Technical English for Engineers
Prof. Aysha Iqbal
Department of Humanities and Social Science
Indian Institute of Technology, Madras

Lecture - 11
Comparatives

So, welcome to today's class and this is on comparatives. What are comparatives? When we compare one degree, now these are basically adjectives and when we compare one degree to another with another.

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Someone is very good, but someone else can be better and there could only be one best. So, this is the degrees, all these are adjectives. So, you can think of n number of examples bad, worse, worst. So, these are comparatives and why do engineers need comparatives, because you need to compare degrees. This thing is longer than that thing, you know the highway when you are building or drawing a map for a bridge or for a highway, this is more or less, shorter or longer, heavier or lighter. So, these are things that you need in your day-to-day language. Therefore, we may need to look at what are comparatives.

Now, look at these examples.

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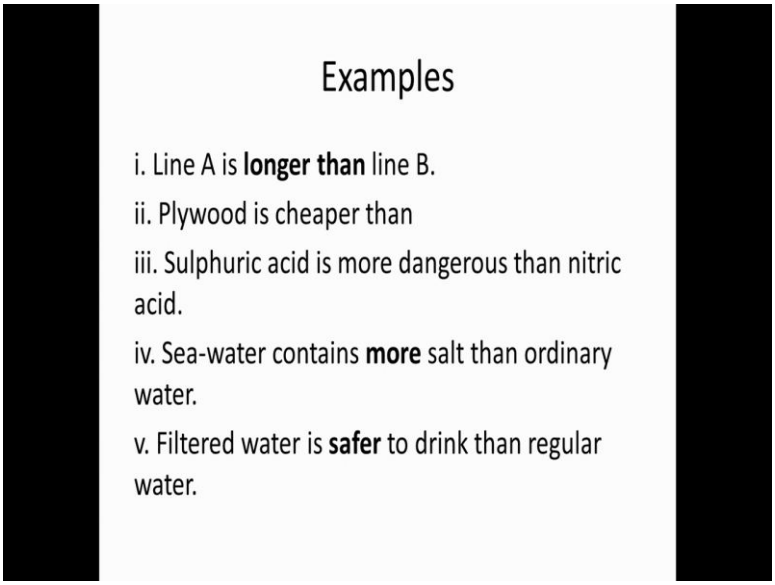

Here are some examples done for you. Line A is longer than line B, so, longer than, this is a comparative. Plywood is cheaper than, we will look at, think of any other kind of wood, maybe rosewood or teak or pine, plywood is cheaper. So, cheep becomes an adjective and a comparative. Sulphuric is more dangerous. So, again more is your comparative, you do not say dangerouser. See, this also we have to keep in mind.

There are some adjectives, which can be used with an ‘e r’ or ‘e s t’ in order to denote or suggest comparison and superlatives. However, there are some adjectives, which require only more; they do not take the ‘e r’ form. So, I will give you the rules also, first let us go on and look at the other examples. Sea-water contains more salt than ordinary water. So, more is your comparative, we say more or most and then, filter water is safer to drink than regular water.

Some of the point that you should remember, when you are doing comparatives are that short adjectives usually take the ‘e r’ and the ‘e s t’, it is the thus comparative and the superlative form, as in big, bigger, biggest, short, shorter, shortest. The hot, hotter, hottest; long, thin, look at all the variations and you will get ‘e r’ and ‘e s t’ forms.

However, long adjectives take more and most with them. The words such as beautiful, we do not say beautifulest. Famous you do not say famousest, but more famous, most famous; expensive, more expensive, most expensive; intelligent, more intelligent, most intelligent. So, it depends on the word. So, one rule does not apply to all the words. Also, remember that the comparatives such as more or less they used with singular nouns and the comparative 'fewer' is used with plural nouns. For example, fewer machines were bought this year. A diesel engine, which is the singular noun is more efficient than a gasoline engine, this is the way we use comparatives.

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Now, I am going to draw out two figures for you. You know what these figures are I do not have to explain. You know one is a square and one is a triangle. Now, what I want you to do, is take a movement and compare the two figures, using the words and I am giving you words for comparison the points to be compared A - area, B - number of sides, C -length of the sides and 4 - comparison of the size of the angles. Area, number of sides, length of the sides and comparison of the size of the angles, how would you do that? This is something that I would like you to do on your own.

Now, here another thing that I want you to do is take two bikes. Bike A and bike B and write a composition, comparing the two bikes on the basis of price. That is a cost, how

much here each one cost, engine efficiency, fuel consumption, the length and height and the color of the bikes, their speed and their advertisement strategies. I will repeat I want you to take 2 bikes and write a composition, a short paragraph comparing the price that 2 bikes on the basis of their price, engine efficiency, fuel consumption, the look or the looks of the 2 bikes by way of their height, weight, length, color, their speed, and also the way the manufacturers have used various advertisement strategies for each bike.

Some of the rules, that one must remember is that, when adjectives and in a consonant plus y. So, let us say, you know what are consonants? We have vowels a, e, i, o, u and the rest of the words or sounds are consonants. So, when an adjective ends in consonant plus y they take 'i e r' as comparative and 'i e s t' as the superlative, for example, look at the word lovely, lovely, l o v e l y, it ends with the consonant and y. Then you have heavy, h e a v y and then you will see how this rule applies lovelier, loveliest; heavy, heavier, heaviest. I would like you to now look at this particular slide and identify the comparative form, which is wrong, which is not accurate bigger, shorttest, windyer, windier, fater, fattest.

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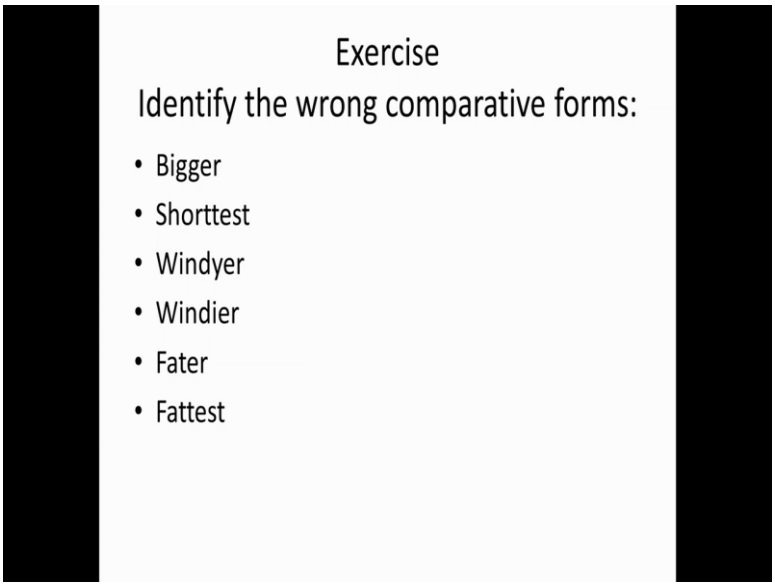

Let us look at the first one big, bigger, biggest. So, this is right short, shorter, shortest, but the spelling is wrong, we do not need double t here in some cases we may, in this

case, we do not. Windyer Which one is correct? Third or the fourth, the fourth one windier, y is converted into i, when we compare it to when we use the comparative degree fater, f a t t e r not this. So, we need to use a double t here in order to make it into comparative and fattest is correct.

Now, I am going to give you a listening passage and I first before we start, I would like you to look at the questions, and then I will read out the passage. You would not be able to see the passage. I am going to just read out the passage for you.

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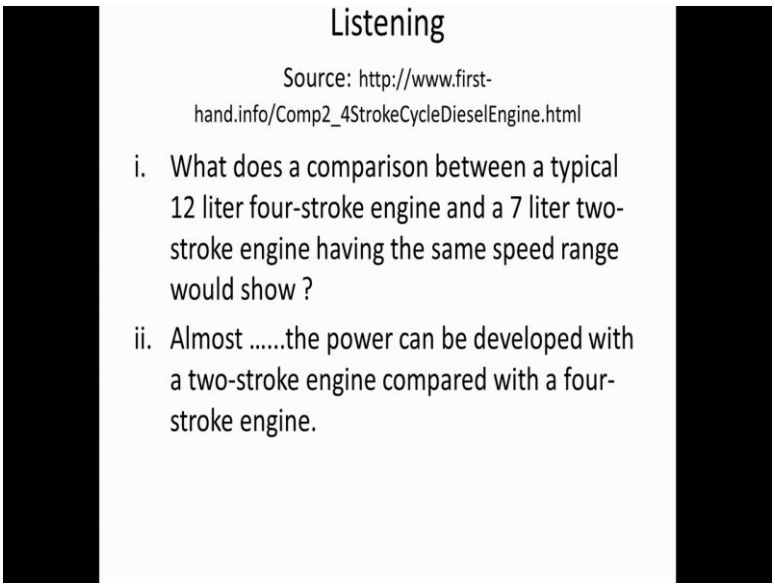

First look at this slide and read the questions. Take down these questions and then I will be reading out the passage for you, you would not be shown the passage. So, I will read out the questions, for you. Look at the slide; what does a comparison between a typical 12 liter four-stroke engine and a 7 liter, two-stroke engine having the speed same speed range would show? Almost dash the power can be developed with the two-stroke engine compared with a four-stroke engine.

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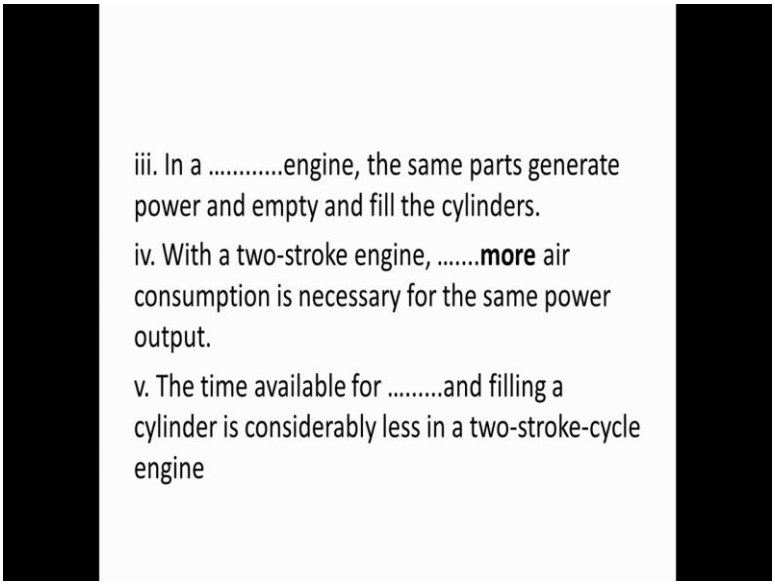

Third question: In a dash engine, the same parts generate power and empty and fill the cylinder. With fourth question, with a two-stroke engine, dash more air consumption is necessary for the same power output. Fifth, the time available for dash and filling a cylinder is considerably less in a two- stroke-cycle engine. So, these are your questions and now I would not be showing you the slide. I will be just reading out the passage for you and then I will be we will be discussing the answers later.

So, here is a brief description of two and four stroke diesel engine in made below, I hope you are listening to me carefully. Almost twice the power can be developed with a two-stroke engine compared with a four-stroke engine. A comparison between a typical 12 liter four-stroke engine and the 7 liters two-stroke engine having the same speed range would show that they would develop similar talk and power ratings. In a four-stroke engine the same powers generate power and empty and fill the cylinders. With the two-stroke engine, the emptying and filling can be carried out by light rotary components. With a two-stroke engine, 40 to 50 percent more air consumption is necessary for the same power output. Therefore, the air pumping worked done will be proportionally greater.

About 10 to 20 percent of the upward stroke of a two-stroke engine must be sacrificed to emptying and filling the cylinder. The time available for emptying and filling a cylinder is considerably less in a two-stroke cycle engine something like, 33 percent of the completed cycle as compared to 50 percent in a four-stroke engine. Therefore, more power will be needed to force a greater mass of air into the cylinder in a shorter time. Compared with the two-stroke engine more power is needed by the piston for emptying and filling the cylinder in four-stroke engine due to come pumping and friction losses at lowest speeds.

At higher engines speeds the situation is reversed and the two-stroke roots blower will consume proportionally more engine power. This could be up to 15 percent of the develop power at maximum speed with reduce engine load for a given speed, a two-stroke engine blower will consume proportionally more of the power developed by the engine. A two-stroke engine runs smoother and relatively quietly due to the absence of reversals of loading on bearings as compared with a four-stroke engine and here are your answers.

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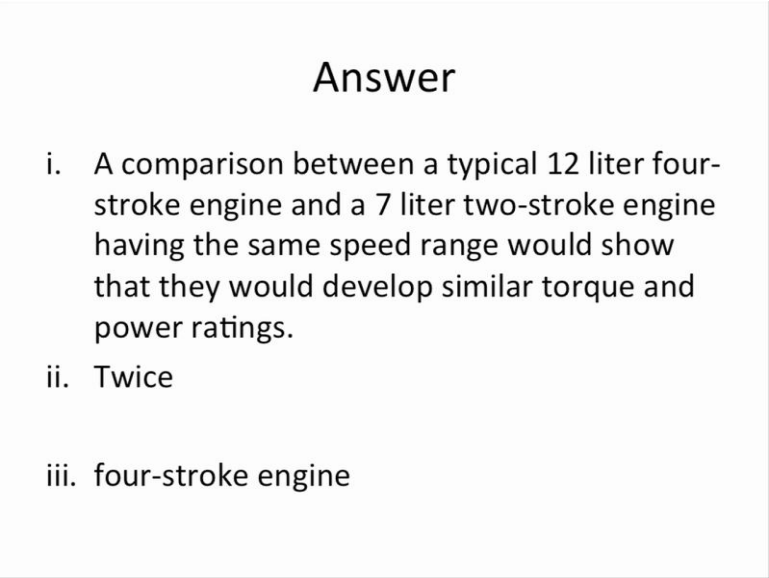

The first answer a comparison between a typical 12 liter, 4 is stroke engine and a 7 liter two-stroke engine having the same speed range would show that they would develop

similar torque and power ratings. Second answer: twice. Third, blank in a dash engine the same parts generate power and empty and fill the cylinder answer is four-stroke engine.

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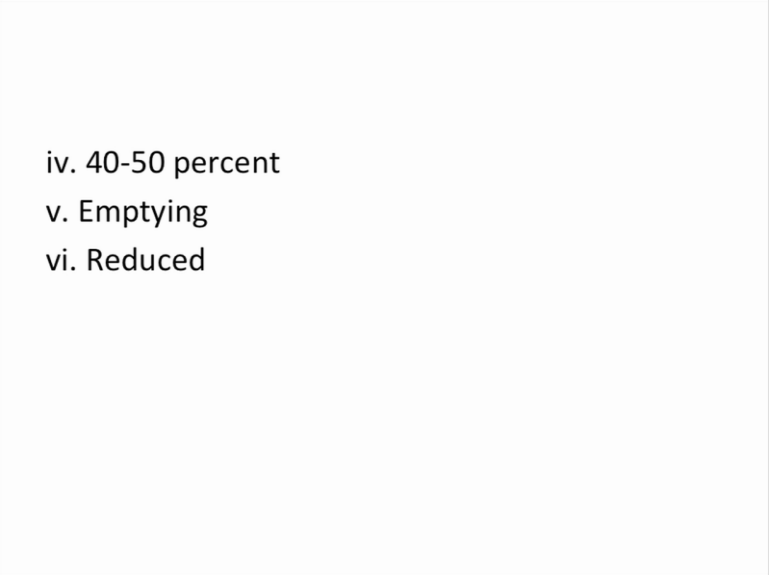

Next is 40 to 45 percent more and the last one thus the time available for dash and filling a cylinder is. So, answer is emptying.

So, thank you very much and we will be ready with our next topic in our next class.

Tags

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