

**Indian institute of technology of technology madras
Presents
NPTEL
National Programme on Technology Enhanced Learning**

Introduction to modern linguistics

Lecture-16

Review: Production of speech sounds

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Good morning are you alright I do not see a smile on your faces are you doing well at your exams quizzes why you what a pity okay let me take over as the director of this Institute and then I will abolish examinations I will say anyone who attends oil tea regularly gets the B.Tech certificate right okay you know we have been talking about production of his speech sounds and we saw how human beings are able to produce.

A variety of speech sounds and with those variety of his beat sounds a larger variety of words is still larger variety of sentences is still larger variety of discourses poems short stories speeches quarrels friendships love affairs divorces all that happens through the combination of those speech sounds we also saw how speech sounds are produced classified described what terminology is there and now we will move into the second unit of the course.

Which is called please write phonology or how speech sounds are put together you know so far we have been talking only about one speech sound at a time correct so we have been talking about KA,BA okay but after this module we will talk about how an are put together how an E are put together or how more than two sounds are put together what grammar is there does is just as there is a of how words can come together.

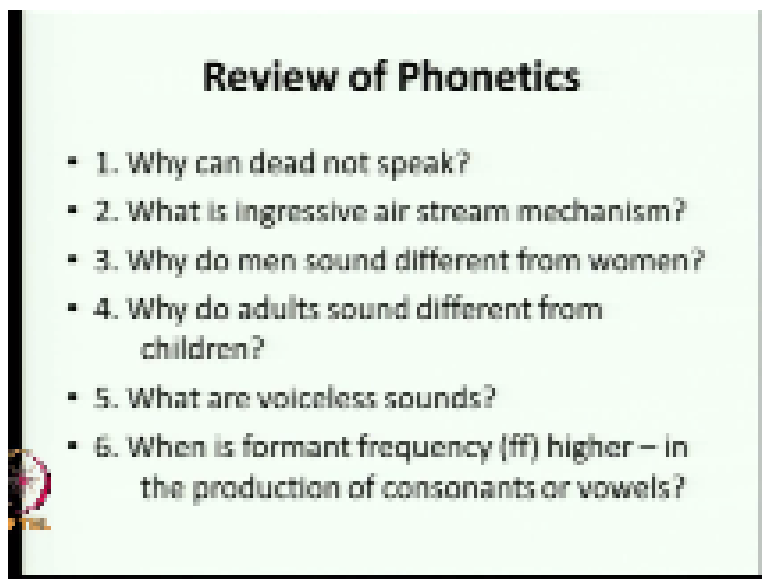
Is there a grammar of how speech sounds can come together is there a rule that sound X comes before sound Y or do they occur anyway anywhere we will look at some of these questions in the next module but before we step into that it may be a good idea for us to review what we have done so far and if you have not by chance you see there is a lot of learning pressure or do

I realize I understand and I appreciate that you are doing a variety of course is including this and in suddenly one month somebody.

Bombards you with 100 new terms I am very sure you had never before heard words like wheeler okay are words like vocal cords or voiced sounds and voiceless sounds or you know plosive or affricate am I right so it is a too much of a load on your memory in a limited period of time that is partly the fault with our educational system partly human being survive so what I am trying to do is I am trying to help you understand.

What you have got all right easily and what is yet to be learned properly and therefore this review this test is not for grading okay but I expect you to participate whole heartedly if you make a mistake tell me you have made a mistake if you have done well allow me to pat your back verbally I mean not physically you know my hand will break correct shall we start okay so I am going to present a screen with questions look at the questions and write their answers is that okay just the answers you do not have to write the question and many we are going to mail these PPT slides to you okay.

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Review of Phonetics

- 1. Why can dead not speak?
- 2. What is ingressive air stream mechanism?
- 3. Why do men sound different from women?
- 4. Why do adults sound different from children?
- 5. What are voiceless sounds?
- 6. When is formant frequency (ff) higher – in the production of consonants or vowels?

Let us see number one first right and then answer then it speak write one or two words say for example why cannot dead people not speak why can the dead not speak what is your answer they have the vocal cords no breath please right that is the correct answer they have no bread

they have everything else they have the teeth they have the hard palate they have lips the alveolar Ridge they have everything.

Except that air has gone out of their body it can either get in nor get out so dead people cannot speak okay number two what is ingressive airstream mechanism right and then quickly tell me somebody please what is ingressive airstream mechanism and if you cannot say just right DK just right cannot say DK is do not know do not say cannot say CS what is ingressive airstream. Mechanism the air that goes from outside into our mouth from which we produce speech sounds there are very few speech sounds with that Airstream such as okay any other example no that is whistling there you throw air out but when you say you are sucking air in when you say you can feel it keep your hand here and click your tongue and you do not see any air do not feel any air going out air gets in okay.

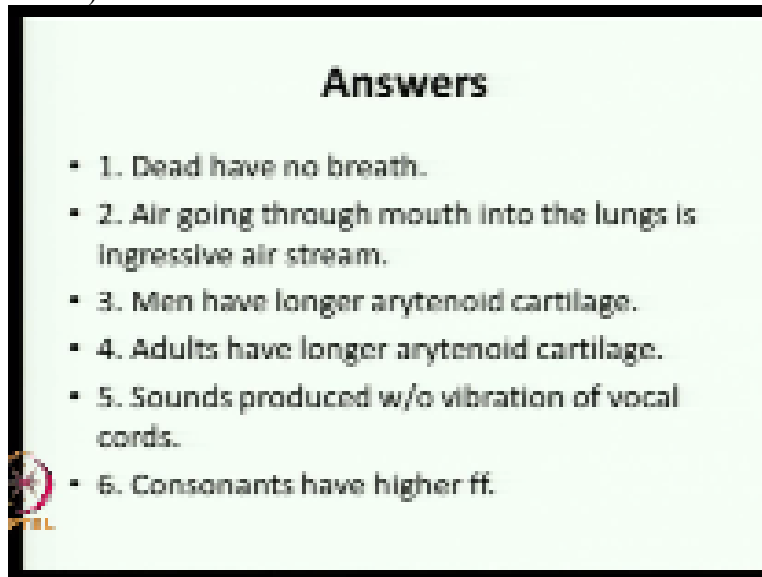
But there are very few sounds when languages use with ingressive airstream mechanism let us go to the next why do men most men not all men not all women but why do most men sound different from most women please write that word on your notebook and then answer me I give you just 30 seconds easy it is you know fastest fingers first okay now tell me what is the answer please raise your hand so that my friends behind the camera can capture your lovely face okay.

Raise your hand does not matter if you make a mistake how does it matter there is no price there is no punishment what is the answer why do men sound different from women because women have give me the proper answer because women have a shorter edit annoyed cartilage in the case of most women it is how long 18 millimeters long only where as in the case of most men it is 21 millimeter long lovely great ok.

Why do adults sound different from children the same reason adults have longer hatitonoige cartilage it annoyed cartilage and that changes their voice quality their bigger jaws bigger tongue you know there are a lot of other reasons right number five what are voiceless sounds right and then tell me in the production of which please write and tell me quickly you know that three or four words in the production of which vocal cords do not vibrate okay.


or in the production of which vocal cords are wide open there is no vibration number six now you have a good question I am sure a lot of people here can answer it when is formant frequency higher in the production of consonants or in the production of vowels okay.

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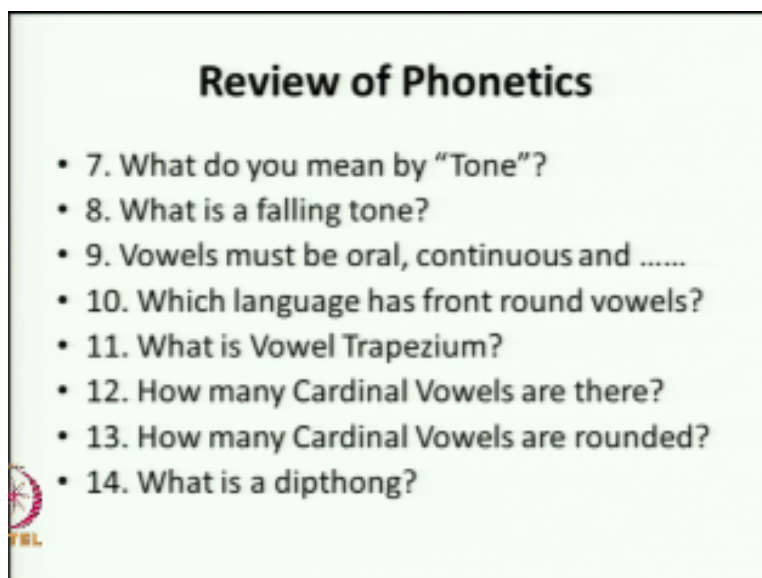
Answers

- 1. Dead have no breath.
- 2. Air going through mouth into the lungs is Ingressive air stream.
- 3. Men have longer arytenoid cartilage.
- 4. Adults have longer arytenoid cartilage.
- 5. Sounds produced w/o vibration of vocal cords.
- 6. Consonants have higher ff.




Let me also check my answer I am not too sure yeah consonants have higher fundamental frequency check your answers okay give yourself marks if you answered correctly so anyone who got six on six five on six I also Pat myself on the back okay anyone who got less than two on six or only two on six more or less so everybody here passes let us go to the next screen okay.

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Review of Phonetics

- 7. What do you mean by "Tone"?
- 8. What is a falling tone?
- 9. Vowels must be oral, continuous and
- 10. Which language has front round vowels?
- 11. What is Vowel Trapezium?
- 12. How many Cardinal Vowels are there?
- 13. How many Cardinal Vowels are rounded?
- 14. What is a diphthong?



What do you mean by tone in linguistics what is tone you know a little more difficult question than that shall we pass come on try somebody.

Please what is to your right variation in the frequency of what variation in the frequency of the vibration of vocal cords that is tone or change in the frequency of the vibration of vocal cords attained I am going to give you these PPTs except when you are attempting an answer you do not have to rights okay well you know when we define vowels we say question number nine vowels must be oral continuous and our knobs cut that.

Is what we said continuous voiced not voiceless vowels supposed to be oral continuous and voiced okay next is there a language which has round front vowels where E is produced with rounded lips yes there is one there that not model there is French and there are other languages among the better you know more widely known languages French has in French the word for in French the word for TWE is do sorry is do you know with flat lips okay.

They also have similarly front round vowels there you might remember vowel trapezium we showed you some red symbols those red signals are exception look them up I am going to ask you again at the examination at the quiz all this will also form portion of your quiz before the end of this month right what is marvel trapezium we have been talking about marvel trapezium what does it mean what is it is an imaginary area it is an imaginary area.

In the oral passage through from which different vowel sounds are produced okay do not many people do not seem to have got it right how many cardinal vowels are there the vowels at the extreme points if you remember how the trapezium you will remember extreme points and you can quickly see how many are there many people say eight but there can be more right how many cardinal vowels are rounded 3 yes lovely what are those OH, OOH and AW and okay what is a diphthong can you write quickly I will give you 30 seconds and then you can possibly answer better and compare your answer once you write what is a diphthong computer answers okay.

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Answers 2

- 7. Change in the vibration of vocal cords.
- 8. Starts on high frequency, closes on low.
- 9. Voiced.
- 10. French.
- 11. Area in mouth for production of Vowels.
- 12. Eight.
- 13. Three.
- 14. Vowels produced with two plosions.

How many people go out seven on seven six on seven please do not capture it on the camera ignore it okay sorry for on seven thank you God bless you at least three on seven okay so you pass somehow please pay attention to this area you have the slides and you have the book okay come to the third set what are centering diphthongs think in now you know I will give you 40 seconds for each question what are centering diphthongs.

You can write and then answer you might make mistakes but it does not matter you know please try you know you can say centering diphthongs are those vowel sounds where the tongue moves from this position to the next position so fill in those blanks from and to what are centering diphthongs the answer is there in the question okay right what is the answer moves towards the center moves towards the center in the center of the marvel trapezium.

That is centering the thumb so your affronting diphthong is where the final movement is towards the front of the mouth closing diphthong where the final movement is towards the closed position in the mouth backing diphthong where the final movement is towards the back of the mouth etc you know you can you can say that right consonants differ by consonants from one another differ by voice whether they are voiced or voiceless by place of articulation and manner of articulation lovely please write what our semivowels please write what our semivowels they are produced like vowels but what I told you yesterday okay.

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Review of Phonetics

- 15. What are "Centering" Diphthongs?
- 16. What are IPA Symbols?
- 17. Consonants differ by voice, place and...?
- 18. What are semi-vowels?
- 19. Why is /n/ not a vowel?
- 20. What is a "Fricative" sound?
- 21. What is an "Affricate" sound?

Right I will check why is it is not in what is it that sound question number 19 hmm why is that not a vowel sound it is nasal it is not orally okay otherwise it is voiced it is continuous there is no obstruction in the nasal passage but it is a nasal and therefore it is not a vowel sound all right what is a fricative sound right the answer fleas fricative sound is that sound which is produced now complete the sentence which is produced yeah with partial extension through audible friction that sort of thing what is an affricate sound okay who can answer it what an abstraction but you know that speech sound which is produced with total obstruction but gradual release okay.

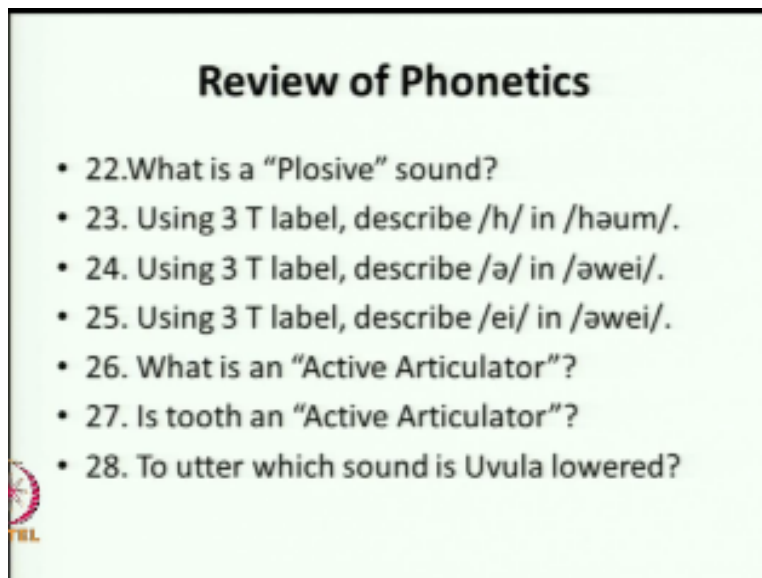
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Answers

- 15. That close in the centre of the vowel area.
- 16. Unique graphic symbols for speech sounds.
- 17. Manner/Release of Obstruction.
- 18. Produced like vowels, don't work like them
- 19. Because it is a Nasal sound.
- 20. Sounds produced with continuous friction.
- 21. Sounds produced with gradual release of complete closure.

Compare your answer and give yourself ticks and crosses how many people got seven on seven six on seven how 507 let us continue and you know I want you to do this exercise back home back in your room again before some of these appear at the quiz.

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Review of Phonetics

- 22. What is a "Plosive" sound?
- 23. Using 3 T label, describe /h/ in /hæum/.
- 24. Using 3 T label, describe /ə/ in /əwei/.
- 25. Using 3 T label, describe /ei/ in /əwei/.
- 26. What is an "Active Articulator"?
- 27. Is tooth an "Active Articulator"?
- 28. To utter which sound is Uvula lowered?

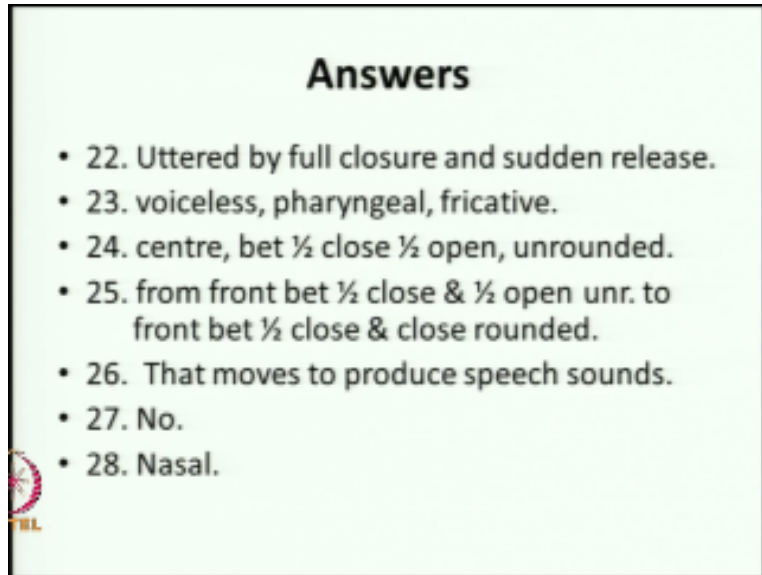
Please write definitions what is a plosive sound write it on a notebook please write number 22 what is a plosive sound number 23 using three term level described as in-home English world okay number 24 using relevant three term level describe /a/ as in a way you can look into one another's notebook after you have written okay not before first write your own definition you know this is a self test self appraisal.

I am getting you to see how much of the course has already seeped into you number 25 using relevant three term level describe a as in a way it is a diphthong it will take two descriptions have those descriptions from X to Y position okay number 26 what is an active articulator right the definition an active articulator is that organ of articulation which now complete the sentence you can also say an active articulator.

And then complete the sentence no more 27 you can say yes or no is opera you know or upper or lower teeth is tooth an active articulator yes or no how many nose raise your hands please capture them okay right you know this is the kind of picture I would like to show the world now see my students give always correct answers other pictures I will delete I will ask them to

please cut out those seconds from the recording number 28 to water what kind of sound is uvula lowered nasals please right okay.

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Answers

- 22. Uttered by full closure and sudden release.
- 23. voiceless, pharyngeal, fricative.
- 24. centre, bet ½ close ½ open, unrounded.
- 25. from front bet ½ close & ½ open unr. to front bet ½ close & close rounded.
- 26. That moves to produce speech sounds.
- 27. No.
- 28. Nasal.

Check your answers once again see if you got all the seven right particularly check that three term levels okay in a certain sense it you know it is a very good test of your understanding of the phonetic processes give yourself and take our cross your answers okay who got seven on seven this time six on seven okay thank you lovely 507 four on seven okay I would not ask I am embarrass you more than that please answer.

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Review of Phonetics

- 29. What is the state of vocal cords in whisper?
- 30. Are nasal sounds voiced or voiceless?
- 31. Which sounds come when Uvula is raised?
- 32. Which two kinds of speech sounds do all languages have?
- 33. Are all back vowels rounded?
- 34. Can women produce all vowel sounds?
- 35. Can children produce all consonant sounds?



What is the state of vocal cords when we whispered into the ears of others okay what is the state of vocal cords when we whisper there are you know either vocal cords can be either. Wide open or tight shut or loosely together what is the position of the vocal cords please write number 30 our nasal sounds voiced or voiceless writer answer 31 what kind of speech sounds are produced when uvula is raised please write when uvula is raised 32 what are the two major classes of sounds which all of his part sounds which all languages of the world or have what are the two major classes of speech sounds.

What are the two major classes of speech sounds which all languages of the world have okay next are all back vowels rounded yes or no some are also unrounded 34 can women produce all vowel sounds yes or no yes obviously 35 can children produce all consonant sounds depends very young children take time but you know once they cross in fancy they can produce all consonants in all vowel sounds but infants take time check your answers okay.

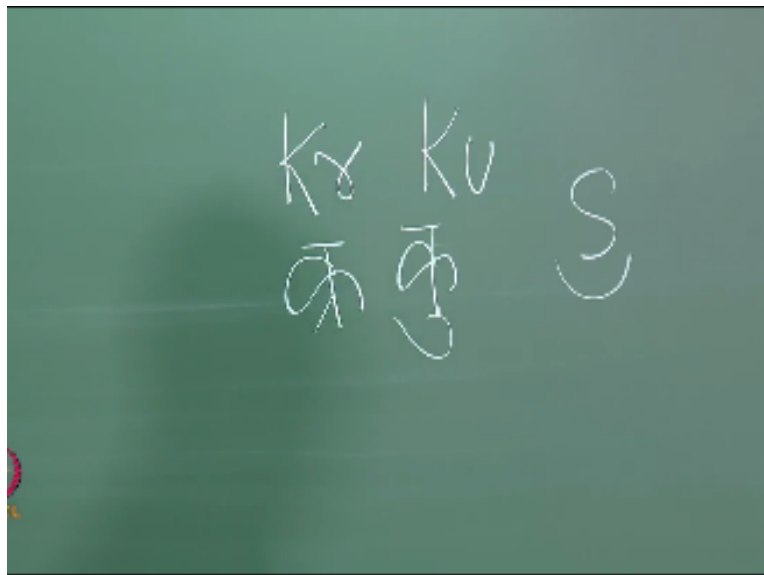
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Answers

- 29. They are wide apart.
- 30. They are voiced.
- 31. Oral sounds are uttered when Uvula is raised.
- 32. All languages have vowels & consonants.
- 33. Not necessarily.
- 34. Yes.
- 35. Yes, but babies take time to do so.

This time it should have been easy how many people got seven on seven one two three four not bad six okay five okay great okay I am going to give you some tests in transcription now I am going to write some words in phonetic alphabet and I want you to transcribe it into the common Roman orthography sorry ask me so you do not have to write that yes no language of the world has all possible sounds okay so the question is what kind of symbols do we use and I advised you to look up Google say Google IPA symbols and you will get a big chart that chart has possibly all symbols and diacritics what is a diacritic is the extra mark are you with me everybody please diacritic is the extra mark which you use to indicate additional feature.

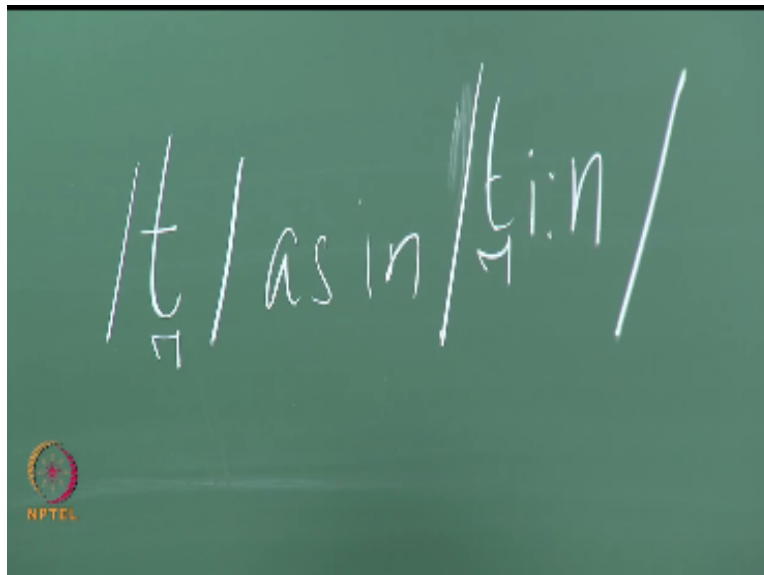
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Say for example in Hindi you have to write KR are how do you write it in Hindi you write it this way this is your symbol and this is the diacritic or in Hindi you want to write KU how do you do this you write this is your symbol and this is your diacritic in Kaluga you can write this and what is this so this is the diacritic tell you who also has caps shows tricks in Indian writing systems we make fun of English writing system but writing system.

Everywhere has basically I am trying to get organized a lecture on writing systems by one of my colleagues in the Department of Biotechnology he has designed a script using which all Indian languages can be written with greater efficiency so one day I am going to ask him to come and talk to us and I would like you to come for that lecture please so there is diet reading so what we do is say for example in Indian languages we have taught ha TA DA no now toys produced with you know tip of the tongue touching the back of the upper teeth okay this symbol how do we indicate that symbol.

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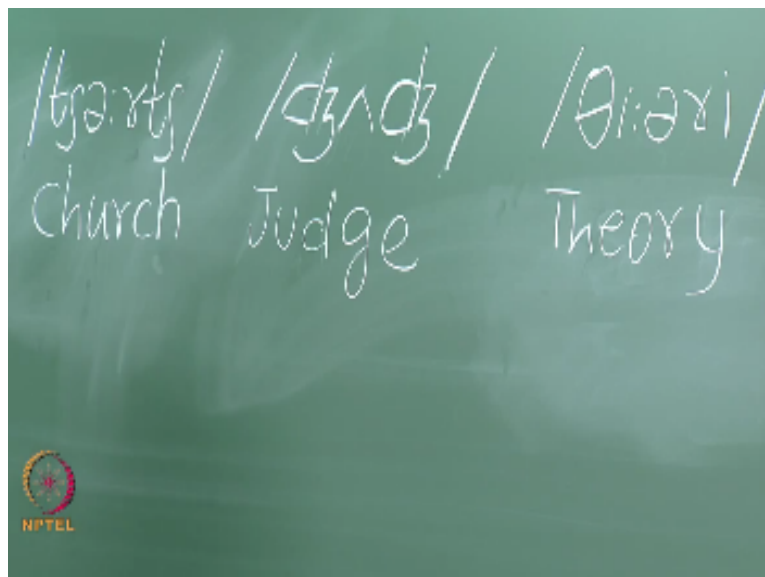
So we say this and now we add a diacritic this is the as in my mother tongue the word is sorry what is this teen 3 in Hindi also there is teen 3 in Telugu there is Tata okay so this is dentin so you indicated through diacritics so IPA chart international phonetic alphabet chart gives you symbols and gives you diacritics using which you can buy in large describe all possible sounds in all possible languages.

Having answered you yes and easily make orders of a bitch see all languages have only some sounds okay no language has all the sounds say for example for Englishman this was a very difficult sound no Englishman could in India pronounce no when I said no I mean Englishmen could not produce the okay so Tamil has some sounds which are unique to them but Camille has do not does not have some other sounds that does not matter I told you yesterday.

That each language has only some sound out of a possible box of sounds out of a possible range of sounds but to describe those sounds phonetically we have the terminology and we have the tools the tools are IPA symbols in the chart is that okay right shall we continue okay I am going to give you a test in using because you know in the coming weeks you will have to use lots of phonetic alphabet to describe.

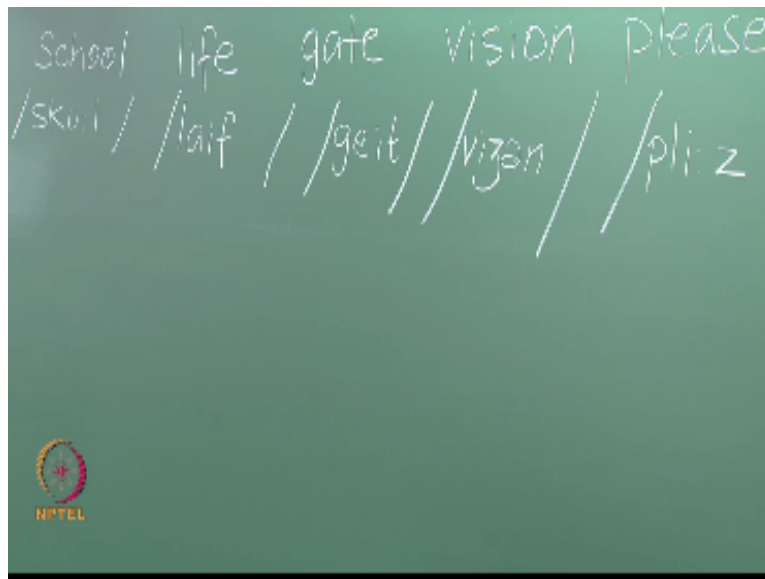
Any example I will say please use phonetically for it and when we come to phonology how do two speech sounds come together we will still need these symbols okay so please get them right I am going to write words in phonetic alphabet you can write in Roman alphabet and check whether you got the symbols right please write you just have to write the Roman word I am giving you transcription okay and you can use Roman alphabet Latin you know the alphabet that we use to write the English language okay.

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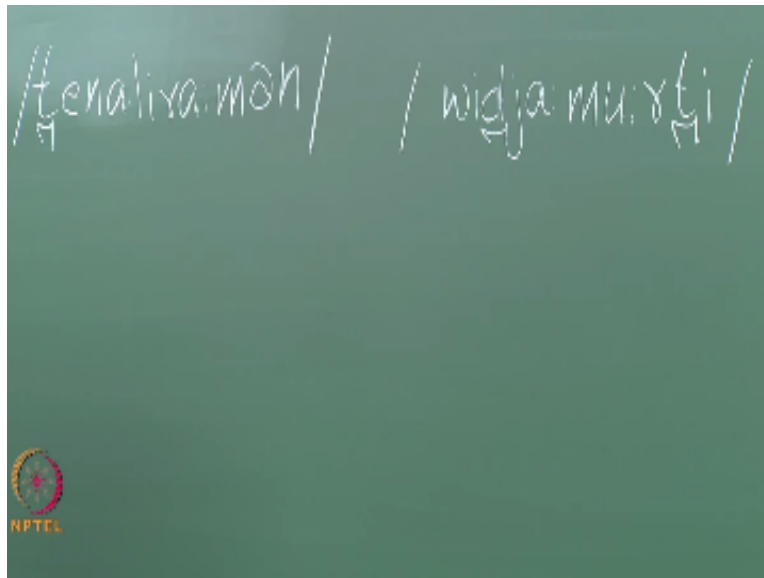
I will give you exactly 30 seconds write it in Roman alphabet write it in roman alphabet please wherever you use phonetic alphabet you should first use slanted bars by convention it means that you are now going to use phonetic alphabet it is not the letter of any particular script it is the symbol of International phonetic alphabet okay check whether you got it right or wrong this is search how many we will got it right lovely that is great church this is judge and this is theory okay now I am going to write words in Roman alphabet and I expect you to write it in phonetic alphabet shall we do that shall we do that okay please okay got it use fun in return you will use these slanted bars okay.

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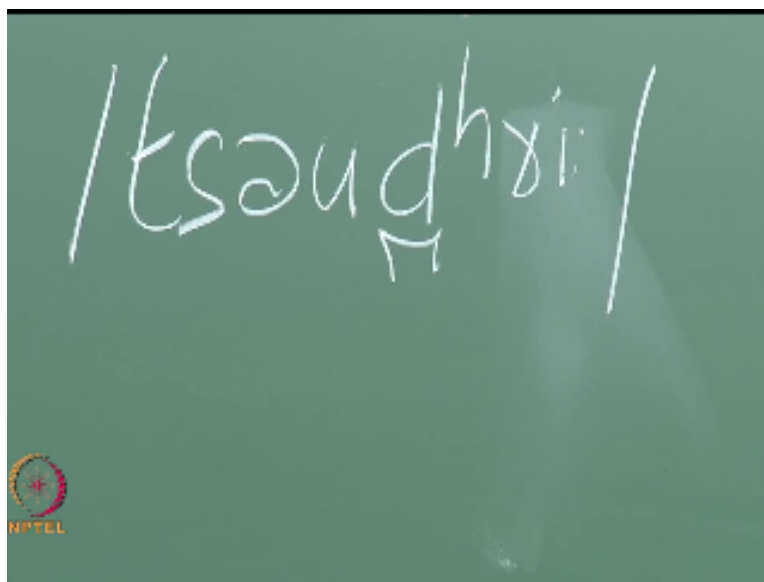
Please check anyone who got them all correct okay you got at least say 80% of these symbols right okay one okay got at least 50% right you need some practice I am going to write a name tell me what you know you I want to see how you transcribe it okay please okay.

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They are not lead on okay I am going to give you a difficult name now okay everybody please write your own name in phonetic transcription now done okay my surname my first name is Sri and my family name is Chaudhary right my family name in phonetic alphabet the way I pronounced it as Chaudri okay.

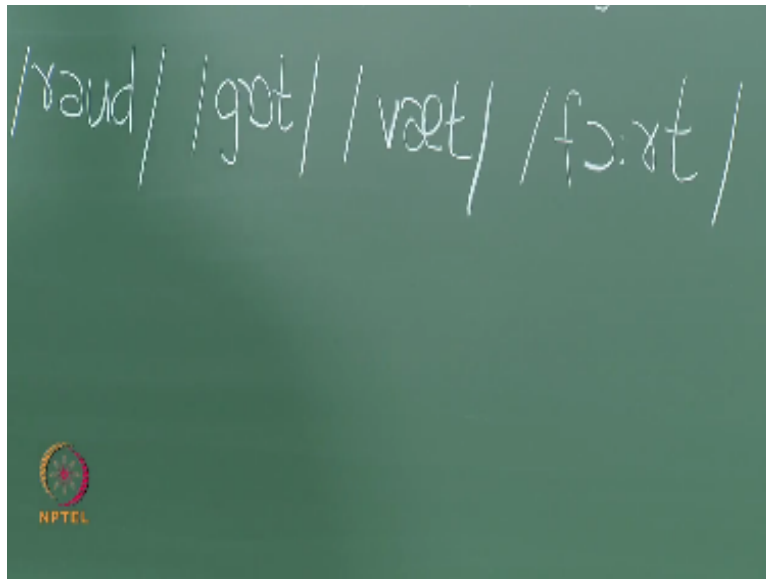
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Check with mine this is how I will write it what you know there can be variations okay final test last you know in one minute and then I am going to a stop I am going to write some words in phonetic symbol do not pronounce it immediately look at it make up your mind and when I

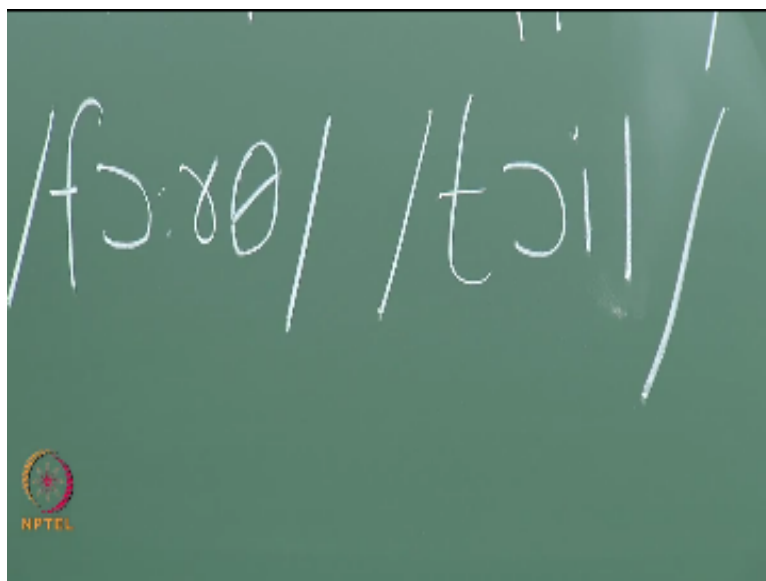
say please pronounce then pronounce that word anyone together or separately as you like okay here is the word.

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What is it this is an English word corporal do you see road okay what is this got good god this is God okay what is this fate that this as in cat as in rat.

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What is this port what is this for what is this got for what is this game toy okay I think I let us stop here well all I have tried to do is you know please do not believe please do not have the

impression that I have tried to tell you guys know nothing you know a lot already these are the only few instances where you have made a mistake but these are typical okay I will at the quiz later this month ask you some of these things and I expect everybody to get full marks 10 on 10 on 20 or 20 if you have any doubts any questions please consult me look up the book have some practice and have a good day nice weekend right thank you.

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