

Value based questions
Biomolecules

Q1. Shudha when taught by the teacher in the class room that vitamin B12 contains a metal ion, now after the class when student will go home they have to find and tell the name of the Metal ion, but Sudha during the interval time went to the Computer lab and requested the teacher to surf the net and traced the name of the metal ion, now write down the name of the compound and state at least 2 moral virtues possessed by Sudha.

Ans - Vitamin B12 contain cobalt metal ion. This makes it larger and most complex vitamin of all. Name of metal ion is cyanocobalamin.

Moral values –

- (i) Interest in learning new things.
- (ii) Scientific temperament
- (iii) sincerity of the student

Q2. Rajni asked her maid to prepare halwa for her diabetic mother-in-law. Her maid added sugar free tablet containing two amino acids in the boiling contents. Rajni scolded her maid for this action.

- a) In your opinion, why Rajni did so?
- b) Mention values associated with your opinion.

Ans -

- a) Amino acids like cysteine has negative effect on insulin as it alter its shape and make them unable to metabolize sugar.
- b) awareness and caring nature.

Q3. DNA and RNA are the two important nucleic acids present in our body. They are very important in our life. Study of DNA is very useful in investigation of criminal cases and finding. In what ways study of DNA is useful to us? Explain. Write the value associated with this.

Ans - In forensic lab DNA testing is used for the identification of criminals because sequence of bases on DNA is unique for a person, even a new born twin has a slight difference in their DNA.

Values :

- (i) Awareness about the application of science for useful purpose.
- (ii) Care for society.

Q4. On medical checkup Snajit got to know that his vision is getting poor slowly. As soon his younger brother came to know the fact, he rushed to the market to bring some mangoes, carrot & papaya, Why, what values do you find his younger brother possesses.

Ans - Mangoes, carrot and papaya are rich source of vitamin A which promote the vision.

Values :

(i) love, care and affection for his brother.

(ii) knowledge about the food values and its applications.

Q5. The teacher fixed five cards on the flannel board that marked **A, T, C, U, G**, pick up cards that indicate bases that are not common to all nucleic acids. Which cards would Rakesh pick from the five? Of the nucleic acids picked by Rakesh, which does not form hydrogen bonding with other nucleic acids? What are the values involved in this exercise?

Ans- (i) T and U

(ii) U

(iii) Scientific attitude.