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MEN AND SCIENCE

Date .....
ERNAKULAM.

GRADE I

STANDARD V

By

N. A. VISALAKSHY

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MEN AND SCIENCE

(GRADE I)

N. A. VISALAKSHY

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Date.....

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MEN AND SCIENCE

SAMIPHI ISLAM HIGH SCHOOL
Date
ERNAKULAM.

A. EDISON

I

Mary and Raju were reading their books. Both of them were students of standard five. It was eight o' clock in the night.

Raju was younger than Mary. He wanted to play a trick on Mary. Quickly Raju ran to the wall and switched off the light. The whole room became dark. Mary got afraid and began to cry aloud, "Father, please come. I am afraid". Soon Raju switched on the light.

Now Mary's father also came there. Mary was still crying and Raju was laughing.

"Why do you cry?", Mary's father asked. His name was Mr. Joseph and he was a good man. He was very kind also.

"Raju switched off the light. It became dark. So I was afraid", Mary said.

Mr. Joseph laughed and said, "You are still crying. Now it is not dark. The light is burning". He wanted to make Mary laugh. So he did not scold her. He asked her, "Mary, I will ask you a question. Can you answer me? If you answer me, I will give you a prize".

Now Mary wanted to get that prize. Raju also wanted to get it. The children came near Mr. Joseph.

Mr. Joseph asked, "Who made the electric lamp first? Can anyone tell me?" Mary did not know. Raju too did not know. Both of them thought about the prize. How can they get it?

"Do not worry", Mr. Joseph said "I will tell you a story".

II

Mr. JOSEPH TELLS THE STORY OF EDISON

"In America there was a man called Samuel. The name of his wife was Nancy. They had a son and his name was Edison".

"Edison", Mary and Raju repeated the name.

"Yes, Edison made an Electric lamp for the first time", Mr. Joseph said.

Mary and Raju were amazed They wanted to hear more about Edison. Mr. Joseph began to say,

"Edison was a clever boy. He liked to read many books. But his parents were poor and so the boy had to sell newspapers. Thus he earned some money. Then he bought a press and began to print a newspaper'.'

"What was the name of the newspaper?", the children asked in one voice.

Mr. Joseph said, "You want to know it. It was called 'Weekly Herald'. More people began to buy it. With this he earned some money. He liked 'Science' very much and he read many books. He did some experiments too".

"One day Edison came to Mount Clement Railway Station. Do you know what a Railway station is?

"Oh, yes", Mary said, "Trains come there. People climb in and out of the trains".

"Good. You are a clever girl", Mr. Joseph said, "A little boy was standing on the Railway line. A train was also coming. The little boy was in danger. When Edison saw this he ran towards the boy. Quickly he pulled the boy out of the line and saved him. The boy was the son of the Station Master.

When the Station Master heard this, he was pleased. He thanked Edison and promised to teach Edison about the telegraph".

"In these months Edison learnt Telegraphy very well. Now he got a job in a telegraph office. So he was not poor now. He was doing experiments all these years and made many machines. By selling these machines he became rich and so he started a factory".

"In those days people were using gas lamps. These were not very good and so Edison wanted to make an Electric lamp". He made a glass bulb and removed the air from it. He placed a very thin wire inside it. When he passed Electricity through the wire it began to glow. It was giving good light".

"When people saw this lamp they were amazed. It was a wonderful thing, because one could easily switch on and

switch off. No oil was needed. There was no smoke, when it was burning. Edison started a factory and began to make a lot of Electric lamps".

"But what was the wire made of", asked Raju.

"Oh!", Mr. Joseph said. "I forgot to tell you that".

"At first Edison used a 'platinum' wire. But it melted away. Then he tried many things-more than a thousand things. At last he used a kind of carbon and he succeeded. It cost him a lot of money. When he succeeded he started a big factory to make Electric wires. But now Electric lamps are very cheap and we can buy one for two rupees".

"Oh! What a fine thing it is! Only Raju should not switch it off".

"But Edison had a rival. At this time a man by name Swan was also

trying to make an Electric lamp. He was an English man. Swan also succeeded in making an Electric lamp. Both Swan and Edison made Electric lamps at the same time. So each of them began to claim the honour of making an Electric lamp. They went to the court. The case lasted for years. At last Edison and Swan agreed not to continue the case. They together started a factory and made Electric lamps. They called them 'Ediswan lamps".

"Edison made so many wonderful things also He found out the Gramaphone, kinatoscope, megaphone and so many other things".

"Gramaphone", shouted Mary. "When I went to uncle's house yesterday, I saw one".

"What is it?" asked Raju. "I haven't seen a 'Gramaphone' yet".

"It will sing beautifully. You can hear Malayalam songs and Tamil songs. It will play Hindi music too", Mary explained.

"Don't you want to hear its story?" asked Mr. Joseph.

"Surely", Mary and Raju said.

III

Mr. JOSEPH TELLS THE STORY OF GRAMAPHONE

Mr. Joseph began,

"Edison took a thin sheet of metal with a pointed pin. Then he held the pin against a soft sheet and shouted. "Hullo! Hullo" before the sheet of the metal. He saw a scratch on the soft sheet. Afterwards when he drew the pin through the scratch he heard the sound, "Hullo! Hullo!". Thus he succeeded in making a gramaphone. He, then worked at it and made a good

gramaphone. Now we have good gramaphones. Now-a-days we can buy good gramaphone-records also".

The children wanted to hear more about Edison. But it was time to go to bed.

Mr. Joseph said, "It is 10'o clock now. You can go to bed. I will tell you another story tomorrow".

"Good night" said the children and they went to bed.

AIDS TO STUDY

Structures:

younger	quickly
switched off	switched on
too	had to
more	climb in
climb out	both .
to make	a lot of
each	find out

Meanings:

student = വിദ്യാർത്ഥി. trick = സൂത്രം. scold = കഠിനമായി ശകാരിക്കുക. prize = സമ്മാനം. amaze = അത്ഭുതം

ഒപ്പിടുക. voice = ശബ്ദം. danger = അപകടം. promise = വാഗ്ദാനം ചെയ്യുക. experiment = പരീക്ഷണം. carbon = കരി. succeed = വിജയിക്കുക. continue = തുടരുക. claim = അവകാശപ്പെടുക. metal = ലോഹം. scratch = പോറൽ. machine = യന്ത്രം.

Read the following questions and choose the correct answer from those given in the brackets:—

1) Who was older? (Raju, Mary)

2) Why was Mary afraid? (Raju switched on the light, Raju switched off the light, it was eight o' clock.)

3) What kind of a man was Mr. Joseph? (kind, cruel)

4) Who was Edison? (English man, French man, American)

5) How did Edison earn money? (By selling newspapers, By working in a factory.)

6) How did Edison save the boy? (By crying for help, By pulling the boy out of the line, By stopping the train.)

7) Who made the Electric lamp first. (Edison, Swan, Both at the same time.)



B. THE STORY OF HENRY FORD

Next day the children were waiting for Mr. Joseph. It was 9 o' clock when he came to their room.

"You are waiting to hear a story. Is it not?" asked Mr. Joseph.

"Yes! Yes!" Mary said.

Mr. Joseph started telling the story.

"Henry Ford was also an American", he began.

"Ford! That is the name of a car. The name of our neighbour's car is 'Ford'. I saw it even today morning" said Mary.

"Yes, 'Ford' is the name of a car. I am going to tell you about Henry Ford. He made a car for the first time. Even today his company makes cars and they are called 'Ford' cars".

Mr. Joseph continued, "Henry Ford was born in America in 1863. His father was a farmer called William Ford".

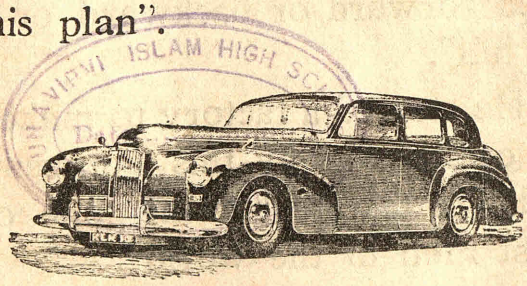
"When Henry was five years old, his parents put him to school. His father wished to make his son a good farmer. But Henry did not like it. He liked machines more than the fields. Even when he was a boy, he could repair watches. He took only a little time to make them good".

"At the age of sixteen he got a job in a factory. During daytime he worked in the factory and at night he repaired watches. But his father became ill and he went back to his village town. He had to work in the fields".

"In those days horses were used to plough the fields. Henry wanted to find out a machine to plough the fields. So he began to make one. He

succeeded in making one. But it moved only a distance of forty feet. Suddenly it stopped. He did not stop working at it till he improved it".

"After a few years he went to live in Detroit. This was a town and he got a job in that town. He had to go for work in the factory at night time. During day time he was working in his house to make a machine. He was trying to make a cart, without a horse. It must move without a horse. That was his plan".



"In 1893 his car was ready. It was a rainy day. He climbed on to the seat and started the car. It made a big noise and began to move. After riding on

it for some distance he took it to the shed. The car could move forward. But it could not run backward. It could not climb an ascent".

"People were amazed. But some laughed at him and said, "Who wants this car. It will not run backward; it will not climb a hill". But Henry Ford was happy. He was sure that he could make it better. So he worked at it again and again. After years of work he could make a good car—a car which moved forward or backward or climb up a hill".

"He started a factory to make cars. The cars made by this company are called 'Ford'. He became one of the richest men in the world".

"It is a good thing to go in a car", said Raju. "We must thank Henry Ford for that", replied Mary.

AIDS TO STUDY

Structures:

Also	Even.
a little	began to.

Meanings:

neighbour = അയൽക്കാരൻ. repair = നന്നാക്കുക. plough = ഉഴുക. job = ജോലി. cart = വണ്ടി. forward = മുൻപോട്ട്. climb = കയറുക.

Pick out the correct answer from those given in the brackets:—

1) Who made the car first ? (Edison, Ford, Joseph)

2) What did Henry's father wish to make his son ? (a doctor; an engineer; a farmer)

3) What was the name of the town where Ford went to live ? (New York, Washington, Detroit)

4) How do a car move ? (pulled by horses, without horses)

5) Why was the first car not a good one ? (It was not beautiful, It could not move forward, It could not climb ascents)

Answer the following questions in a sentence:—

1) Where was Henry Ford born ?
2) Who was his father ?
3) What did Henry like more than fields ?
4) Why did Henry go back to his village town ?
5) Why was the first car not a good one ?
6) How did he improve it ?

C. GEORGE WESTINGHOUSE

ISLAM HIGH SCHOOL
Date.....

I

For the next four days Mary and Raju could not hear any story because Mr. Joseph was away from home. He had to go to Trivandrum to meet some friends.

One evening Mr. Joseph returned from Trivandrum. He brought fruits, biscuits and some good books for the children. He had to tell many things to them. The first thing was about an accident. He said to the children, "when I was coming back from Trivandrum our bus met with an accident".

"Accident!" cried Mary. "How did it happen ?"

"I will tell you how it happened. Our bus was nearing Kottarakkara.

There are many bends on the road and our bus was running with great speed. When we took a bend a car was coming fast. The driver of our bus applied the brakes. But before the bus stopped it dashed against the car. Fortunately no one was injured".

"God be thanked!" said Mary.

"But, what is a brake ?" asked Raju.

"Oh! you do not know anything about brakes ?" replied Mr. Joseph. "Brakes are used to stop running vehicles".

"Do all vehicles have brakes ?" asked Raju.

"Yes, they do have. When a driver wants to stop the vehicle he applies the brake".

"Do trains have brakes ?"

"Of course".

"But a train has a number of compartments. Do all of them have brake?"

"No, No", laughed Mr. Joseph. "The whole train have a single brake. When the driver applies the brake the whole train comes to a stop. Now I will tell you more about it.

II

Mr. JOSEPH TELL THE STORY OF GEORGE WESTINGHOUSE

Mr. Joseph began. "George Westinghouse was the first man to make a faultless brake system. Like Edison and Henry Ford, George Westinghouse also was an American. While George was a boy there were railways in America. Their brakes were not very good. So accidents were very common. Every carriage had separate brakes and a brakesman to operate it. When the driver wanted to stop the train, he showed a signal. Then all brakesmen will apply the brakes

of their carriages. Then only the train could stop".

"That means many men were needed to stop a train", said Mary.

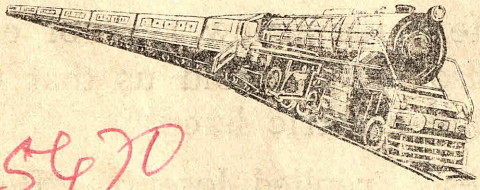
"And they had to work to together", added Raju.

"Yes, that was the trouble", said Mr. Joseph. "This took a long time to stop a train".

"George Westinghouse liked 'science' very much. He liked machines more. Always he was thinking about new machines. George made some new machines also. He wanted to find out a good brake system. For many years he thought about that and at last he actually made it. But how could he try it in a train? Only rich men can buy a train. But George was very poor. Fortunately some Railway engineers gave him a train to test his brake. His brakes worked well with the help

of compressed air. When it was fitted to a train it worked well. Engineers wanted to test it while the train was running".

"The train fitted with the brakes started with many engineers. The train was running fast. George himself was driving the train".



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Quickly he saw a cart on the line some yards away from the train. The wheels of the cart had caught the rails and so it could not move. In a few seconds the train would dash against it. Quickly George applied the brakes and the train stopped. All the engineers agreed that it was a good brake system".

"Still some Railway engineers did not use this brake system. As time went on more companies began to use it. Now all the trains are fitted with such good brakes".

"Did Westinghouse make any other things ?", asked Mary.

"Yes, a lot of things", replied Joseph "He made an electric street-car. He made a new type of electric lamp also". "You told us that Edison made the Electric lamp".

"Yes", replied Joseph, "But this was better". Westinghouse built factories for making brakes, electric lamps and other machines. He became very rich and even today Westinghouse factories are making machines and other things.

AIDS TO STUDY

Structures:

because	about
do have	together
a lot of	better than.

Meanings:

accident = അപകടം. fortunately = ഭാഗ്യവശാൽ. bend = വളവ്. vehicle = വാഹനം. common = സാധാരണ. separate = പ്രത്യേകം, compressed air = മർദ്ദിതവായു. dash = തട്ടുക. build = നിർമ്മിക്കുക. built = നിർമ്മിച്ചു (past tense) faultless = കുറ്റമറ്റ.

Answer the following questions in a sentence:

1) Where did the accident happen ?
2) Do trains have brakes ?
3) Who was the first man to make a faultless brake ?
4) What did George use to work his brake ?
5) Who travelled in the train when George tested his brakes ?
6) Give the name of two things that George Westinghouse made.

Fill the blanks choosing the correct answer from those given in the brackets:—

1) Joseph was returning from .....when the accident happened. (Kottarakkara, Trivandrum.)

2) His bus dashed against ..... (a cart, a car, another bus.)

3) Brakes are used to .....vehicles. (stop, run, speed up.)

4) In olden days it took a ..... time to stop a train. (short, long, very long.)

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D. WRIGHT BROTHERS

Date.....

I

Next day the children were waiting for Mr. Joseph. Mr. Joseph came from the office an hour late. He took a cup of tea and came to the children soon.

"Mary said, "Today my teacher told us about an aeroplane. She showed us a picture of the aeroplane also. But I could not understand it very well. Please tell me more about it".

"I have seen an aeroplane", cried Raju. "It was flying above our house. But I could not see it clearly. I also want to know about it".

"All right", said Mr. Joseph. "What do you want to know about an aeroplane ?"

"Can an aeroplane go faster than a train?" asked Mary.

"Yes, Aeroplanes go faster than trains".

"How do they go up in the air?" asked Raju.

"They take off from airfields. There are wheels for an aeroplane" said Joseph.

"Like a car?" asked Raju.

"Yes", replied Joseph. "A car has four wheels. But an aeroplane has only three wheels—two wheels in the front and one in the back. They begin to run on the ground. They take speed and begin to fly in the field. When they are high up they fly to some other places".

"Can they come down any where?" asked Mary.

"No. They cannot. They can come down only in an airport".

"How many people can travel in an aeroplane?" asked Raju,

"There are small and big aeroplanes" said Mr. Joseph. "Three or four people can fly in a small aeroplane. More than a hundred people can go in a big aeroplane".

"I want to know how an aeroplane flies in the air?" asked Mary. "Is it because that they are very light?"

"No, No. They are very heavy. The air pushes it up. It has wings like a bird".

"So they will move their wings like a bird?" asked Mary.

"No. They will not move their wings. It has propeller. The propeller has three or four leaves. It will turn very quickly and so the plane moves forward."

'But who made the aeroplane first?' asked Raju.

"It was not one man", said Mr. Joseph. "Two men worked together. They were brothers".

"What were their names ?"

"They were called Wright brothers", said Mr. Joseph.

"We want to know more about the Wright brothers", said Mary.

"Yes. I shall tell more about them", said Mr. Joseph.

II

Mr. JOSEPH TELLS THE STORY OF WRIGHT BROTHERS

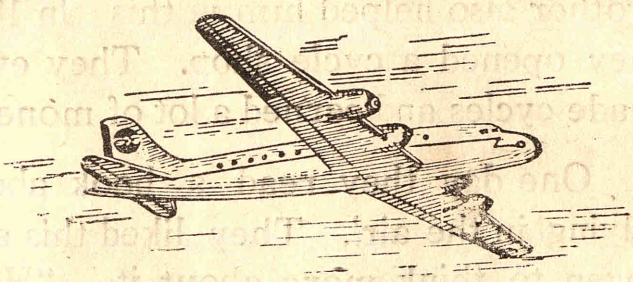
Mr. Joseph began to tell "Wilber was the name of the elder brother. The younger was called Orvile. They were born at Ohio. Their father was a priest".

"When Wilber and Orvile were children they liked reading very much. They read many books on science.

When Orvile was twenty years old he started a press and a newspaper. His brother also helped him in this. In 1892 they opened a cycle shop. They even made cycles and earned a lot of money".

One day they read a book about 'Flying in the air'. They liked this and began to think more about it. "How can men fly in the air?" That was their question. They began to read more books. They made a kite. Its body was like a box. In a place called Daiton thev flew this kite. It was a success. The next year they made a small aeroplane and they flew this in Kithock. This time they also got into the plane and flew. They could fly for one or two minutes. In another one or two years they made a good aeroplane, with a good engine. In 1903 they flew for one hour in their plane. People were amazed when they saw this.

They praised the Wright Brothers for their success. There were reports in



the newspapers. Many Governments promised to pay large sums of money to the Wright Brothers. In a few years they became very rich people".

"Now we have very good planes. Planes carry people from one country to another very quickly".

"These are all very wonderful things!" said Mary. "Have we airports in Kerala ?"

"Oh! Yes. There are", replied Mr. Joseph. "For next vacation I will take you to Trivandrum. We will go from

Trivandrum to Ernakulam in an aeroplane. It will take only forty minutes for the journey".

"Oh! exclaimed the children". You must surely take us to Trivandrum. We want to travel in an aeroplane".

AIDS TO STUDY

Structures:

move about	faster than
take off	come down.
together	a lot of.
get into	a large sum of.

Meanings:

forward = മുമ്പോട്ട്. priest = പുരോഹിതൻ. kite = പട്ടം. success = വിജയം. praise = പുകഴ്ത്തുക. promise = വാഗ്ദാനം ചെയ്യുക.

Fill up the blanks choosing the correct answer from those given in the brackets:–

1) Planes take off from ..... (airport, harbour, port.)

2) An aeroplane has.....wheels. (four, two, three.)

3) .....was the elder brother. (Orvile, Wilber.)

4) They flew a small aeroplane first in..... (Ohio, Kithock, Daiton.)

5) A plane take ..... to go from Trivandrum to Ernakulam. (forty minutes, two hours, one day.)

Answer the following questions in a sentence each:—

1) Can an aeroplane go faster than a train?

2) How many wheels has an aeroplane ?

3) Are aeroplanes very light ?

4) Who made the aeroplane first ?

5) What were the names of the Wright brothers ?

6) Where did they fly their aeroplanes first?

7) How long will an aeroplane take to go from Trivandrum to Ernakulam.



FINAL TEST

Read the following questions and choose the correct answer from those given in the brackets:-

I 1) What did Joseph do to make Mary laugh? (scolded her, asked her some questions, put out the light)

2) What was the name of Edison's father ? (Nancy, Joseph, Samuel)

3) How did Edison earn money when he was a boy? (sold newspapers, worked in a factory, worked in a press)

4) Why did the station master thank Edison? (Edison saved the boy, Edison worked at the Railway station, Edison liked science)

5) What kind of lamps did people use in those days ? (gas lamps, electric lamps, oil lamps)

II 1) How did people plough the fields in olden days ? (using machines, using horses, using electricity)

2) What was wrong with the first car ? (it could not move, it could not move forward, it could not move backward)

III 1) What is the use of a brake? (to stop a vehicle, to speed up a vehicle, to turn a vehicle)

2) Who was George Westinghouse? (an American, an English man, an Indian)

3) How many men were needed to stop a train in olden days? (few, two, many)

4) Did George succeed when he tested the airbrake? (succeeded, failed, partly succeeded)

IV 1) Who made the aeroplane first? (Wilber, Orvile, both)

2) How did the Wright brothers earn money at first? (by making cycles, by making kites, repairing machines)



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