturbance. There is vibration in cords. We can feel it with our fingers on our throat. At such times, '**voiced sounds**' are produced. They are /b/, /d/, /g/, /ð/, /dʒ/, /v/, /z/, /ʒ/, /m/, /n/, /ŋ/, /l/, /r/, /j/, /w/.

In some languages, vocal cords are held tight to produce some sounds. In English, the cords are held tight for /p/, /t/, /k/ sounds; as in act, uncle etc.

iii) The Articulatory System:

After larynx, air comes to our mouth and nasal cavity. Different mouth parts give different shapes to air. All these organs are called the articulatory system.

Lips: There are upper lip and lower lip. Lips are a part of articulatory system. They form various shapes. They become round, spread, or remain closed or neutral. Their role is more important in the production of vowel sounds. (i) They become round for /ʊ/, /ɔ:/, /u/ and /u:/. (ii) They become spread for /i:/, /ɪ/ and /e/. (iii) They remain neutral for /æ/, /ʌ/, /ɜ:/ and /ə/. Lips remain closed for /p/, /b/, etc.

Teeth: There are upper teeth and lower teeth. /f/, /v/, /θ/ and /ð/ are produced with teeth.

Palate: Palate is the upper jaw. We can call it roof of mouth. It is divided into teeth-ridge, hard palate, and soft palate/ uvula.

Teeth ridge: It is also called alveolar ridge. It is the part just behind the upper teeth. /t/, /d/, /s/, /z/ are produced with tongue and teeth ridge.

Hard palate: The part between teeth ridge and soft palate is called hard palate. It is the highest part of mouth roof.

Soft palate: It is also called velum. It is the last part of mouth roof. It comes down for nasal sounds: /m/, /n/, /ŋ/. For the remaining sounds, it closes nasal cavity.

Uvula: it is the end part of soft palate.

Tongue: It is the most important organ of speech. In many languages, tongue means language. It is the most flexible organ of speech.

Tongue is divided into four parts to understand its function. They are tip, blade, front and back. It touches other organs or rises to different levels. Its position produces different sounds.

Thus, the organs in our body help to produce sounds. They can be described as above.

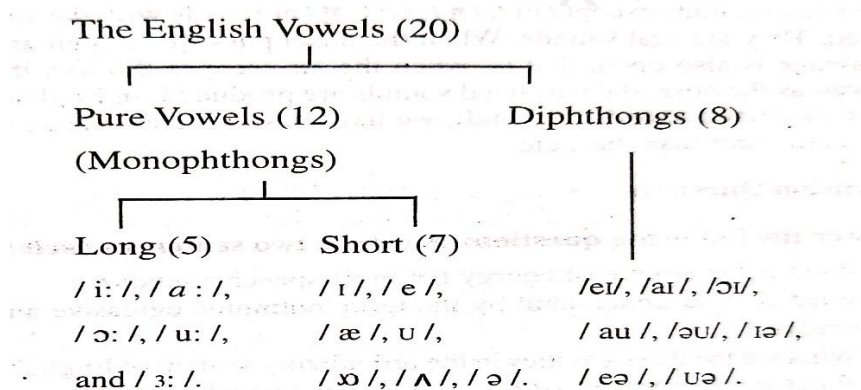
Unit-3

CLASSIFICATION AND DESCRIPTION OF ENGLISH VOWELS

English has 20 vowel sounds. Vowels are the most important sounds in Phonetics. We cannot form a syllable without them. Syllables are the parts of words.

Vowel sounds are produced easily and smoothly. There is no obstruction to the air stream. All the vowel sounds are **voiced**. When we produce them, there is a vibration in our vocal cords.

We can bifurcate or divide the vowel sounds in the following way: -



Out of 20 vowels, 12 are pure vowels. They are also called monophthongs. 5 of the pure vowels are long sounds; and 7 of them are short sounds. 8 out of 20 vowels are diphthongs. Actually, they are pairs of pure vowels.

Pure Vowels / Monophthongs:

They are classified keeping in mind (i) raised part of the tongue, (ii) height of the raised tongue, and (iii) positions of the lips (rounded, spread or neutral).

Classification of vowels according to the part of the tongue raised:

(a) Front Vowels: /i:/, /ɪ/, /e/, /æ/ as in seat, sit, set, and sat.

They are produced by raising the front part of tongue towards the alveolar ridge.

(b) Back Vowels: /a:/, /ɒ/, /ɔ:/, /ʊ/, /u:/ as in cart, cot, court, full, and fool.

They are produced by raising the back of tongue against the soft palate.

(c) Central Vowels: /ʌ/, /ɜ:/, and /ə/ as in cut, bird, and drama.

They are produced by raising the central part of the tongue against the hard palate.

Classification of vowels according to the height to which the tongue is raised:

(a) Close vowels: /i:/ and /u:/ as in reason and future /fju:-tʃə(r)/.

(b) Open Vowels: /a:/ and /ɒ/ as in drama and cot.

(c) Half-Close Vowels: /ɪ/, /ʊ/, and /ɜ:/ as in sit, boot, girl.

(d) Between half-close and half-open: /e/, /ɔ:/ as in men, warm.

(e) Half-open vowel: /æ/, /ə/ as in bat, drama.

(f) Between half-open and open: /ʌ/ as in cut.

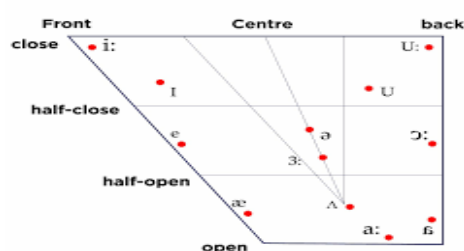
Classification of vowels according to the lip position:

(a) Rounded Vowels: /u:/, /ʊ/, /ɔ:/, and /ɒ/ as in food, foot, warm, and dog.

(b) Unrounded Vowels: /ɪ:/, /ɪ/, /e/, /æ/, /a:/, /ʌ/, /ɜ:/, and /ə/, as in theme, sit, ten, bat, park, cut, bird, and drama.

(Lips remain neutral for /æ/, /ʌ/, /ɜ:/, and /ə/.)

Point of articulation of vowels according to the part of tongue, height of tongue, and position of lips. See the diagram:



In this way, we can describe and classify the vowel sounds.

DESCRIPTION AND CLASSIFICATION OF CONSONANT SOUNDS

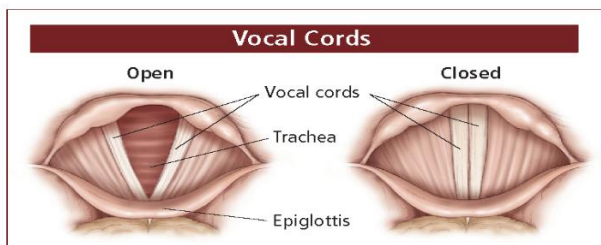
There are 24 consonant sounds in English. These sounds are produced with an obstruction to the air-stream. In English, all the sounds are produced while breathing out (exhaling) the air.

Consonant sounds are described according to:

- i. The position of vocal cords (decodes voiced or voiceless),
- ii. The place of articulation, and
- iii. The manner of articulation.

(i) Position of Vocal Cords:

There is a pair of vocal cords inside the larynx/ throat. It is similar to our lips. They are joined at the front side. Its backside makes movements. These movements modify the airstream. It has three positions: widely opened, loosely closed, and tightly closed.



Voiceless sounds: For some sounds, the vocal cords are widely **opened**. The air passes through the cords without any disturbance. There is no vibration in cords. At such times, '**voiceless sounds**' are produced. They are 9 sounds. /p/, /t/, /k/, /tʃ/, /f/, /θ/, /s/, /ʃ/, and /h/.

Voiced sounds: For some sounds, the vocal cords are **loosely closed**. The air passes through the cords with some disturbance. There is vibration in cords. We can feel it with our fingers at our throat. At such times, '**voiced sounds**' are produced. They are 15 in all. /b/, /d/, /g/, /ð/, /dʒ/, /v/, /z/, /ʒ/, /m/, /n/, /ŋ/, /l/, /r/, /j/, and /w/.

(8 pairs of voiceless and voiced sounds: /p, b/, /t, d/, /k, g/, /tʃ, dʒ/, /f, v/, /θ, ð/, /s, z/, /ʃ, ʒ/)

(ii) Place of Articulation:

It tells the place of two or more organs that come close to produce sounds.

Bilabials (4): /p/, /b/, /m/, and /w/ as in pin, bag, man, and way. Both the lips come together to produce these sounds.

Labio-dentals (2): /f/ and /v/ as in far and vote. Lower lip and upper teeth are used to produce these sounds.

Dentals (2): /θ/ and /ð/ as in both and father. Upper teeth and tip of the tongue are used for the articulation of these sounds.

Alveolars (6): /t/, /d/, /s/, /z/, /n/ and /l/. Alveolar ridge or teeth ridge and blade of tongue are used to articulate these sounds.

Post-Alveolar (1): /r/ as in rat. Tip of tongue and back part of alveolar come close to produce /r/.

Palato-Alveolar (4): /tʃ/, /dʒ/, /ʃ/ and /ʒ/. Blade and front of tongue are brought into contact with alveolar ridge and hard palate to produce these sounds.

Palatal (1): /j/ as in you. Front of tongue comes close to hard palate to articulate it.

Velars (3): /k/, /g/, and /ŋ/ as in cut, dog and king. Back of tongue is held close against soft-palate, that is, velum, to articulate these sounds.

Glottal (1): /h/ as in hero. Air passes through vocal cords with a small obstruction.

(iii) Manner of Articulation of Consonant Sounds:

It shows how (in which manner) speech organs obstruct and shape air.

Plosives (6): /p/, /b/, /t/, /d/, /k/ and /g/. The air is completely closed for a while, and then suddenly released for these six sounds. It is like an explosion.

Affricatives (2): /tʃ/ and /dʒ/. The air is completely closed, but released slowly. There is a small friction between air and organs.

Fricatives (9): /f/, /v/, /θ/, /ð/, /s/, /z/, /ʃ/, /ʒ/ and /h/. There is a narrow passage for the air between the two articulators (speech organs). Friction is heard while producing these sounds.

Nasals (3): /m/, /n/, and /ŋ/. Soft palate or uvula lowers and closes the mouth cavity for air. Air passes through nose / nasal cavity.

Lateral (1): /l/. There is a partial closure at the centre of the mouth. Air escapes through the sides of tongue.

Frictionless continuant (1): /r/. It is produced by a continuous flow of air stream.

Semi-vowels (2): /j/ and /w/. They have vowel-like features. They are produced like vowels.

In this way, we can classify and describe the consonant sounds of English.

Table 1 Classification of English Consonants

Place	Bilabial	Labio-dental	Dental	Alveolar	Post-alveolar	Palato-alveolar	Palatal	Velar	Glottal
Manner	vl vd	vl vd	vl vd	vl vd	vl vd	vl vd	vl vd	vl vd	vl vd
Plosive	p b			t d				k g	
Affricate						tʃ dʒ			
Nasal	m			n				ŋ	
Lateral				l					
Fricative		f v	θ ð	s z		ʃ ʒ			h
Frictionless continuant					r				
Semi-vowel	w						j	(w)	

Unit-4

SYLLABLE

The smallest sound unit in a language is phoneme. The unit higher than phoneme is called a syllable. It is made of one or more phonemes. A word is made of one or more syllables.

Every syllable needs separate movements of a set of speech organs. Their division is shown by hyphen.

Nucleus vowel: In each syllable, there must be a vowel sound. When a syllable is made of one sound, it is always a vowel. It is the most important sound in any syllable. So, the vowel sound is called the nucleus of the syllable. Eg. In /wi-men/, /ɪ/ in the first and /e/ in the second are the nucleus.

Syllabic consonants: Every syllable has at least a vowel sound. But sometimes, a syllable is made of consonants only. At such times, the last sound is counted as a vowel sound. Ex. /bæ-tl/, /bʌ-tn/, /bɒ-tm/. The last sounds in the second syllables are called syllabic consonants. In the above words, they are /l/, /n/, /m/.

Consonant cluster (Structure of Syllable): The group of consonants at the beginning or end of a syllable is called a consonant cluster. In other words, the group of consonants before or after the nucleus vowel is called a consonant cluster. They can be 0 to 3 consonants at the beginning of a syllable; and 0 to 4 consonants at the end of a syllable. It is shown as (C₀₋₃-V-C₀₋₄). Examples, Strengths, spring, twelfth, tempts, texts /streɪndʒ/, /temptz/.

A word can be monosyllabic, disyllabic, trisyllabic, or polysyllabic. Ex. /eɪ/, /bʌt/, /tɪ-kɪt/, /dʒen-tl-mən/, /pɒ-lɪ-tɪ-n/, /sɪ-və-lai-zeɪ-n/, /kæ-rɪ-ktə-rai-zeɪ-n/.

INTONATION

There is a pitch variation in our speaking. It is also called 'tone'. Our tone or pitch either rises or falls or both. In other words, our voice goes up or down. This variation is called 'intonation'.

Our speech/ voice operates at three levels: high, mid, and low. They are used as per our intentions, emotions, attitudes, etc.

- Falling tone: here the pitch starts at a high level and moves down to a low level.
- Rising tone: here the pitch starts at a low level and moves up to a higher level.
- Falling-Rising tone: here above both the tones take place in a single sentence. First voice lowers and then rises.
- Rising-Falling tone: Here first voice rises and then lowers in the same sentence.
- Monotone: here the pitch is maintained at the same level, neither high nor low. It is also called as level tone.

i) **Falling tone**: used for following –

- Complete statements
Eg. It's`raining.
- Wh-questions - ?
Eg. 'Where are you`going?
- Exclamations - !
Eg. How`beautiful!
'What a`great`talent!
- Commands:
e.g. 'Shut the`door.
'Don't do it a`gain.

ii) **Rising tone**: It is used for –

- Yes-No type questions:
E.g. 'Are`you ,ok? 'Was he`present for the ,class?

- Requests:
Eg. 'Please, 'give me a 'glass of ,water.
'Close the ,window, 'please.
- Used in incomplete utterances:
E.g. The 'tea is 'very ,hot. (to drink)
- Statements used as questions:
e.g. 'You are ,coming?

iii) **Falling-rising tone:** It is used for –

- Doubt: He's ,good.
- Warning: Do ,at once.
- Ironical: Good ,morning!

iv) **Rising-Falling Tone:** It is used for –

- Enthusiastic agreements; eg.
a) 'It was ,horrid.
b) Of ,course.
- Questions showing suspicion, incredulity, mockery, etc
a) 'Who is 'gong ,there?
b) 'Can you 'ride a ,tiger?
- Anger, quick-temper, etc
a) 'Go and ,attend the 'lecture.
b) 'Answer my ,question.

In this way, the intonations can be used in our speech.

I) Answer these questions in one to two sentences.

i) Give the definition of Phonetics.

Ans: The scientific study of sounds of a language is called phonetics. It focuses on how we speak and listen to sounds.

ii) How many sounds are there in English?

Ans: There are 44 sounds in English / IPA.

iii) How many letters are in the English alphabet?

Ans: There are 26 letters in the English alphabet.

iv) What are the three different positions of vocal cords?

Ans: Open, closed, and loosely closed are the three different positions of vocal cords.

v) Name organs included in the respiratory system.

Ans: Lungs, muscles of chest, and windpipe (trachea) are the organs included in the respiratory system.

vi) What is the long form of IPA?

Ans: The International Phonetic Alphabet (Association) is the long form of IPA.

vii) Write the silent letter in the word 'listen'.

Ans: The letter 't' is silent (not pronounced) in the word 'listen'.

viii) Give the sound for bold letters in 'bath' and 'teeth'.

Ans: /θ/ is the sound used for the above bold letters.

ix) Give the example of a syllabic consonant.

Ans: /n/ in /bʌ-tn/ (button) is an example of a syllabic consonant. In the syllable /tn/, the consonant sound /n/ is treated as a vowel sound.

x) Write the nasal sounds in English.

Ans: /m/, /n/, and /ŋ/ are the nasal sounds in English. During their production, some air passes through the nasal cavity.

xi) How many monophthongs are there in English?

Ans: There are 12 monophthongs in English. They are also known as pure vowels.

xii) How many consonant sounds are there in English?

Ans: There are 24 consonant sounds in English / IPA.

xiii) How many diphthongs are there in English?

Ans: There are 8 diphthongs in English / IPA.

xiv) What is the monotone?

Ans: In monotone, the pitch is maintained at the same level, neither high nor low. It is also called as level tone.

xv) Give the phonetic transcription of the word 'cup'.

Ans: /kʌp/ is the phonetic transcription of the word 'cup'.

xvi) What are the bilabial sounds?

Ans: Bilabials are consonants produced by both lips. They are /p/, /b/, /m/, and /w/.

xvii) Give the example of a consonant cluster.

Ans: In 'Strength', /s,t,r/ at the beginning and /n,θ/ at the end, are consonant clusters.

xviii) Which sounds are the semivowels in English?

Ans: /w/ and /j/ are called the semivowels in English.

xix) What are the positions of lips during sound productions?

Ans: The lips are rounded, spread, or neutral during the sound production.

xx) What are the parts of the tongue?

Ans: Tip, blade, front, and back are the parts of a tongue.

xxi) How many consonants can come before the nucleus of a syllable?

Ans: Minimum zero and maximum three consonants come before the nucleus of a syllable.
Ex. /ə-baut/, /sprɪŋ/.

xxii) How many consonants can come after the nucleus of a syllable?

Ans: Minimum zero and maximum four consonants come after the nucleus of a syllable. Ex.
/wi-men/, /temptʃ/.

xxiii) What is a nucleus in a syllable?

Ans: A vowel is the nucleus part of a syllable. Ex. /temptʃ/.

xxiv) Which are the basic tones in English?

Ans: There are four basic tones in English: Rising Tone, Falling Tone, Rising-Falling Tone, and Falling-Rising Tone.

Annexure

The 24 Consonant Sounds in English

Consonant Sounds	Examples
/p/	pet, top
/b/	bat, tub
/m/	mat, palm

/w/	wind, always
/f/	front, leaf
/v/	vase, advise
/θ/	think, teeth
/ð/	this, with
/t/	trunk, what
/d/	dose, ward
/s/	save, case
/z/	zest, doze
/n/	neat, win
/l/	like, will
/r/	rest, torch
/ʃ/	shoes, cushion
/ʒ/	beige, measure
/tʃ/	catch, patch
/dʒ/	badge, judge
/j/	yoke, yonder
/k/	keep, poke
/g/	game, bag
/ŋ/	sing, wing
/h/	heat, cohort

List of 12 Pure Vowel sounds (**monophthongs**) in English with Examples

Vowel sounds	Examples
/ʌ/	cut, butter
/ɜ:/	bird, girl
/ə/	vendor, monitor
/ɑ:/	park, far
/æ/	bat, fan
/ɒ/	goggles, fog, dog

/ɔ:/	more, warn
/e/	pet, ten
/ɪ/	sit, pin
/i:/	theme, fleet, teacher
/ʊ/	cook, put
/u:/	flute, boon, blue

List of 8 Diphthongs (vowel sounds) in English with Examples

Diphthongs	Examples
/aɪ/	fight, write, wife, <u>time</u> , <u>fly</u> , <u>high</u> , <u>pie</u> , <u>eye</u>
/aʊ/	plough, cow, <u>now</u> , <u>house</u>
/eə/	their, chair, <u>hair</u> , <u>share</u> , <u>bear</u> , <u>there</u>
/əʊ/	soak, go, <u>open</u> , <u>coat</u> , <u>grow</u> , <u>although</u> , <u>toe</u>
/eɪ/	fate, pain, <u>cake</u> , <u>day</u> , <u>train</u> , <u>great</u> , <u>they</u>
/ɪə/	here, cheer, <u>ear</u> , <u>beer</u> , <u>here</u> , <u>idea</u>
/ʊə/	poor, sure, <u>tour</u> , <u>Europe</u> , <u>cure</u>
/ɔɪ/	toy, exploit, <u>boy</u> , <u>voice</u>

Classification of NAE Consonant Phonemes							
Manner of Articulation	Place of Articulation						
	Bilabial	Labiodental	Dental	Alveolar	Palatal	Velar	Glottal
Stop							
Voiceless	p			t		k	
Voiced	b			d		g	
Fricative		f	θ	s	ʃ		
Voiceless							h
Voiced		v	ð	z	ʒ		
Affricate					tʃ		
Voiceless							
Voiced					dʒ		
Nasal							
Voiced	m			n		ŋ	
Liquid							
Voiced				l	r		
Glide							
Voiced	w				y		

Consonant Sounds	Voiced/ voiceless	Place of Articulation	Manner of Articulation	Examples
/p/	Voiceless	Bilabial	Plosive	pet, top
/b/	Voiced	Bilabial	Plosive	bat, tub
/m/	Voiced	Bilabial	Nasal	mat, palm
/w/	Voiced	Bilabial	Approximant	wind, always
/f/	Voiceless	Labio-dental	Fricative	front, leaf

/v/	Voiced	Labio-dental	Fricative	vase, advise
/θ/	Voiceless	Dental	Fricative	think, teeth
/ð/	Voiced	Dental	Fricative	this, with
/t/	Voiceless	Alveolar	Fricative	trunk, what
/d/	Voiced	Alveolar	Fricative	dose, ward
/s/	Voiceless	Alveolar	Fricative	save, case
/z/	Voiced	Alveolar	Fricative	zest, doze
/n/	Voiced	Alveolar	Nasal	neat, win
/l/	Voiced	Alveolar	Lateral	like, will
/r/	Voiced	Alveolar	Approximant	rest, torch
/ʃ/	Voiceless	Palato-alveolar	Fricative	shoes, cushion
/ʒ/	Voiced	Palato-alveolar	Fricative	beige, measure
/tʃ/	Voiceless	Palato-alveolar	Affricate	catch, patch
/dʒ/	Voiced	Palato-alveolar	Affricate	badge, judge
/j/	Voiced	Palatal	Approximant	yoke, yonder
/k/	Voiceless	Velar	Plosive	keep, poke
/g/	Voiced	Velar	Plosive	game, bag
/ŋ/	Voiced	Velar	Plosive	sing, wing
/h/	voiceless	Glottal	Fricative	heap, cohort