JAIPUR EDUCATION PLUS

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SA-2 **CLASS 10TH**

REVISION PAPER BASED ON NCERT QUESTIONS

Management of Natural Resources

Q1. What changes would you suggest in your home in order to be environment-friendly?

Q2. Can you suggest some changes in your school which would make it environment friendly?

Q3. 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 produces? Why do you think so?

Q4. 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?

Q5. What can you as an individual do to reduce your consumption of the various natural resources?

Q6. 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.

Q7. 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?

Q8. Why should we conserve forests and wildlife

Q9. Suggests some approaches towards the conservation of forests.

Q10. What changes can you make in your habits to become more environment-friendly?

Q11. What would be the advantage of exploiting resources with short-term aims?

Q12. How would these advantages differ from the advantages of using a long-term prospective in managing our resources?

Q13. Why do you think there should be equitable distribution of resources? What forces would be working against an equitable distribution of our resources?

Our environment

Q1. Which of the following groups contain only biodegradable items?

(a) Grass, flowers and leather (b) Grass, wood and plastic

(c) Fruit peels, cake and lime-juice (d) Cake, wood and grass

Q2. Which of the following constitute a food chain?

(a) Grass, wheat and mango (b) Grass, goat and human

(c) Goat, cow and elephant (d) Grass, fish and goat.

Q3. Which of the following are environment-friendly practices?

(a) Carrying cloth-bag to put purchases in while shopping.

b) Switching off unnecessary lights and fans.

(c) Walking to school instead of getting your mother to drop you on her scooter.

(d) All of the above.

Q4. What will happen if we kill all the organisms in one trophic level?

Q5. Will the impact of removing all the organisms in a trophic level be different for different trophic levels? Can the organisms of any trophic level be removed without causing any damage to the ecosystem?

Q6. What is biological magnification? Will the levels of this magnification be different at different levels of the ecosystem?

Q7. What are the problems caused by non-biodegradable wastes that we generate?

Q8. If all the wastes we generate is biodegradable, will this have no impact on the environment?

Q9. Why is damage to the ozone layer a cause for concern? What steps are being taken to limit this damage?

Q10. What is ozone and how does it affects any ecosystem?

Q11. How can you help in reducing the problems of waste disposal? Give any two methods.

Q12. Why are some substances biodegradable and some non-biodegradable?

Q13. Give any two ways in which biodegradable substances would affect the environment.

Q14. Give any two ways in which non-biodegradable substances would affect the environment.

Light, Reflection & Refraction -Human eye

Q1. A convex lens of focal length 15 cm forms an image 10 cm from the lens. How far is the object placed from the lens? Draw the ray diagram.

Q2. An object is placed at a distance of 10 cm from a convex mirror of focal length 15 cm. Find the position and nature of image.

Q3. The magnification produced by a plane mirror is +1. What does this means?

Q4. An object 5.0 cm in length is placed at a distance of 20 cm in front of a convex mirror of radius of curvature 30 cm. Find the position of the image, its nature and size.

Q5. An object of size 7.0 cm is placed at 27 cm in front of a concave mirror of focal length18 cm. At what distance from the mirror should a screen be placed, so that a sharp focused image can be obtained? Find the size and the nature of the image.

Q6. Find the focal length of a lens of power -2.0 D. What type of lens is this?

Q7. A doctor has prescribed a corrective lens of power +1.5D. Find the focal length of the lens. Is the prescribed lens diverging or converging?

Q8. Which of the following lens would you prefer to use while reading small letters found in a dictionary?

(a) A convex lens of focal length 50 cm

(b) A concave lens of focal length 50 cm

(c) A convex lens of focal length 5 cm

(d) A concave lens of focal length 5 cm

Q9. We wish to obtain an erect image of an object, using a concave mirror of focal length

15 cm. What should be the range of distance of the object from mirror? What is the nature of image? Is the image larger or smaller than the object? Draw a ray diagram to show the image formation in this case.

Q10. Name the type of mirror used in the following situations:

(a) Headlights of a car

(b) Side/rear-view mirror of a vehicle.

(c) Solar furnace.

Support your answer with reason.

Q11. One-half of a convex lens is covered with a black paper. Will this lens produce a complete image of the object? Verify your answers experimentally. Explain your observations.

Q12. An object 5 cm in length is held 25 cm away from a converging lens of focal length 10cm. Draw the ray diagram and find the position, size and the nature of the image formed.

Q13. Where should an object be placed in front of convex lens to get a real image of the size of the object?

(a) At the principal focus of the lens.

(b) At twice the focal length

(c) At infinity

(d) Between the optical centre of the lens and its principal focus.

Q14. A spherical mirror and thin spherical lens have each of focal length of -15 cm. the mirror and lens are likely to be

(a) Both concave

(b) Both convex

(c) The mirror is concave and the lens is convex

(d) The mirror is convex and lens is concave.

Q15. Why is a normal eye not able to see clearly the objects placed closer than 25 cm?

Q16. What happen to the image distance in the eye when we increase the distance of an object from the eye?

Q17. Why do stars twinkle?

Q18. Explain why the planets do not twinkle.

Q19. Why does the Sun appear reddish early in the morning?

Q20. Why does the sky appear dark instead of blue to astronaut?

Q20. A person needs a lens of power -5.5 dioptre for correcting his distinct vision. For correcting his near vision he needs a lens +1.5 dioptre. What is the focal length of the lens required for correcting (i) distinct vision, and (ii) near vision?

Q21. The far point of a myopic person is 80 cm in front of the eye. What is the nature and power of the lens required to correct the problem?

Q22. Make a diagram to show how hypermetropia is corrected. The near point of a hypermetropic eye is 1 m. What is the power of the lens required to correct this defect? Assume that near point of the normal eye is 25 cm.

Carbon and its compounds

Q1. Why does micelle formation take place when soap is added to water? Will a micelle be formed in other solvents such as ethanol also?

Q2. Why are carbon and its compounds used as fuels for most applications?

10. Explain the formation of scum when hard water is treated with soap.

Q3. What change will you observe if you test soap with litmus paper (red and blue)?

Q4. What is hydrogenation? What is its industrial application?

Q5. Which of the following hydrocarbons undergo addition reactions?

C2H6, C3H8, C3H6, C2H2 and CH4

Q6. Give a test that can be used to differentiate chemically between butter and cooking oil?

Q7. Explain in mechanism of the cleaning action of soap.

Q8. What is a homologous series? Explain with an example.

Q9. How can ethanol and Ethanoic acid be differentiated on the basis of their physical and chemical properties?

Q10. Would you be able to check if water is hard by using a detergent?

Q11. People use a variety of methods to wash clothes. Usually after adding the soap, they beat the clothes on stone, or beat it with a paddle, scrub with a brush or the mixture is agitated in a washing machine. Why is agitation necessary to get clean clothes?

Periodic classification of elements

Q1. Nitrogen (atomic number 7) and phosphorus (atomic number 15) belong to group 15 of the Periodic Table. Write the electronic configuration of these two elements. Which of these will be more electronegative? Why?

Q2. How does the electronic configuration of an atom relate to its position in the Modern Periodic Table?

Q3. In the modern Periodic Table calcium (atomic number 20) is surrounded by elements with atomic number 12, 19, 21 and 38. Which of these have physical and chemical properties resembling calcium?

Q4. Compare and contrast the arrangement of elements in Mendeleev's Periodic Table and the Modern Periodic Table.

Q5. Which element has-

(a) two cells, both of which are completely filled with electrons?

(b) the electronic configuration 2, 8, 2 ?

(c) a total of three shells, with four electrons in its valance shell?

(d) twice as many electrons in its second shell as in its first shell?

Q6. (a) What property do all elements in the same column of the Periodic Table as boron have in common?

(b) What property do all elements in the same column of the Periodic Table as

Fluorine have common?

Q7. Use Mendeleev's Periodic Table to predict the formulae for the oxides of the following elements:

K, C, Al, Si, Ba

Q8. Besides gallium, which other elements have since been discovered that were left by Mendeleev in his Periodic Table? (any two)

Q9. What were the criteria used by Mendeleev in creating his Periodic table?

Q10. Why do you think the noble gases are placed in separate group?

Q11. Name:

(a) Three elements that have a single electron in their outermost shells.

(b) Two elements that have two electrons in their outermost shells.

(c) Three elements with filled outermost shells.

Q12. (a) Lithium, sodium and potassium are all metals that react with water to liberate hydrogen gas. Is there any similarity in the atoms of these elements?

(b) Helium is an un-reactive gas and neon is a gas of extremely low reactivity. What, if anything, do their atoms have in common?