



# CHEMISTRY

**BOOKS - VK GLOBAL PUBLICATION**

**CHEMISTRY (HINGLISH)**

**VALUE-BASED QUESTIONS**

**Exercise Chapter 1 Chemical Reactions And Equations**

1. Sheena was very excited to see her Aunt after a long time. Her mother fried a lot of snacks for her Aunt. Suddenly Sheena came to know that her aunt has postponed her plan for tomorrow. Sheena's mother got worried to know this. She thought the food will get spoiled. Sheena helped her mother to preserve the food.

Answer the following questions based on above passage.

(i) Why does food spoil when kept for a very long time?

(ii) What method did Sheena suggest her mother to preserve the food?

(iii) What values are shown by Sheena?



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## Exercise Chapter 2 Acids Bases And Salts

1. Nishant is a lazy boy. He doesn't like to brush his teeth instead he rinses his mouth with water. His mother makes sure that he brushes his teeth twice a day.

Answer the following questions based on the above situation:

(i) Why does Nishant's mother insist on brushing teeth twice a day?

(ii) How is a toothpaste better than just water, for cleaning teeth?

(iii) What values are promoted by Nishant's mother?



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2. Farmers are using a large number of pesticides and fertilisers in their fields to increase crop production and to enhance their profits. But by doing so, they are causing damage to the soil as well as to the environment.

Answer the following questions based on the above situation:

(i) Do you agree with this statement?

(ii) Why should we avoid eating fruits and vegetables without washing them properly?

(iii) What values are neglected by the farmers?



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3. A student accidentally spilled concentrated  $H_2SO_4$  on his hand. Before the teacher got to know, his friend washed his hands with water and also with soap but the burning sensation on hand still continued. His friend then rubbed solid sodium bicarbonate on his hand and then washed with water, finally the burning sensation is relieved.

Answer the following questions based on the above situation:

(i) Mention the values shown by student's friend.

(ii) Can you recommend any other substance available in the laboratory which can be used instead of sodium bicarbonate?

(iii) Write the chemical reaction involved in the treatment of acid burn with sodium bicarbonate.



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**Exercise Chapter 3 Metals And Non Metals**

1. Mrs. Sharma has gone to the jewellers shop to buy gold jewellery. She asks the jeweller, if the jewellery is made of pure gold. The jeweller assure her that it is 100% gold and nothing has been mixed in it. Mrs. Sharma is happy and buys the necklace.

Answer the following questions based on the above situation:

- (i) Was the jeweller right in saying that the necklace is made of 100% gold?
- (ii) What values are promoted by the jeweller?
- (iii) What precautions should you take, while



purchasing gold jewellery?

(iv) Why does Government insist on purchasing Hallmarked jewellery?



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## Exercise Chapter 4 Carbon And Its Compounds

1. Mrs. Anita Pandey observed that her cooking utensils are becoming black in colour and the flame of her gas stove is yellowish in colour. She complains about it in the gas company

and got the gas stove repaired.

Answer the following questions based on the above situation:

(i) What can be the reason for this sooty flame?

(ii) How is this problem harmful for our environment?

(iii) What steps should be taken to stop this process?

(iv) What values are promoted by Mrs. Pandey?



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2. Ethanol, commonly called as alcohol is an excellent solvent, is used in medicines and is an important chemical compound involved in synthesis of many chemical compounds.

However, in spite of its benefits to man its impact on social behaviour has always been questioned. Media has often shown abnormal behaviour of people while drunk. It is considered as a curse in the lives of those who are addicted to alcohol. 'Alcoholic' people are not only lowering their metabolism and affecting Central Nervous System, they are also a threat to the lives of others. Anger and

rude behaviour are some of its ill effects.

Answer the following questions based on the above information:

(i) Comment on the statement-'should production of alcohol be banned?' Give three valid reasons to justify.

(ii) As a student what initiative would you take in the common concern of 'Save Life, Do Not Drink'? Give two suggestions.



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**3.** A chemical bond is an attractive force that holds the atoms together in a molecule or a compound. The element carbon is known to have the unique ability to form bonds with other similar atoms or atoms of other elements. This property of carbon has resulted in its having very large number of compounds. The carbon-carbon bond is also known to be very strong and hence stable.

Answer the following questions based on above information:

(i) Name the chemical bond formed between

carbon-carbon atoms. How is this bond formed?

(ii) Which two values are reflected in the nature of carbon resulting in its ability to form maximum number of compounds?

(iii) How can these values be helpful in strengthening relationship in a family, organisation or even people of a nation?



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**Exercise Chapter 5 Periodic Classification Of Elements**

1. Ria and Rama are students of Class - X. Ria is very much organised and maintained. The teachers love her. She earns a great respect in the class whereas Rama is unorganised and always faces a lot of problems in handling life situations.

Answer the following questions based on above information:

(i) In your opinion how does organisation help in daily life?

(ii) How can you relate the above fact with the chapter-'classification of elements'?

(iii) How does classification of elements help us in studying them properly?



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2. Dobereiner arranged the elements in the order of increasing atomic masses in a triad. The arrangement was modified by John Newlands and later by Dimitri Mendeleev. Even Mendeleev's arrangement was later modified by Henry Moseley resulting in the Modern Periodic Table. There are many other similar



examples in the history of scientific advancement where theories and novels were modified by later scientists and the original contributors accepted these modifications happily .

Answer the following questions asked on the above information:

- (i) How does the Modern Periodic Law given by Moseley differ from Periodic Law stated by Mendeleev?
- (ii) What scientific values can be associated with the above anecdotes?
- (iii) Give an example from your life experiences

so far that reflects display of such values by you.



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## Exercise Chapter 6 Life Processes

1. Aanchal loves to eat clips, burgers and chocolates. Her parents always discourage her to eat junk food.

Answer the following questions based on the situation mentioned above.

(i) Why do you think Aanchal's parents do not let her eat junk food?

(ii) What values are they promoting?

(iii) How can children be persuaded to eat healthy food?



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2. Ralml wants to build up his body very quickly without following right exercise regime and balanced diet. Instead he started eating readymade food supplements.

Answer the following questions based on the situation mentioned above.

(i) In your opinion did Rahul take the right step?

(ii) What are the harmful effects of taking artificial health supplement without consulting a physician.

(iii) What values are being ignored by Rahul?



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3. Om, Rohit and Kishore always remain in a hurry. One day, during lunch hour Om and Rohit started gulping food quickly. Kishore told them to eat slowly. But they didn't listen to him and went out to play. Om suddenly developed stomach ache while playing.

Answer the following questions based on the situation mentioned above.

(i) What according to you might have gone wrong with him?

(ii) What advice would you give to him?

(iii) What values are promoted by Kishore?



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4. It is said, 'Excess of everything is bad'.

Examine the following situations in the light of above statement.

(a) A plant is watered 4-5 times a day excessively.

(b) A person overeats for more than 6 months.

(c) A student watches television for 6 hours a day regularly.

Answer the following questions based on the above information:

(i) Which life sustaining values are getting neglected in the above situations?

(ii) What are the adverse effects of activity (c) above? How can the adverse effect of this activity (c) be minimised?

(iii) Suggestive one more similar situation from everyday which should be avoided.



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5. Meena who is studying in Class-X gets tired very soon and her skin colour is turning pale,

her haemoglobin content in the blood is also low. She is really confused about this situation. She goes to the doctor and he gives her a diet plan along with some medicines.

Answer the following questions based on the above information:

- (i) Which disease is she suffering from?
- (ii) What kind of diet should she take to overcome this problem?
- (iii) What values were neglected by Meena that resulted in the present condition?



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**6.** Sohan went to his town, Agra, 200 km away from Delhi with his father in a car. On the way there was lot of traffic jam. Sohan, after reaching his town, felt nauseated and had a headache because he had inhaled lots of toxic polluted gases.

Answer the following questions based on the above information:

(i) Which system/part of his body has been affected?

(ii) What steps could be taken to reduce air

pollution?

(iii) What values are exhibited by people?



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## Exercise Chapter 7 Control And Coordination

1. Mayank's father never bothered to check the brand/contents of the salt he had purchased from the market. Mayank noticed that her sister had developed swollen neck. The doctor advised her to eat iodised salt.

(i) Name the disease from which Mayank's sister suffered.

(ii) Why has the doctor advised her to eat iodised salt?

(iii) How will this incidence influence Mayank's attitude towards health?



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2. Rahul got a bike on his 18th birthday from his parents. His father instructed him to always wear helmet while driving. He

reluctantly obeys him but does not tie the straps of helmet properly.

(i) According to you, what danger Rahul can face in future while he is driving his bike.

(ii) Which vital organ/organs get protection by wearing the helmet while driving the two wheelers?

(iii) What values are being neglected by Rahul?



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**Exercise Chapter 9 Heredity And Evolution**

1. In a quarry of sandstone, a digger found some bones below the rocks. He took them out and was about to throw them away when his fellow digger told him that this could be a fossil and they should hand it over to the museum.

Answer the following questions based on the above situation:

(i) Which values are promoted by the fellow digger?

(ii) What contributions are the diggers making to the scientific world?

(iii) Imagine yourself to be the person in the museum whom the diggers approach. What would be your response to the diggers' discovery?



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## Exercise Chapter 10 Light Reflection And Refraction

1. Shekhar had to go for an important meeting and it was raining heavily. He was getting too

late. While driving his car, he saw from his side mirror that the car which was behind his car had met an accident. He suddenly applied the brake to help the injured person though he was getting late for his meeting. He alone took the person to the nearest hospital. The person got the treatment at the right time and his life was saved.

Answer the following questions based on the situation given above.

(i) Name the type of mirror from which Shekhar saw the accident.

(ii) Why this particular mirror is used as a side

mirror in vehicles?

(iii) What values are being reflected by Shekhar?



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2. A detective is tracking some criminals. He finds a clue to their whereabouts on a piece of paper. On the paper is written:

meet me at noon

He tries to decode it but is unsuccessful. Suddenly it strikes him and he takes a mirror.



He places the mirror in front of the paper and voila he decodes the clue- 'meet me at noon'.

Answer the following questions based on the situation given above.

(i) What values are being promoted by the detective?

(ii) Write one use of such mirror images on a daily basis. Write STOP as it should be written on the front of a police car.



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3. While boating with parents, a child saw a beautiful fish in the lake. He tried to catch it, thinking that it is very close to the boat. His parents told him that the fishes are deep in water and he should not try to catch them. But he did not listen to them and the situation became worse when he fell in the lake instead of catching it.

Answer the following questions based on the situation given above.

(i) Why did the fish appear close to the boat

when in actual it was deep in water?

(ii) What values are neglected by the child?



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## Exercise Chapter 11 The Human Eye And The Colourful World

1. News spread in the school that a student of Class IX-A has expired due to heart attack, but he has donated his beautiful eyes to one of his friends. All the members of school felt very sad

for his untimely death, but on the other hand they were overwhelmed on hearing the donation of his eyes to his friend, who would now be able to see this beautiful nature.

Answer the following questions based on the situation given above.

(i) Do you think that the student who expired had done good job? Is it worth to donate vital organs?

(ii) What values are promoted here?

(iii) What other organs can be donated after dying?



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2. On the rainy day, Ram reached his grandfather's place in village. On the way to house he saw a beautiful rainbow in the sky. In night, he saw lots of twinkling stars in the clear sky. He was very excited to see these beautiful natural phenomena, which he was not able to see in the city, where he lived with his father.

Answer the following questions based on the situation given above.

(i) Do you think that pollution in atmosphere

affects the formation of rainbow and twinkling of stars?

(ii) Do you agree with the fact that pollution-free environment will strengthen such natural phenomena in the cities as well?

(iii) What steps can be taken so that the natural phenomena can be enjoyed in cities as well?



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3. Sania and Shreya are best friends and study in grade 4. Recently, Sania has been facing difficulty in reading the blackboard text from the last desk. Shreya is little uncomfortable and wonders why Sania complains sitting on the last desk. On observation she found that Sania often carries junk food in her lunch. Shreya has started sharing her lunch - full of green vegetables and fruits with her. Sania is now better and has also started taking a 'balanced diet'.

Answer the following questions based on the

above situation:

(i) Name the eye defect Sania is suffering from? What are the two possible reasons related to her eye defect?

(ii) What value is displayed by Shreya and Sania?

(iii) How can this value be promoted? Suggest one activity.



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4. A team of eye specialists visited a village and examined number of villages for any vision defects. They observed that many villagers suffered from different defects of vision. They left and came back after a month with required medicines and equipment for treatment. The eye treatment camp continued for one week. The doctors as well as villagers were extremely happy after the event.

Answer the following questions based on the above information:

(i) Which values made the doctors happy?

Name any two actions on your part as an individual which you can take to get similar kind of happiness in other everyday life situations.

(ii) Assuming yourself to be a doctor in this event, suggest one more help or action related to eye defects to help the villagers further.



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5. (a) Write the function of each of the following parts of human eye:

Cornea, iris, crystalline lens, ciliary muscles.

(b) Millions of people of the developing countries of world are suffering from corneal blindness. These persons can be cured by replacing the defective corner with cornea of a denoted eye. A charitable society of your city has organised a campaign in your neighborhood in order to create awareness about this fact. If you are asked to participate in this mission how would you contribute in

this noble cause?

(i) State the objective of organising such campaigns.

(ii) List two arguments which you would give to motivate the people to donate their eyes after death.

(iii) List two values which are developed in the persons who actively participate and contribute in such programmes.



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6. Write the importance of ciliary muscles in the human eye. Name the defect of vision that arises due to gradual weakening of the ciliary muscles in old age. What type of lenses are required by the persons suffering from this defect to see the objects clearly?

Akshay, sitting in the last row in his class, could not see clearly the words written on the blackboard. When the teacher noticed it, he announced if any student sitting in the front row could volunteer to exchange his seat with Akshay. Salman immediately agreed to

exchange his seat with Akshay. He could now see the words written on the blackboard clearly. The teacher thought it fit to send the message to Akshay's parents advising them to get his eyesight checked.

In the context of the above event, answer the following questions:

(a) Which defect of vision is Akshay suffering from? Which type of lens is used to correct this defect?

(b) State the values displayed by the teacher and Salman.

(c) In your opinion, in what way can Akshay

express his gratitude towards the teacher and Salman?



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## Exercise Chapter 12 Electricity

1. One day the science teacher was teaching in her class, one of her student seemed very sad. The teacher asked her the reason. She told the teacher that a mishap took place in her locality where four members of a family died

as they were trying to steal electricity by connecting a conducting wire with the live wire on the street.

Answer the following questions based on the situation given above.

(i) Do you think this practice of electricity theft is good?

(ii) What advice would you like to give to improve such mind-set?



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2. Mukesh returns home from the hostel during vacation. He notices that members of his family are very carefree about use of electric energy at home and often leave the lights, fan or the refrigerator on, even when not required. He talks to his family members at the dinner table and requests them to be more careful about use of electrical energy and the impact of excessive use of this energy on environment.

Answer the following questions based on the above information:

(i) Write two adverse effects of wastage of electrical energy on environment. (ii) Which two values are reflected in Mukesh's thoughts and actions.

(iii) Mention one more action which Mukesh may take to convey his message of avoiding wastage of electrical energy to members of society.



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**Exercise Chapter 13 Magnetic Effects Of Electric Current**

1. Mr. Sharma, a property dealer, had many expensive appliances at his home like refrigerator, air conditioners, geyser, etc. but he forgot to put earth wire connections to these appliances. One day his younger daughter opened the fridge and suffered a severe electric shock though, she was saved.

Answer the following questions based on the situation given above.

(i) Why did it happen?

(ii) How can one save himself/herself from electric shocks by these electrical appliances?

(iii) What values are being neglected by Mr. Sharma?



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## Exercise Chapter 14 Sources Of Energy

1. In a school, there are seventy teachers and most of them have their personal vehicles. There are many teachers who come from the same place but everyone prefers coming by their personal vehicle. On the other hand, the

students of the school either come by buses or by car pooling.

Answer the following questions based on the situation given above.

(i) Whose practice of commuting to school is nature friendly? Justify your answer.

(ii) What values are being promoted by teachers and students?

(iii) In what other ways can we become nature friendly?



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2. In a village people burn wood and cow dung as fuel for basic necessity. In another nearby village, people have a bio-gas plant in which bio waste is used to prepare bio gas which is supplied to all the houses of the village.

Answer the following questions based on the situation given above.

- (i) If we compare the situation of both villages, which practice is the best and why?
- (ii) What values are promoted by each village?
- (iii) Suggest some other ways that can be employed for saving resources?



## Exercise Chapter 15 Our Environment

1. Achal 's teacher is teaching their class about fuels today. She tells them 'Always turn off the engine of your car at red lights'. The next day Achal's father drives him to school. At the red light he does not turn the engine off. When Achal asks him to do so he says that the light is of short duration and this won't save the fuel.

Based on the above statement, answer the following questions.

(i) Which type of fuel is used in vehicles? Is it renewable or non-renewable?

(ii) How can you contribute towards saving these fuels at your level?

(iii) What values are being neglected by Achal's father?



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2. You observe that a gardener working in the park near your house collects the dry leaves from the garden and burns it. He also uses synthetic fertilisers for growth of plants.

Answer the following questions based on the above information:

(i) Which environmental values is the gardener disrespecting?

(ii) How can the first activity be changed to make it environmental friendly?

(iii) How can the second activity be changed to promote environmental health?

(iv) Suggest one activity to inculcate such environmental values in students.



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**3.** You are walking by a store along with your friend. Both of you see a poster on the wall saying 'Say No To Plastics'. Your friend disagrees with the content of the poster and recounts the uses and advantages of plastic. You contradict him saying that plastics are harmful to the environment.

Answer the following questions based on the above information:

(i) Which values are being disrespected by your friend by not agreeing with you?

(ii) How will you convince him that plastics are harmful to the environment?

(iii) Government has banned the use of plastics and has asked to use paper bags or jute bags instead. How will you get the decision implemented effectively?



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4. Plastic production is increasing day by day in spite of the fact that plastic is harmful for the environment.

Based on the above statement answer the following.

(i) What are the harmful effects of plastic usage?

(ii) In our day to day situation what are the alternatives that we can use instead of plastics.



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5. Write any three characteristics of a food chain. Dharmesh always treated the chemical effluent before disposing it in the water body. Mention any three moral values possessed by Dharmesh.



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**Exercise Chapter 16 Management Of Natural Resources**

1. Chipko movement was started in 1970s in a small village of Garhwal high up in Himalayas. Villagers stood against greedy contractors. Women folk hugged the trees. The Chipko movement (as it was called) spread slowly to all nearby areas under the leadership of Shri Sunder Lal Bahuguna.

Answer the following questions based on the above information:

(i) Do you feel inspired by this movement which prevented felling of trees? Who do you think are the real stakeholders?

(ii) Which old belief has been challenged by Chipko movement?

(iii) What values does Chipko movement invoke?



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2. There are certain NGOs which motivate the general public to donate clothes, books, toys, stationary items, utensils, etc. to them. These NGOs further segregate and distribute these items to the needy.

Answer the following questions based on the above information:

(i) In your opinion what objective/objectives are fulfilled by this initiative?

(ii) What values do they promote?



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3. Reena is a student of Class X of a Government School. She is a member of "Eco club" of her school.

Answer the following questions based on the



above information:

(i) What suggestions would you like to give Reena to improve the environment in her school?

(ii) What values are promoted by Reena?



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4. 'Saving for the rainy day' is a popular proverb which means saving something for the times when it may not be available. Examine the practice of 'Rain water

harvesting'.

Answer the following questions based on the above situation:

(i) Explain briefly the term 'Rain water harvesting'.

(ii) Which values are promoted through the practice of rain water harvesting?

(iii) Suggest two activities on the part of the school to promote this practice. How can these activities promote environmental values in the community?



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5. Few years back, disposable plastic cups were used for serving tea in trains. The impact caused by the disposal of millions of these cups on a daily basis caused a serious environment concern and disposable Kulhads, made of clay, were used instead. However, this resulted in loss of the fertile top-soil and hence was discontinued and has now been replaced by disposable paper cups.

Answer the following questions based on above information:

(i) What is the advantage of using disposable

paper-cups over disposable plastic cup?

(ii) Which values are promoted by using 'disposable' and 'paper cups'.

(iii) Can such practices be followed at domestic level also? Give reasons.



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6. My sister is in habit of keeping the tap open while brushing her teeth. She loves to bathe under shower. My neighbour uses hosepipe attached to drinking water supply pipe for

washing his scooter and car. According to me their way of handling the most precious source water is absolutely wrong.

On the basis of the above information answer the following questions.

(i) Do you agree with me or not?

(ii) What changes in the above situation can be done to conserve water.

(iii) What values are promoted by me?



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7. Sneha and Sugandha are friends. Sneha belongs to a rich family and she believes in throwing and discarding the things after use while Sugandha does not like wastage and she reuses the things.

On the basis of the above information answer the following questions.

(i) How does reusing the things avoid wastage?

(ii) List any two examples where you can reuse the things.

(iii) What change can you make in your habits

to become more eco-friendly.

(iv) What values are showed by Sugandha?



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8. Sartaj, a Class-X student, is a resident of Srinagar. He sees tourists roaming around throughout the year. He likes to see new people in his native place but one thing disturbs him. They throw plastic covers, bottles and other litter here and there. He picks up the waste and throws it in the

dustbins whenever he can.

On the basis of the above information answer the following questions.

(i) As a responsible citizen of the country what two precautions you would take while visiting tourist place.

(ii) What values are promoted by Sartaj?



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**9.** Some residents of your colony are planning to cut trees to create a place for parking



vehicles. You are upset by knowing all this and wanted to do something to create awareness about the importance of trees.

(i) List any three reasons that you will use to convince residents of your colony not to cut the existing trees.

(ii) List any three values that would be inculcated amongst them with such approach.



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