



# **BIOLOGY**

## **BOOKS - S CHAND BIOLOGY (HINGLISH)**

### **MANAGEMENT OF NATURAL RESOURCES**

**Exercise**

1. What are fossils fuels ? Name any three fossil fuels.



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2. Name the major programme started to replenish forests.



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3. Apart from the availability of forest products, name two other things which are effected by the destruction of forests.



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4. Name the rivers with which the following dams are associated :

(a) Tehri Dam (b) Sardar Sarovar Dam (c )  
Bhaker Dam



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5. Name two factors which can be used to find whether river water has been contaminated.



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6. Name the bacteria whose presence in water indicates the contamination with disease-causing micro-organisms.



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7. With which process are the following ancient structures associated?

Kulhs, Eris, Surangams, Kattas, Pynes



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8. Which fossil fuel is conserved :

(a) when we save on electricity ?

(b) when we use bicycle for covering short distances instead of a motorbike ?



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**9.** What do you mean by rainwater harvesting?



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**10.** What is the name of the process in which rainwater falling on the earth is stopped from flowing and made to percolate into the ground ?



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**11.** Name the most common practice of recharging ground water.



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**12.** The pH of a river water sample as measured by pH paper is found to be 6. What does it tell us about water ?



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**13.** Name the person who is most remembered for the protection of Khejri trees in Rajasthan.



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**14.** State whether the following statement is true or false :

Chipko Andolan was associated with the conservation of wild animals such as tigers and lions.

A. True



B. False

C.

D.

**Answer: B**



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**15. Write the full names of (a) CFL, and (b) CFC.**



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**16.** Choose one term from the following which include all others :

coal, natural, gas, fossil, fuels, petroleum



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**17.** Why is the process of 'reuse' better than that of 'recycling' ?



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**18.** Name a clean gaseous fuel other than LPG and natural gas.



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**19.** Fill in the following blanks with suitable words :

(a) LPG is a ..... Fuel but biogas is not a ..... fuel.

(b) Glaciers are a source of .....

(c ) One of the main aim of management of

forests and wildlife is to conserve the .....

Which we have inherited.

(d) Khadin is a traditional ..... harvesting system in Rajasthan.

(e) When a fuel burns in an insufficient supply of air, then some poisonous gas called ..... is also produced.



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**20. MEANING AND HOW TO ACHIEVE  
SUSTAINABLE DEVELOPMENT**





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21. What is silviculture ? What are its advantages ? What are its advantages ?



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22. Write a short note on 'Chipko Andolan' (Hug the Trees Movement).



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**23.** Why should we conserve forests and wildlife?



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**24.** Describe briefly the 'Khadin' system of rainwater harvesting practised in Rajasthan.



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**25.** What measures would you take to conserve electricity in your house?



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**26.** Although coal and petroleum are produced by degradation of bio-mass, yet we need to conserve them. Why?



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**27.** Is water conservation necessary ? Give reasons.



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**28.** What are the three R's to save the environment ? Explain with one example of each.



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**29.** What are the main uses of coal and petroleum products ?



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**30.** State any five steps to reduce the consumption of coal and petroleum products.



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**31.** Explain why, despite good rains, we are not able to meet the demand for water of all the people in our country.



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## **32. CASE STUDY OF PEOPLE'S PARTICIPATION IN CONSERVATION OF FORESTS**



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**33.** Explain briefly, how rainwater harvesting is done from open spaces around the buildings in city areas.



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**34. (a)** What is a natural resource ? Name three important natural resources.

**(b)** Why do we need to manage our natural resources ?



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**35. (a)** State the advantages of constructing dams across the rivers.

**(b)** Describe some of the problems associated with the construction of dams.





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**36.** Name any five sources of water (other than rivers)

(b) Describe how, the water of river Ganga has been highly polluted.



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**37.** (a) What is meant by rainwater harvesting ?

Name some of the ancient structures used for rainwater harvesting by the rural people.

(b) What are the various advantages of water stored in ground ?



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**38.** The Bishnoi community of Rajasthan is associated with the conservation of :

A. coal and petroleum

B. forests and wildlife

C. water resources

D. abiotic environment

**Answer: B**



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**39.** The Chipko Andolan is associated with :

A. Tigers

B. Turtles

C. Trees

D. Tomatoes

**Answer: C**



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**40.** Amrita Devi Bishnoi was associated with :

- A. preventing the custom of child marriage  
in Rajasthan
- B. campaign to save the girl child
- C. conservation of cultural heritage of  
Rajasthan
- D. conservation of forests and wildlife

**Answer: D**



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**41.** One of the following is not a direct stakeholder in the management (or conservation) of forests. This is :

A. the people who have paper mills.

B. the people who run the forest department



C. the people who campaign for the conservation of forests

D. the people who live in urban area

**Answer: D**



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**42.** The river water is said to be polluted with acidic wastes if the pH of river water is :

A. zero

B. above 7

C. below 7

D. exactly 7

**Answer: C**



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**43.** The major programme started to replenish the damaged forests is called :

A. horticulture

B. tissue culture

C. agriculture

D. silviculture

**Answer: D**



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**44.** With which tree Amrita Devi Bishnoi is associated ?

A. khajoor

B. khejrali

C. khejri

D. keekar

**Answer: C**



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**45.** One of the following does not contribute in producing acid rain. This one is :

A. sulphur dioxide

B. carbon dioxide

C. nitrogen oxides

D. carbon monoxide

**Answer: D**



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**46.** The poisonous gas which reduces the oxygen-carrying capacity of blood to a large extent is :

A.  $SO_2$

B.  $NO$

C.  $CO$

D.  $CO_2$

**Answer: C**



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**47.** Which of the following is not an ancient water harvesting structure ?

A. kattas

B. sargam

C. kulhs

D. surangams

**Answer: B**



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**48. Snakes are killed in large numbers because**

**:**

A. they are very poisonous

B. they kill rats

C. their skin is expensive

D. they damage the crops

**Answer: C**



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**49. Which of the following is not a fossil fuel ?**

A. LPG



B. natural gas

C. biogas

D. CNG

**Answer: C**



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**50.** Which of the following is not a natural resource ?

A. soil

B. water

C. electricity

D. natural gas

**Answer: C**



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**51.** The most rapidly dwindling natural resource in the world is :

A. water

B. soil

C. sunlight

D. forests

**Answer: D**



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**52. Which of the following is not a natural resource ?**

A. snake

B. wind

C. wooden house

D. mango tree

**Answer: C**



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**53.** The three R's which can help us to conserve natural resources for long term use are :

A. recycle, regenerate, reuse

B. reduce, regenerate, reuse

C. reduce, reuse, redistribute

D. reduce, recycle, reuse

**Answer: D**



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**54.** The main reason for the abundant colidorm bacteria in the water of river Ganga is :

A. immersion of ashes of the dead into the  
river

B. washing of clothes on the banks of river

C. discharge of industrial wastes into river  
water

D. disposal of unburnt corpses into river  
water

**Answer: D**



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55. The pH of a sample of water collected from a river is found to be in the range of 3.5 to 4.5. The most likely reason for this is the waste being discharged into the river from a :

A. soap and detergent manufacturing factory

B. car battery manufacturing factory

C. alcohol manufacturing factory

D. plastic cups moulding factory

**Answer: B**



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56. Which of the following statement is incorrect ?

A. economic development is linked to environmental conservation

B. sustainable development meets the current basic human needs and also preserves resources for future generations



C. sustainable development does not take into consideration the viewpoints of all stakeholders

D. sustainable development is a long planned and persistent development

**Answer: C**



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**57. Arabari forest of Bengal is dominated by :**

A. Teak

B. Sal

C. Bambooo

D. Mangroove

**Answer: B**



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**58.** Groundwater will not be depleted due to :

A. process of afforestation

B. establishing thermal power plants

C. process of deforestation

D. cultivation of high yielding varieties of  
crops

**Answer: A**



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**59.** Ahars, Kattas, Bhundhis and Khadins are  
the modes of :

A. grain storage

B. soil conservation

C. water harvesting

D. cold storage

**Answer: C**



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**60.** Which of the following combination of terms has no fossil fuel ?

A. wind, ocean, coke

B. kerosene, tide, wind

C. wood, wind, sun

D. petrol, wood, sun

**Answer: C**



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**61.** The use of one of the following is eco-friendly. This one is :

- A. cars for transportation
- B. polybags for shopping
- C. windmills for generating power
- D. dyes for colouring clothes

**Answer: C**



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**62. Khadins are used in Rajasthan to :**

- A. hold water for irrigation

B. recharge groundwater

C. promote soil erosion

D. trap wild animals

**Answer: B**



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**63.** In a village, farmers started cultivating crops all around a lake which was always filled with water. They added lot of materials W to the soil in their fields to increase the yield of

crops. Soon they found that the whole surface of water in the lake was covered with a green layer made up of tiny organisms X. After some time, the fish present in the lake started dying in large numbers they could not get sufficient Y due to a process Z which had occurred in lake water and drained out all the Y present in the water of lake.

(a) What do you think materials W are ?

(b) Name (i) X, and (ii) Y.

(c) What is the process Z known as ?

(d) What happens during the process Z which uses up all the Y present in lake water ?



(e) What does this example tell us about the use of materials like W ?



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**64.** There were lot of organisms A in the crop fields in an area. These organisms used to feed on organisms B also present in the crop fields but which damaged the standing crops. One day some people arrived in the fields and killed all the organisms A so that they could remove their C for making fancy items which were in

great demand. Due to large scale killing of A, the population of B increased too much damaging all the crops in the area and causing a famine-like situation. Apart from A, there is another organism D which can also kill and eat B. Name A, B C and D.



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**65.** There are two important fuels A and B both of which are extracted from deep inside the earth. Fuel A is a thick, dark, foul smelling

liquid whereas fuel B is a black solid. Combustion of both the fuels produces products, C, D, E and F. The product C makes the rainwater only slightly acidic but it is mainly responsible for causing global warming. The product D is neither acidic nor basic. It is harmless and does not affect the environment in any way. Both E and F attack breathing system of humans and are mainly responsible for causing acid rain. In addition to combustion of fuels A and B, the product F is also formed when lightning occurs in the sky.

(a) What are (i) fuel A, and (ii) fuel B ?

(b) Name (i) C (ii) D (iii) E, and (iv) F

(c ) What is the process of formation of F during lightning known as ?

(d) Which fuel is supposed to be exhausted sooner : A or B ?

(e) Which fuel is mostly used for generating electricity at thermal power plants ?



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**66.** A man bought a device X which could cook pulses, vegetables and rice without using any fuel like wood, coal, kerosene or LPG, etc. The device did not work at night. It also took a lot of time for cooking.

(a) Name the device X.

(b) What is the source of energy which cooks food in this device ?

(c ) What is the name of the process which traps energy in this device ?

(d) State one advantage (other than saving on fuel) of using such a device for cooking food.



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**67.** A person buys two electrical devices P and Q for lighting purposes in his house. The device P consumes only 5 units of electricity in a month but device Q consumes 15 units of electricity in a month when used for the same number of hours daily. The device Q wastes a lot of electricity by radiating energy C but P does not do so.

(a) What type of device is (i) P, and (ii) Q ?

(b) Name one component which is present in

Q but not in P.

(c) Name the energy C.

(d) Which device is more energy efficient : P or Q ?

(e) Which fossil fuel is most likely to be conserved if all of us switch over to devices like P ?



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**68.** What changes can you make in your habits to become more environment- friendly?



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**69.** What would be the advantages of exploiting resources with short-term aims?



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**70.** How would these advantages differ from the advantages of using a long-term perspective in managing our resources ?



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71. Why do you think that there should be equitable distribution of resources? What forces would be working against an equitable distribution of our resources?



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72. Why should we conserve forests and wildlife?



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**73.** Suggest some approaches towards the conservation of forests.



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**74.** Find out about the traditional systems of water harvesting/management in your region.



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**75.** Compare the above system with the probable systems in hilly/mountainous areas or plains or plateau regions



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**76.** Find out the source of water in your region/locality. Is water from this source available to all people living in that area?



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77. What changes would you suggest in your home in order to be environment-friendly?



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78. Can you suggest some changes in your school which would make it environmentfriendly?



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**79.** We saw in this chapter that there are four main stakeholders when it comes to forests and wildlife. Which among these should have the authority to decide the management of forest produce? Why do you think so?



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**80.** How can you as an individual contribute or make a difference to the management of (a)

forests and wildlife, (b) water resources and (c) coal and petroleum?



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**81.** What can you as an individual do to reduce your consumption of the various natural resources?



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**82.** List five things you have done over the last one week to

(a) conserve our natural resources.

(b) increase the pressure on our natural resources.



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**83.** On the basis of the issues raised in this chapter, what changes would you incorporate

in your lifestyle in a move towards a sustainable use of our resources?



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## Long Answer Type Questions

1. (a) Name the major industries which are based on forest produce.  
  
(b) State the main aim of the management of forests and wildlife.



(c ) Name the four main stakeholders in the management of forests and wildlife.



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## Value Based Questions

1. Suman purchased a number of earthen flower pots (gamle) and planted beautiful plants in them by adding proper fertiliser to the soil. She started watering these plants everyday by putting lots of water in the

earthen flower pots. After about one month, Suman noticed that though most of the potted plants were growing well and appeared to be healthy, but one of the plants was on the verge of dying (though it was being watered daily alongwith other potted plants). Suman told about this problem to her friend Geeta. Geeta examined the earthen flower pot of this dying plant carefully including its bottom and immediately understood what the problem was. She advised Suman to change the earthen pot of this plant. Suman then shifted this plant to another earthen pot and watered

it. The same plant now started growing normally and became a healthy plant after some time.

(a) What defect do you think could have been observed by Geeta at the bottom of earthen pot of this plant ?

How was this defect affecting the growth of plant and making it almost die ?

(c ) Which life process could not be performed efficiently by the roots of this plant under these conditions ?

(d) What special term is used for the condition which existed in this particular earthen flower

pot ?

(e) Why did Suman use another earthen pot for this plant ?

(f) What values are displayed by Geeta in this incident ?



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2. Abhinav was participating in a marathon (long distances race). He was running at position two right from the beginning. Just when he was nearing the finishing line, he

started running even faster so as to stand first. And when he was about to win the marathon, he got a severe muscle cramp in his leg. This cramp prevented Abhinav from running any further and shattered his dream of winning the marathon.

(a) Which process provides most of the energy to Abhinav for running the marathon ?

(b) which process provides a little extra energy to Abhinav for running very, very fast towards the end of race ?

(c ) Which substance gets accumulated in the leg muscles of Abhinav that causes muscle

cramp ?

(d) Why does this substance get accumulated in the leg muscles of Abhinav ?

(e) What advice will you give to Abhinav so as to get relief from this cramp ? How will it help ?



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**3.** One day Mohan had a severe toothache. His father took Mohan to a dentist. The dentist examined all the teeth of Mohan very carefully

and said that he had tiny holes in his two teeth. He also told Mohan that all his teeth were covered with a sticky, yellowish layer. The dentist performed a certain procedure on his two teeth having tiny holes and also gave him some medicines. Mohan's toothache disappeared gradually.

(a) What are the tiny holes in the teeth known as ?

(b) How are the tiny holes formed in the teeth ?

(c) What kind of procedure was performed by dentist on Mohan's two teeth ?

(d) What is the sticky, yellowish layer on Mohan's teeth known as ?

(e) How is the sticky, yellowish layer formed on the teeth ?

(f) What advice will you give to Mohan to avoid such dental problems in future ?



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**4.** Abhishek's house is very near to a main road crossing having traffic signals. It was a Diwali night and there was a big traffic jam on the



main road just outside his house. All the neighbours of Abhishek and other colony residents were also bursting crackers and enjoying many other types of fireworks. Abhishek's 70 year old grandmother, who was watching the fireworks, was taken ill suddenly. She complained of difficulty in breathing and also felt nausea and headache. Abhishek's grandmother was rushed to a nearby hospital where the doctors made her inhale some medicine and then put her on oxygen for some time. Abhishek's grandmother recovered fairly quickly. The doctor advised his

grandmother to remain inside the house for that night with all the doors and windows closed. The doctor also asked her to buy a small, portable oxygen gas cylinder and use it to breathe at home if she felt suffocated again.

(a) What made Abhishek's grandmother suddenly ill ?

Which system/body part of grandmother got affected ? Why was only Abhishek's grandmother affected ?

(c ) Give two reasons for this condition of Abhishek's grandmother.

(d) What deficiency was caused in the body of Abhishek's grandmother ?

(e) Why was grandmother advised to remain inside the house all the time with doors and windows closed ?

(f) What advice would you give to others to avoid such a situation ?



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5. Shyam had just recovered from dengue fever for which he was confined to bed for

many days. He was really fed up and wanted to go out with his friend Ram. So, Ram and Shyam went out into city forest for a walk. While walking in the city forest, Shyam fell down and got a cut on his would stop automatically after some time. But this did not happen. The bleeding from cut went on continuously. After some time, Shyam also started having breathing difficulty and he now wanted to go back home. Ram held Shyam firmly by the arm to give support and both came out of the city forest. Ram then hailed a taxi and took Shyam straight to the hospital.

He told everything to doctors. After performing some tests quickly, doctors gave blood transfusion to Shyam. His parents were also informed.

(a) Which component was deficient in the blood of Shyam which led to too much bleeding from the cut ?

(b) Could the deficiency of this component of blood have been caused by dengue ?

(c ) What is the function of this component in our body ?

(d) What could be the probable reason for the breathing difficulty of Shyam ? Explain.

(e) What is the cause of dengue disease : virus, bacteria or protozoa ? Name the carrier which spreads dengue.

(f) What values are displayed by Ram in this episode ?



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6. Meena is always in a hurry. She just gulps her food quickly and rushes out to play badminton with her friend. Moreover, she is fond of eating junk food such as burgers and

pizzas. Meena hates to eat fresh green vegetables and prefers only pulses (dal). Meena usually complains of stomach ache while playing. Meena looks pale, feels very weak and tires easily. Her nails are turning white and she has also started losing weight.

(a) What could probably be the reason for Meena's stomach ache while playing ?

What is the harm of eating too much junk food ?

(c ) Name the disease Meena is suffering from which makes her look pale, feel very weak and tired, and lose weight.

(d) What is the cause of Meena's disease ?

(e) How does this disease affect Meena ?

Explain.

(f) What advice would you give to Meena to get rid of all the ailments described above ?



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7. Raman's 50 year old ailing uncle Vinod was admitted to a hospital. The doctors performed many blood tests and found that the blood of Vinod contained some unwanted wastes in it.



These wastes had accumulated in blood due to non-functioning of a pair of vital organs in the body of Vinod. The doctors suggested two options for the treatment of Vinod so as to save his life. Raman is a student of class X who has studied various life processes in detail. So, he could easily make out the ailment his uncle was suffering from.

(a) What could be the pair of organs of Vinod which were not functioning properly ? Where are these organs located in the body ?

(b) What is the function of these organs ?

(c ) Name the major waste which is removed

by these organs from the blood.

(d) Name the ailment (or disease) Vinod is suffering from.

(e) What could be the two options for the treatment of Vinod ?

(f) What advice Raman could give to others so as to prevent such an ailment ?



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**8.** Rashmi lives alone in Delhi. Her house is near a main road where heavy traffic plies all

day and night. The construction activities for building a huge commercial complex are also in full swing near her house. Rashmi had to go to America for six months. She was worried about her beautiful houseplants kept on terrace. She gave the keys of her house to a neighbour and requested her to water the plants daily. The neighbour kept her promise and watered the plants daily (because there was no rain at all during those six months). When Rashmi returned after six months, she found that most of the plants had pest infestations and diseases. The plants had

become very weak and unhealthy. Rashmi could not understand why, even after regular watering, the plants were in a very bad shape. One day Rashmi's niece Laxmi, who is a student of class X, came to meet her. Rashmi told her problem to Laxmi. Laxmi examined the plants carefully and came to know what the problem was. She explained everything to Rashmi and gave advice to restore the good health of these plants.

(a) What had happened to the plants kept on the terrace when Rashmi was away for six months ?

(b) Which process in plants could not take place at optimal level due to the above happening ? Explain.

(c ) Why had the plants become weak and caught pests and diseases ?

(d) What advice was given by Laxmi to Rashmi to restore the good health of these plants ?

(e) Which natural process/processes perform the similar functions which Rashmi was told to perform ?

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9. John is a 50 year old man. He was complaining of pain in the abdominal area for the last few days. He went to a hospital where doctors performed an ultrasound scan on him. The ultrasound scan showed the presence of a number of tiny stones in the sac-shaped organ on the underside of the liver. The doctors performed a keyhole surgery on John and removed the sac-shaped organ from his body alongwith tiny stones. John got immediate relief from pain.

(a) What is the sac-shaped organ beneath the liver known as ?

(b) What liquid does this sac-shaped organ contain ?

(c ) What are the functions of the liquid contained in this sac-shaped organ ?

(d) Why do you think it is possible to remove this sac-shaped organ containing stones but the kidneys having stones cannot be removed ?

(e) What advice would you give to John regarding his diet ?



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**10.** Bhushan noticed that his sister Seema had developed swollen neck. Being a science student of class 10, Bhushan knew the reason that causes the neck of a person to swell up. Bhushan asked his mother which type of common salt she purchases from the market for cooking food. The mother told Bhushan that she never checked the brand or contents of the common salt packet. She purchased whatever common salt shopkeeper gave her. Bhushan then went to the market himself and purchased a special type of common salt. He asked his mother to always use this salt in



preparing food for the whole family. When Bhushan's sister was taken to a doctor, he confirmed what Bhushan had in mind. The doctor also advised his sister and everyone else in the family to use a special type of salt to prevent such a condition.

(a) Name the disease which Seema is suffering from ?

(b) What causes this disease ?

(c) Which part of endocrine system is involved in this disease ? What happens to this part during the occurrence of this disease ?

(d) What type of salt was recommended by

Bhushan and doctor for the whole family ?

Why was this salt recommended ?

(e) Why does this disease occur more in hilly areas but not at all in coastal areas ?

(f) What values are displayed by Bhushan in this episode ?



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**11.** Ahmad is a 50 years old man who is mainly a sedentary worker. He always gets his medical check up done once in a year. Till last

year all his blood reports were normal. This year his blood (and even urine) tests showed the presence of large quantities of sugar. The doctor gave him some medicines to control sugar. The doctor also asked him to avoid certain food items and adopt a healthy life-style.

(a) Name the disease which Ahmad is suffering from.

(b) Name the gland whose malfunctioning causes this disease.

(c ) How the gland whose malfunctioning of this gland cause this disease ?

(d) What is done if this disease does not get controlled by taking oral medicines ?

(e) Name one vital organ which gets damaged if this disease persists uncontrolled for a long time.

(f) What life-style changes would you suggest for Ahmad which can help him control this 'disease' ?



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**12.** Dodi is the only child of his rich parents. He insisted on getting a new motorbike on his 16th birthday. Though Dodi was underage by two years for obtaining a driving licence but he started driving motorbike without a driving licence. He even did not wear any protective equipment while driving the motorbike. Neighbours usually saw Dodi driving the motorbike very fast and rashly. He did not obey any traffic rules while driving. One day Dodi was driving his motorbike very fast on the main road with a friend seated behind

him. He was trying to show off his misplaced sense of adventure by performing some dangerous stunts. Just then a heavily loaded truck appeared on the road in front of him. When this truck applied brakes suddenly to save a dog crossing the road, Dodi could not stop his speeding motorbike in time. The motorbike went under the truck banging Dodi's head against the rear side of truck. Dodi was hurt badly. Dodi was rushed to the nearby hospital where he was declared brought dead. Dodi's friend was lucky to escape with minor injuries.



(a) What type of injury do you think Dodi could have received that led to his immediate death ?

(b) Which protective equipment Dodi was not wearing at the time of the accident ?

(c ) Which body part/vital organ of Dodi could have been protected by wearing the above protective equipment that could have perhaps saved Dodi's life ?

(d) Do you think it is good to perform stunts on a running motorbike ? Give two reasons for your answer.

(e) What advice would you give to young children to avoid such unfortunate incidents ?

(f) What advice would you give to the parents of such children ?



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**13.** Seeta and Geeta are neighbours in the same colony where they live. Seeta's father and Geeta's father both work in the same company and earn equal salary (or equal money). Seeta has one brother whereas Geeta has four



brothers and sisters. Geeta is very bright in her studies. Earlier Geeta used to study in one of the top city schools alongwith Seeta but now her father has shifted Geeta to an ordinary school. Seeta's family has a new car whereas Geeta's family has an old scooter. Seeta and her brother wear beautiful clothes whereas Geeta's siblings wear ordinary clothes. Seeta's mother is very healthy whereas Geeta's mother usually suffers from one ailment or another. Seeta's home atmosphere is relaxed and happy whereas there is always some tension in Geeta's house.

(a) What do you think is the main reason for the lower living standard of Geeta's family than Seeta's family (though their incomes are equal) ?

(b) What is the most probable reason for shifting Geeta from one of the top schools to an ordinary school (though she is very bright in studies) ?

(c ) What type of measures do you think were not taken by Geeta's parents at appropriate times in the past for limiting the size of their family ?

(d) What factor is responsible for the poor

health of Geeta's mother (whereas Seeta's mother is very healthy) ?

What values are displayed by Seeta's parents in this episode ?



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**14.** Mamta is a married woman having two children. She does not want to have any more children. Her husband also supports her decision not to have more children. They are both happy with just two children, both of

whom are daughters.

(a) Suggest any two types of birth control methods which Mamta and her husband can make use of to avoid pregnancy. Explain how these methods work to prevent pregnancy. Explain how these methods work to prevent pregnancy.

(b) Which birth control method has additional advantage of giving protection from sexually transmitted diseases (STDs) ?

(c ) What values are displayed by Mamta and her husband in not wanting to have more children ?



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**15.** Vidya is a married woman who has a cleft chin (a deep hollow in her chin). Vidya has recently been blessed with a baby girl who has also a cleft chin. Anita is a close friend of Vidya. When she learnt that Vidya's baby girl also has a cleft chin like Vidya, she got worried. This is because Anita has a huge scar on her left cheek which remained permanently after she got a cut on the cheek during an accident which took place in her school days. Anita is

worried that her baby (which is due shortly), may also have a scar on her left cheek just like her. One day, Anita's niece Radha, who is a science student of class X, came to see her. Anita shared her apprehension with Radha. Radha could understand her problem. She told Anita that her case is entirely different from that of Vidya. Radha explained everything to Anita clearly. Anita was now very much relaxed.

(a) What is an acquired trait ?

(b) What is an inherited trait ?

(c ) What type of trait is (i) cleft chin, and (ii) cheek scar ?

(d) Explain why, Vidya's cleft chin has been passed on to her baby but Anita's cheek scar cannot be passed on to her baby.

(e) What values are displayed by Radha in this episode ?



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**16.** Mohan and Radha are husband and wife who live in a village. They are going to have their first baby. Mohan has blonde hair (paly yellow hair) with genotype hh whereas Radha

has black hair with genotype HH. A discussion started between Mohan and Radha whether their baby would have blonde hair (pale yellow hair) like father or black hair like mother. Bikram is Mohan's nephew. He had come to meet his uncle (mama ji) Mohan in the village. Bikram, who is a science student of class 10 in a city school, was listening to their discussion. When Mohan and Radha could not come to a conclusion about the hair colour of their would-be baby, Bikram said that the baby would have black hair colour. He explained the reason for this to Mohan and Radha.



(a) What are the factors which transmit characteristics (or traits) from the parents to their baby ?

(b) Name the process through which these factors are transmitted from parents to their baby.

(c ) Explain how Bikram could tell in advance that the baby to be born would have black hair colour like mother (and not blonde hair like father).

(d) What values are exhibited by Bikram in this episode ?

17. Rahul and his classmates toured some of the villages in North Indian States during the summer holidays. They found that in this area there were many more boys than girls in the age group of up to 6 years. Rahul and his friends then went to a small Government Hospital just outside a village. The doctor told them that in this area the birth of a girl child is considered a burden on the family. So, every family in the village wants to have only boys (or sons). He said that people of the village are

going to private clinics in cities for getting the pre-natal (before birth) determination of sex done on pregnant women and if the foetus is of a girl child, it is aborted. Due to this illegal practice of selective abortions, child sex ratio is declining at an alarming rate and has created many social problems. The doctor also told that in many households, the women are harassed and tortured for giving birth to a girl child. The village elders blame only the woman for great personal the girl child. The doctor said that they are trying to change the mind set of village people at great personal risk but

it will take a lot of time to get rid of this social evil.

(a) What term is used for the act of deliberately aborting the foetus if it is of a girl child ?

(b) What is child sex ratio ? Why is it declining rapidly ?

(c ) Why is the birth of a girl child considered a burden in the family ?

(d) In our society, the woman (or wife) is blamed for giving birth to a girl child. Prove scientifically that it is actually the man (or husband) who is responsible for the birth of a

girl child.

(e) State an ill effect of this horrific practice of selective abortions in the long run.

(f) How can this evil of killing girl child even before her birth can be prevented ?



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**18.** Mrs. Sharma had a complete medical check-up a few days back. The doctors diagnosed him to be HIV-positive (HIV +ve). This news spread like wildfire in the colony where he lives

and also in the office where he works. The neighbours and colleagues who used to greet him with handshakes and warm hugs now tried to shun him (avoid him). They were reluctant to shake hands with him or hug him. Even Mr. Sharma's own family became indifferent towards him and started treating him badly. Mr. Sharma felt neglected and isolated by all the people around him. He went into depression. A good neighbour, Mr. Mukesh, noted that Mr. Sharma was under a lot of depression because of HIV infection. So, Mr. Mukesh met the family of Mr. Sharma and

explained them all about HIV infection. He told them that HIV infection can be treated with drugs and kept under control. He also clarified various myths about HIV and AIDS. (a) What is HIV ? What is meant by saying that Mr. Sharma is HIV-positive (HIV +ve) ?

(b) What are the various ways in which HIV can be transmitted ?

(c ) Can HIV be contracted by shaking hands with or hugging a person infected with HIV ?

Do you think HIV is the same as AIDS ?

(d) What are the various ways of protection from HIV infection ?

(e) Do you think people's indifference towards HIV infected person Mr. Sharma is justified ?

How should we behave with such persons ?

(f) What values are displayed by Mr. Mukesh in this episode ?



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**19.** Budh Ram and Sattoare husband and wife who live in a village. They already have two children in the form of two lovely daughters. During third pregnancy, Budh Ram and Satto



went to a city clinic and, after paying a hefty bribe, got the pre-natal scan done on the foetus. After knowing the sex of foetus, they went to a famous lady doctor who specialises in gynaecology and requested her to carry out the medical termination of pregnancy. They offered her big money for doing this job. The lady doctor said a firm 'No'. When the couple insisted, the doctor threatened to call the police and get them arrested.

(a) What type of scan was done to know the pre-natal (before birth) sex of foetus illegally ?

(b) What do you think this scan showed ?

(c ) Why did Budh Ram and Satto want to terminate this pregnancy ?

(d) What term is used specifically for such type of termination of pregnancy ?

(e) What values were displayed by the lady doctor ?



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**20.** Shivani visited her village with her parents during the winter holidays. When she went to the fields outside the village, she saw a farmer

spraying pesticides over the standing crops in the fields. When she looked at the container of pesticide lying on the ground, she knew that it was a pesticide which had been banned from use in most of the countries. The farmer was spraying pesticide taking any precautions. Shivani asked the farmer to cover his nose and mouth properly with a cloth while spraying the pesticide. She also asked him not to spray too much pesticide on the crops because it is harmful to human beings, other animals and aquatic life in the long run. Shivani educated the farmer about the various harmful effects

of this pesticide.

(a) What are pesticides ? Why are pesticides sprayed over the crops ? Which pesticide was being sprayed by the farmer on the crops ?

(b) (i) At which trophic level pesticides enter a food chain ?

(ii) At which trophic level of food chain, the concentration of pesticides is the maximum ?

(c ) What name is given to the process of concentration of pesticides in the body of living organisms at each trophic level of a food chain ?

(d) Why do pesticides get accumulated at each

trophic level in a food chain ?

(e) Why are the harmful effects of the pesticide being sprayed by this farmer ?

(f) What values are displayed by Shivani in this episode ?



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**21.** Diya has just moved into a new house in another colony alongwith her parents. Diya is a keen observer of all the human activities going around her in the colony. She noticed

that in the colony people threw the left-over food, and fruit and vegetable peels into overflowing garbage bins to be taken away by the staff of Municipal Corporation. She also saw that the gardener of the colony collected all the fallen leaves of houseplants and garden plants in one corner of the park, let them dry, and ultimately burnt them. It was brought to her knowledge that Residents Welfare Association of the colony spent a lot of money every year in purchasing chemical fertiliser for the garden plants and grass lawns. Keeping all this in view, Diya presented a plan of action to

the President of Welfare Association. On the successful completion of this plan after a few months, there was no need to purchase chemical fertiliser anymore. The environment also looked very neat and clean.

(a) What do you think was Diya's plan of action ?

(b) How did Diya's plan of action help the environment ?

(c) How did Diya's plan of action help the Residents Welfare Association ?

(d) What values of Diya are displayed by this plan of action ?



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22. Mr. Bhatia wanted to buy a new refrigerator and a new air conditioner in place of old ones which were purchased ten years ago. When Mr. Bhatia went to the market to buy these items his son Ankit, who is a student of tenth standard, also went with him. Before buying the new refrigerator and air conditioner, Ankit asked the various details from the shopkeeper and made sure that they refrigerator and air conditioner, Ankit asked



the various details from the shopkeeper and made sure that they did not contain old conditioner, which was not environment-friendly. The shopkeeper told him that these items now work with the new, eco-friendly refrigerant. Mr. Bhatia was puzzled by all this discussion. When they reached home, Ankit explained everything to his father. Ankit's father was happy at his choice.

(a) What do you think were the old refrigerants used in earlier refrigerator and air conditioner ?

(b) What was the harmful effect of old

refrigerants to the environment if they leaked out ?

(c ) What diseases could have been caused if people of the whole world had continued to use old refrigerants ? Why ?

(d) Name the new refrigerant which is being used increasingly in place of old one.

(e) Why is the new refrigerant being used these days not harmful to the environment ?

(f) What values are displayed by Ankit in this episode ?



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**23.** The teacher had just finished the chapter on environment in her class X lecture. She then placed four types of carry bags on the table in the classroom. These were cloth carry bag, paper carry bag, polythene carry bag and jute carry bag. The teacher asked Anushka to choose any two bags which she thinks are the most environment-friendly. Anushka thought for a while and then picked up cloth carry bag and jute carry bag.

(a) Explain why, Anushka did not choose the polythene carry bag though it is long lasting

and water-proof ?

(b) What is the reason for not choosing the paper bag ?

(c ) Why did Anushka choose only cotton cloth bag and jute bag ?

(d) What values are displayed by Anushka in making her choices ?



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**24.** A poorva is a student of tenth class. She has asked her father to replace all the old

filament-type bulbs in her house by CFLs. She herself uses a bicycle for going to her school. Apoorva has a habit of writing on both the sides of her notebook pages and never tears away pages from notebooks. One day when Apoorva went to the village fields alongwith her father, she saw two snakes in the standing crops. The farmers wanted to kill these snakes but Apoorva requested them not to do so. While at home or school, Apoorva is very particular to get the leaking taps repaired by the plumber immediately.

(a) What really is conserved when Apoorva

uses CFLs in her house instead of filament-type bulbs ?

(b) What really is conserved when Apoorva goes to her school on bicycle ?

(c ) What really is conserved when Apoorva writes on both sides of the pages in her notebook ?

(d) What really is conserved when Apoorva does not allow the snakes in standing crop fields to be killed ?

(e) What is conserved when Apoorva gets the leaking taps repaired immediately ?

(f) What are the things conserved by Apoorva

commonly known as ?

(g) What values are displayed by Apoorva by her actions ?



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**25.** Mohan, Rohan and Sohan are three classmates. They have three different habits. Mohan is fond of taking bread and apple jam. Whenever all the jam of the container is eaten up by him, Mohan cleans the container thoroughly and puts iodised salt in it which

his mother keeps on the kitchen rack. Rohan has a habit of putting old notebooks, newspapers and magazines at one place and sell it to Kabadiwala after a month to make some extra pocket money. Sohan has also a unique habit of going from room to room in his big house and switch off the lights and fans when no one is in the rooms. Actually, Mohan, Rohan and Sohan are collectively trying to practise three R's taught by their teacher in their own ways.

(a) What is meant by three R's ? In which context are they used ?



(b) Which of the three R's is exemplified by Mohan's action ?

(c ) Which of the three R's is exemplified by Rohan's action ?

(d) Which of the three R's is exemplified by Sohan's action ?

(e) Why is the R exemplified by Mohan's action better than the R exemplified by Rohan's action ?

(f) What values a displayed by Mohan, Rohan and Sohan in this episode ?



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