



LESSON- 14

Pasteur And The Microbes

SOLUTIONS:

Comprehension:

I. Answer the following question in a sentence each:

1. What are the causes of many of our diseases?

Ans:- Microbes are the causes of many of our diseases.

2. What caused the disease among the silk-worms?

Ans:- Germs caused the disease among the silk-worms.

3. What did Pasteur inject to the twenty-five sheep?

Ans:- Pasteur injected a weak form of anthrax germs to the twenty five sheep.

4. How can diseases like cholera, plague etc. be prevented?

Ans:- Diseases like cholera, plague etc. can be prevented through inoculation.

5. What is hydrophobia?

Ans:- Hydrophobia is an awful disease that comes from the bite of mad dogs.

6. How many times was the boy bitten by a mad dog?

Ans:- The boy was bitten fourteen times by a mad dog.

7. What is Pasteur Institute in Paris?

Ans:- Pasteur Institute in Paris is a great centre for the study of microbes and germs.

II. Answer the following question in about 20-25 words each:

1. What revolutionized the treatment and prevention of diseases?

Ans:- Pasteur's discovery of prevention of deadly diseases like cholera, plague etc.

through inoculation, revolutionized the treatment and prevention of diseases.

2. Why did the people think that the boy would certainly die?

Ans:- People thought that the boy would certainly die because till then no one had ever recovered from the disease caused due to the bite of mad dogs.

3. How did Pasteur show that a person bitten by a mad dog could be saved?

Ans:- Pasteur cured a boy bitten by a mad dog by giving him several inoculations over a period of several days. Thus, Pasteur showed that a person bitten by a mad dog could be saved.

4. What is 'Pasteurisation'?

Ans:- 'Pasteurisation' is the process of heating foodstuff for a certain length of time to kill the bacteria in it in order to prevent the spoilage of the food.

5. Name three important discoveries of Pasteur.

Ans:- i) Pasteur discovered microbes and also that many diseases are caused by them.

ii) He discovered vaccines for many diseases eg. the anti-rabi vaccine.

iii) He also discovered the process of 'pasteurisation'.

6. In what way was Pasteur different from other contemporary scientists?

Ans:- Pasteur was different from other contemporary scientists because he always tried to be perfect in whatever he did unlike other scientists.

7. Why was Pasteur known as 'the white knight of science'?

Ans:- Pasteur was known as 'the white knight of science' because in addition to being a great scientist, he was passionately concerned with the welfare of mankind.

III. Answer the following question in about 50-60 words each:

1. Write how Pasteur saved the silk industry of France.

Ans:- The silk industry of France was threatened by a disease that attacked the silk-worms. After six years of hard work Pasteur found that it was germs that caused the disease among the silk-worms. He then found a way to kill these germs and thus saved the silk industry of France. Pasteur's fight against the microbes began from this incident.

2. Write about Pasteur's fight against the anthrax disease.

Ans:- When anthrax attacked the cattle in France, Pasteur carried out an experiment with fifty sheep. He vaccinated only twenty five of the fifty sheep by injecting a weak form of anthrax germs to develop antibodies in their body. Some days later strong anthrax germs were injected into the bodies of the entire fifty. Just as he had expected, the twenty five vaccinated sheep lived and the other twenty five caught the disease and died.

3. How did Pasteur save the nine year old boy?

Ans:- A nine year old boy bitten 14 times by a mad dog was brought to Pasteur till then, there was no cure for the disease caused by the bite of mad dogs. He tried to cure the disease by inoculation. As the boy had been bitten many times, he gave several inoculations to the boy over a period of several days. The treatment ended and the boy was saved.

4. How is 'pasteurisation' a common household vocabulary today?

Ans:- Pasteurisation process is meant for killing bacteria present in foodstuff in order to prevent spoilage of food. This technique is used at every home to prevent milk from turning sour. Today, this is widely applied in food processing. As this process has been very easy and helpful in kitchen, the term 'pasteurisation' has become a common household vocabulary.

IV. Match the group of words in column A with those in column B to make complete sentences and rewrite in the blanks provided:

A	B
1. Pasteur injected strong fluids with anthrax germs	was given inoculations for several days.
2. Pasteur showed that diseases like cholera and plague could be	among housewives to-day.
3. The boy bitten by the mad dog	to all the fifty sheep.
4. Pasteurisation is a common vocabulary	did not know about microbes.
5. Edward Jenner	prevented through inoculation.

1. Pasteur injected strong fluids with anthrax germs to all the fifty sheep.

2. Pasteur showed that diseases like cholera and plague could be prevented through inoculation.

3. The boy bitten by the mad dog was given inoculations for several days.

4. Pasteurisation is a common vocabulary among housewives today.
5. Edward Jenner did not know about microbes.

V. Write 'T' for true statements and 'F' for false statements:

1. Microbes are present all around us. T
2. Pasteur injected a strong from of anthrax
germs to develop antibodies in the animals. F
3. Hydrophobia is a disease that affects silk- industry. F
4. Pasteur proved that milk went sour because
of bacteria present in milk. T
5. Pasteur was a scientist who was deeply
concerned about the welfare of human beings. T

Vocabulary:

2.(a) Fill in the blanks with correct words selected from those given in the box:

indebted	legend	antibodies	microbes
festered	bite	pasteurisation	revolutionised

1. A hundred years ago doctors had no idea about microbes.
2. Pasteur found that a wound festered due to the action of germs.
3. When the weak anthrax germs were injected, it developed antibodies in the sheep.
4. Hydrophobia is caused by the bite of a mad dog.
5. Discovery of inoculation revolutionised methods of treatment.
6. Pasteurisation is the process of killing bacteria through heat treatment.
7. We are indebted to Pasteur for discovering treatment of diseases through inoculation.
8. Irabot is a legend in Manipur.

(b) Match the words in A with meaning in B:

A	B
festered	so many that counting is not possible
revolutionised	got well from sickness
awful	brought great change
innumerable	became septic
recovered	terrible

Ans:- festered - became septic.
Revolutionized - brought great change.
awful - terrible.
innumerable - so many that counting is not possible.
recovered - got well from sickness.

Grammar:

3. Look at the following sentence:

Now, use the Past Participle forms of the words in the box as Adjectives and fill in the following sentences to make them meaningful:

break	weaken	devote
prove	pasteurise	

1. It is a proven fact that germs cause diseases.
2. Put the pasteurised milk in a bottle.
3. I don't want to sit on a broken stool.
4. It will be easy to kill the weakened germs.
5. Tomba is a devoted husband.

Composition:

6. From your reading of the lesson, write a few sentence about what kind of man

Pasteur was. One sentence is already given. Add more of yours:

Pasteur was a hard-working scientist.

Unlike his contemporary scientists, he always tried to be perfect in whatever he did.
Pasteur was passionately concerned with the welfare of mankind. He devoted his life to fight
against diseases and revolutionised the treatment and prevention of diseases. Thus, Pasteur
was not only a great scientist but also the savior of many lives



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