

C. V. Raman, the Pride of India

Answer the following questions:

1. Why was Raman happy when he learnt that Professor Compton had won the Nobel Prize?

Answer: Raman was happy when he learnt that Professor Compton had won the Noble Prize because he was thinking of Compton Effect was true of X-rays then it must have been true of light too.

2. What does the “Compton Effect” tell us?

Answer: The “Compton effect” tells us that the nature of X-rays changes when passed through matter. The change depends on the kind of matter.

3. What was Raman’s advice to young scientists?

Answer: Raman’s advice to young scientists was to look at the world around them and not to confine themselves to their laboratories. Also, he quoted, “The essence of science is independent thinking and hard work, not equipment.”

4. Which paragraph tells about the ill health of C.V. Raman?

Answer: The seventh paragraph of the text tells us about the ill health of C. V. Raman, when on a medical ground a British surgeon advised his parents not to send him abroad for further studies.

5. What was the challenging situation when Raman started his experiment on light?

Answer: When Raman started his experiment on light, the challenging situation was lack of sophisticated equipment in his laboratory.

6. What was the unseen force working behind Raman for reaching great heights?

Answer: Raman's will power, viewpoint, keen observation of the world around him worked as the unseen force behind him for reaching such great heights. He used his observation and hard work to the optimum level to gift the world of science his effective findings and discoveries. He always emphasized on independent thinking and not only equipment. Thus he also quoted, "The essence of science is independent thinking and hard work, not equipment."

7. What is "Raman Effect"?

Answer: Raman Effect was C. V. Raman's discovery of "new radiation" which describes the behaviour of a beam of light passing through a liquid chemical.

8. If A.H. Compton had not discovered the Compton Effect, do you think Raman would have discovered the Raman Effect? Give your reasons.

Answer: Yes, Raman would have discovered the Raman Effect even if A. H. Compton had not discovered the Compton Effect. It is because Raman had been working on optics, the science of light for five years before the discovery of Compton Effect. Moreover, he was a hardworking and an intelligent person having strong will power.

It can be truly said when the announcement was made regarding Compton Effect, then Raman was already thinking about lights changing its nature.

9. In what way was Raman different from other Indian scientists? List them and justify your answer.

Answer: Raman was different from many other Indian Scientists in the following ways:

- i. He was the first Indian scholar who studied wholly in India and received the Noble Prize.

- ii. He was the 1st Asian and the 1st non-white to win the Nobel Prize in science.
- iii. When he was only 19 years old, he became a member of the Indian Association for Cultivation of Science.
- iv. With less equipment he was the only one to have created wonders in the field of science.