

The Making of a Scientist

Competency Based Questions

◆ Questions on the Extracts from the Lesson

Q.1. Read the extract given below and answer the questions that follow.

So he did, and did he ever! Beginning in kindergarten, Ebright collected butterflies with the same determination that has marked all his activities. He also collected rocks, fossils, and coins. He became an eager astronomer, too, sometimes star-gazing all night. From the first he had a driving curiosity along with a bright mind. He also had a mother who encouraged his interest in learning. She took him on trips, bought him telescopes, microscopes, cameras, mounting materials, and other equipment and helped him in many other ways. "I was his only companion until he started school," his mother said. "After that I would bring home friends for him. But at night we just did things together. Richie was my whole life after his father died when Richie was in third grade." She and her son spent almost every evening at the dining room table. "If he didn't have things to do, I found work for him — not physical work, but learning things," his mother said. "He liked it. He wanted to learn."

(a) What did Ebright collect as a child?

- (i) butterflies (ii) fossils (iii) coins (iv) all of the above [Ans. (iv)]

(b) The phrase 'driving curiosity' means the same as:

- (i) keen desire to obtain information (ii) intelligence
(iii) apathy towards knowledge (iv) concern about something [Ans. (i)]

(c) How did Ebright's mother encourage him?

- (i) by taking him on trips (ii) by bringing him a companion
(iii) by bringing home friends for him (iv) by finding work for him [Ans. (i)]

(d) What kind of work did his mother find for him?

- (i) group activities with friends (ii) work through which he could learn
(iii) physical work (iv) entertaining work [Ans. (ii)]

(e) Ebright's mother bought him equipments which him in his learning.

- (i) aided (ii) helped
(iii) benefited (iv) all of the above [Ans. (iv)]

Q.2. Read the extract given below and answer the questions that follow.

"I didn't get any real results," he said. "But I went ahead and showed that I had tried the experiment. This time I won." The next year his science fair project was testing the theory that viceroy butterflies copy monarchs. The theory was that viceroys look like monarchs because monarchs don't taste good to birds. Viceroys, on the other hand, do taste good to birds. So, the more they look like monarchs, the less likely they are to become a bird's dinner. Ebright's project was to see whether, in fact, birds would eat monarchs. He found that a starling would not eat ordinary bird food. It would eat all the monarchs it could get.

(a) Choose the option listing Ebright's qualities as depicted by the above extract.

- | | | |
|----------------|--------------|---------------|
| 1. persevering | 2. visionary | 3. determined |
| 4. liberal | 5. conceited | |

(i) 1, 2 (ii) 3, 5 (iii) 1, 3 (iv) 4, 5 [Ans. (iii)]

(b) According to the dictionary, 'fair' as a noun, shows the following meanings.

Choose the option that lists the meaning similar to the usage to that in the extract.

- (i) A gathering of stalls and amusements for public entertainment.
 (ii) A competitive exhibition showcasing products or ideas
 (iii) A periodic gathering for the sale of goods.
 (iv) An annual exhibition of livestock, agricultural products, etc., held by a town, county, or state.

[Ans. (ii)]

(c) Choose the option that is true for the two statements given about the information in the extract.

Statement 1. Starling feeds on viceroy.

Statement 2. Starling does not eat seeds and insects.

- (i) Both statements are clearly mentioned in the extract.
 (ii) Statement 1 cannot be clearly inferred from the text and statement 2 is true.
 (iii) Statement 1 is false and statement 2 cannot be clearly inferred from the extract.
 (iv) Both statements need to be inferred from the given extract.

[Ans. (iii)]

(d) Choose the statements that are TRUE for the given extract contextually.

- Ebright didn't get any results for the experiment he conducted on butterflies.
- Monarchs tasted awfully to the birds.
- Ebright wanted to explore the possibility of monarchs getting eaten by birds.
- He wanted to prove that viceroys are lookalikes of monarchs.

(i) 1, 2 (ii) 2, 3 (iii) 1, 3 (iv) 2, 4 [Ans. (ii)]

(e) Four friends bring their pets to a pet show. Choose the option that mentions the friend with a starling as a pet

Friend 1 has a turtle named Missy.

Friend 2 has a dragonfly named Majesty.

Friend 3 has a rabbit named Molly.

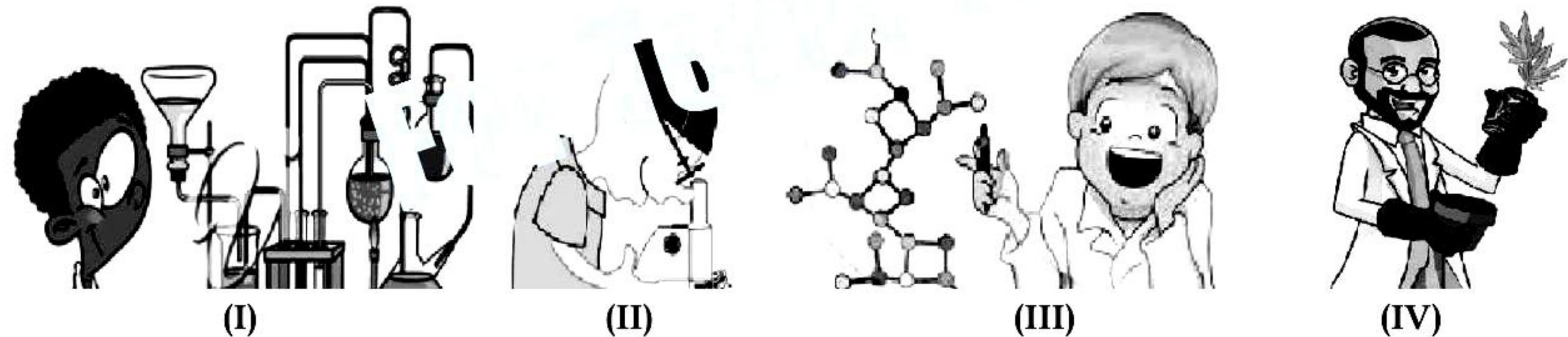
Friend 4 has a bird named Mitch.

(i) Friend 1 (ii) Friend 2 (iii) Friend 3 (iv) Friend 4 [Ans. (iv)]

Q.3. Read the extract given below and answer the questions that follow.

When he saw those photos, Ebright didn't shout, 'Eureka!' or even, 'I've got it!' But he believed that, along with his findings about insect hormones, the photos gave him the answer to one of biology's puzzles: how the cell can 'read' the blueprint of its DNA. DNA is the substance in the nucleus of a cell that controls heredity. It determines the form and function of the cell. Thus, DNA is the blueprint for life. Ebright and his college room-mate, James R. Wong, worked all that night drawing pictures and constructing plastic models of molecules to show how it could happen. Together they later wrote the paper that explained the theory.

(a) Choose the option that shows the picture of the type of task Ebright and Wong were engaged in, as per the extract.



(i) Option I (ii) Option II (iii) Option III (iv) Option IV [Ans. (iii)]

(b) Ebright was perhaps expected to shout 'Eureka!' because he had

- (i) realised that he needed a partner to work with to finalise his findings
 (ii) discovered something new and 'Eureka!' was a cry to announce it.

- (iii) worked hard and was relieved at nearing the end of his project
 (iv) given shape to the teachings of his teachers by choosing this field of science. [Ans. (ii)]

(c) **"Thus, DNA is the blueprint for life", is another way of saying that the DNA contains a genetic**

- (i) experiment (ii) ultimatum (iii) takeaway (iv) plan [Ans. (iv)]

(d) **Four newspapers published a headline about Ebright and Wong. Choose the option that published a factually correct headline, as per the extract.**

Newspaper 1	Newspaper 2	Newspaper 3	Newspaper 4
WONG DENIES CONTRIBUTING TO EBRIGHT'S THEORY	EBRIGHT COLLABORATES WITH ROOM-MATE WONG	WONG AND EBRIGHT EXAGGERATE THEIR THEORY DEFY LOGIC	EBRIGHT AND WONG'S THEORY PROVED WRONG

- (i) Newspaper 1 (ii) Newspaper 2 (iii) Newspaper 3 (iv) Newspaper 4 [Ans. (ii)]

(e) **Compound words are those words which are formed by joining two separate words to create a new word with an entirely different meaning.**

Choose the option that lists the compound words from the above extract.

1. determines 2. blueprint 3. nucleus 4. heredity
 5. room-mate

- (i) 1, 3 (ii) 2, 4 (iii) 1, 4 (iv) 2, 5 [Ans. (iv)]

Q.4. Read the extract given below and answer the questions that follow.

"Richard was competitive," Mr Weiherer continued, "but not in a bad sense." He explained, "Richard wasn't interested in winning for winning's sake or winning to get a prize. Rather, he was winning because he wanted to do the best job he could. For the right reasons, he wants to be the best." And that is one of the ingredients in the making of a scientist. Start with a first-rate mind, add curiosity, and mix in the will to win for the right reasons. Ebright has these qualities. From the time the book, *The Travels of Monarch X*, opened the world of science to him, Richard Ebright has never lost his scientific curiosity.

(a) **Richard was not competitive in a 'bad sense'. This implies:**

- (i) he wanted to give his best (ii) his motive was not just to win
 (iii) he did not want to win to get a prize (iv) all of the above [Ans. (iv)]

(b) **According to Mr. Weiherer, the ingredients in the making of a scientist include:**

- (i) a keen sense of inquisitiveness (ii) the sole desire to win
 (iii) to excel and win despite the odds (iv) to be awarded for achievements [Ans. (i)]

(c) **The statement that is NOT TRUE with respect to Ebright is:**

- (i) He was competitive
 (ii) He had the ingredients to become a scientist
 (iii) He was only interested in winning
 (iv) He won because he did the best job [Ans. (iii)]

(d) **'Richard Ebright has never lost his scientific curiosity'. This means:**

- (i) he is satisfied with the work he does (ii) he continues to be a keen learner
 (iii) he has a first-rate mind (iv) he has won all scientific competitions [Ans. (ii)]

(e) **The word 'Competitive' does not mean the same as:**

- (i) to be better than others (ii) to compete with others
 (iii) to put in one's best (iv) to be ruthless while competing [Ans. (iv)]

◆ Stand-Alone Multiple Choice Questions

1. **What did Ebright learn when he lost at the county science fair?**

- (i) it was important to do real projects
 (ii) science was not just about neat display
 (iii) conducting experiment was imperative
 (iv) all of the above [Ans. (iv)]

2. **How many tiny gold spots does a monarch pupa have?**

- (i) 12 (ii) 10 (iii) 14 (iv) 8 [Ans. (i)]

3. Why does Richard call Mr. Weiherer 'the perfect person'?

- (i) Richard admired him
- (ii) He opened Richard's mind to new ideas.
- (iii) He supported Richard
- (iv) He loved Richard. [Ans. (ii)]

4. At the age of twenty-two, a former 'scout of the year' excited the scientific world with a new theory on how cells work. Who is this scientist?

- (i) Richard H. Ebright
- (ii) Dr. Frederick A Urquhart
- (iii) Mr. Robert
- (iv) Peterson [Ans. (i)]

5. 'I was his only companion until he started school'. Who is this companion?

- (i) Ebright's brother
- (ii) his room-mate at college
- (iii) Ebright's mother
- (iv) Mr. Weiherer [Ans. (iii)]

6. By the time he was in second grade, how many species of butterflies Ebright had collected?

- (i) twelve
- (ii) twenty five
- (iii) sixteen
- (iv) twenty four [Ans. (ii)]

7. How long does the butterfly collecting season last around Reading?

- (i) twelve weeks
- (ii) four weeks
- (iii) six weeks
- (iv) eight weeks [Ans. (iii)]

8. Ebright found that a _____ would not eat ordinary birdfood. It would eat all the _____ it could get. Fill in the blanks with the right set of words.

- (i) Viceroy, monarchs
- (ii) starling, monarchs
- (iii) starling, viceroy
- (iv) monarchs, viceroy [Ans. (ii)]

9. Start with a first-rate mind, add _____, and mix in the will to win for the right reasons. Fill in the missing word from the given choices as per the text book:

- (i) hard work
- (ii) intelligence
- (iii) curiosity
- (iv) perseverance [Ans. (iii)]