

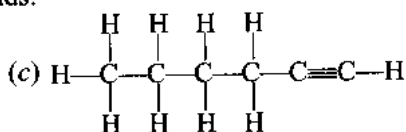
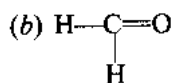
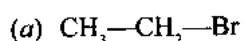
PRACTICE QUESTIONS

SUBJECT - SCIENCE

CLASS - X

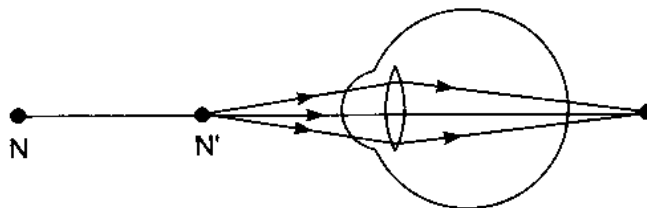
Section-A

- Write the general formula for hydrocarbon alkene. Write the name of the simplest alkene.
- Name the mode of reproduction used by:
 - Hydra*
 - Malarial parasite.
- What do you mean by biodegradable waste?
- Define absolute refractive index of a medium. Light enters from air to water having refractive index $4/3$. Find the speed of light in water. The speed of light in vacuum is 3×10^8 m/s.
- What is sustainable development? Suggest a method to achieve it.
- Why is equitable distribution of resources necessary? Name two factors which work against equitable distribution of resources.
- What is meant by functional group in an organic compound? Identify the functional group present in CH_3OH and CH_3COCH_3 . Write the names of both the compounds.
- State Modern Periodic Law. What are the names and number of vertical columns and horizontal rows in Modern Periodic Table.
- Consider two elements 'A' and 'B' with atomic number $A = 11$ and $B = 17$.
 - Write their position in the Periodic table.
 - Draw the electron dot structure for the compound formed when 'A' combines with 'B' and name the type of bond formed.
- Write the names of the following compounds:



- List three roles of fossils in tracing evolutionary relationship.
- What is the expanded form of AIDS? List any four methods of prevention of AIDS.
- Explain the meaning of vegetative propagation. When is it used? Name three methods of vegetative propagation.
- Distinguish between acquired traits and inherited traits. Give one example of each.
- With the help of a suitable example, explain natural selection.
- List any two properties of the image formed by a plane mirror.
 - Why the magnification produced by the concave lens is always positive?
- What is meant by "least distance of distinct vision"?
 - How does iris controls the size of the pupil in bright light and dim light?
- There is a deep tube well in your housing society which got dry over the years and is no longer in use. Mr Saikia who resides in the same society, suggested during a society meeting to use the abandoned deep tube well for Rain Water Harvesting. Many members of the society opposed the idea as Rain Water Harvesting was not mandatory for the society.
 - What is the main advantage of Rain Water Harvesting?
 - How can the abandoned well be used for Rain Water Harvesting?
 - What value does Mr Saikia possess?

19. Why carbon cannot form C^{++} cation or C^{-} anion? How does it attain stable noble gas configuration? Name the simplest compounds formed by carbon. Explain their two properties with suitable reasons.
20. (a) Draw a labelled diagram showing germination of pollen on the stigma of a flower.
(b) How is the zygote formed?
21. A yellow colour flower plant denoted by YY is crossed with a white colour flower plant denoted by ww. Draw a diagram showing colour of the flowers in F_1 and F_2 progeny.
(a) State the colour of the flower we would expect in F_1 progeny.
(b) Write the percentage of plants bearing white flower in F_2 generation when the flowers of the F_1 plants are selfed.
(c) State the expected ratio of the genotype YY and Yw in the F_2 progeny.
22. (a) Draw a ray diagram in each of the following cases. Also, mark the angle of incidence (i) and angle of reflection (r) in the diagram.
(i) A ray of light going towards the principal focus of a convex mirror.
(ii) A ray incident obliquely to the principal axis towards the pole of a concave mirror.
(b) An object, 2.0 cm in size, is placed 30.0 cm in front of a concave mirror of focal length 15.0 cm. At what distance from the mirror should a screen be placed in order to obtain a sharp image? Find the nature and the size of the image formed.
23. (a) Draw the ray diagrams in each of the following cases to show the position and nature of the image formed when the object is placed:
(i) at 2F of a converging lens.
(ii) between the focus and optical centre of a converging lens.
(b) The magnification produced by a spherical lens is $1/3$. If the image is formed at a distance of 10 cm from the lens, find the position of object. Also, find the nature and focal length of this lens.
24. (a) The following figure shows the defective eye of a person.

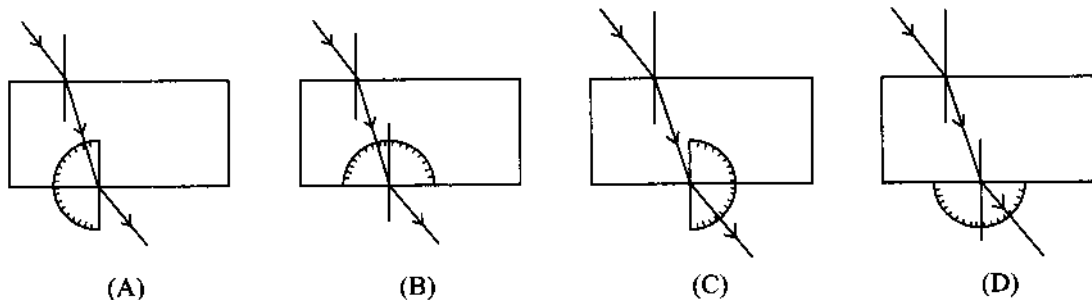


- (i) Name the defect of vision he is suffering from. How can it be corrected?
(ii) List two causes for this defect of vision.
(iii) With the help of a diagram show how this defect can be corrected by the use of suitable lens.
- (b) Define angle of deviation. Why do different components of white light split up into spectrum when it passes through a triangular glass prism?

Section-B

25. In preparation of soap solution sodium chloride is used for:
(a) complete saponification
(b) complete hydrolysis
(c) complete precipitation
(d) complete neutralization.
26. To study the saponification reaction, a student needs 20% solution of NaOH in water. He opens the lid of the bottle of sodium hydroxide and prepares the aqueous solution of sodium hydroxide. He observes that:
(a) solid sodium hydroxide is in the form of fine white powder and on dissolving it in water, the reaction is endothermic.
(b) solid sodium hydroxide is in form of colourless transparent beads and on dissolving it in water, the reaction is exothermic.

- (c) solid sodium hydroxide is in form of small white beads and on dissolving in water, the reaction is endothermic.
 (d) sodium hydroxide is in form of white pellets and on dissolving it in water, the reaction is exothermic.
27. Four students P, Q, R and S took one test tube and added 5 mL distilled water to it. 'P' then added CaCl_2 , 'Q' added K_2SO_4 , 'R' added NaCl and 'S' added MgSO_4 in equal amounts in distilled water in their test tubes. Same amount of soap solution was also dissolved in four test tubes after that they shown the test tubes very well. The students who will obtain a good amount of lather in their test tubes, are:
- (a) P and Q (b) Q and R
 (c) R and S (d) P and S
28. Which of the following will not be shown by a growing plant inside a space shuttle:
- (a) phototropism
 (b) photomorphogenesis
 (c) geotropism
 (d) aerotropism.
29. By studying homologous structures, we look for:
- (a) similarity in function but different in structure.
 (b) similarity in appearance but different in function.
 (c) similarity in structure but different in function.
 (d) similarity in appearance but different in structure.
30. A student traces the path of a ray of light passing through a rectangular glass slab.



The correct position of the protractor (D) to measure the angle of emergence is shown in figure:

- (a) A (b) B (c) C (d) D
31. A teacher obtains distinct image of a distant tree on a screen with the help of a convex lens and then asks her four students A, B, C, D to describe nature and size of image.
- Answers given by them were:
- (A) virtual, inverted, smaller than object
 (B) real, inverted, smaller than object
 (C) virtual, erect, same size as that of object
 (D) real, erect, same size as that of object
- Correct answer was given by:
- (a) A (b) B (c) C (d) D
32. For determining focal length of a concave mirror, a teacher asks her students to identify concave mirror from a few mirrors lying on the table. The reason given by A, B, C and D for picking up the right mirror is
- (A) – the mirror is depressed at the center and self image formed is enlarged and erect.
 (B) – the mirror is raised at the center and self image formed is smaller and erect.
 (C) – the mirror is plane all over and self image is of same size.
 (D) – the mirror is depressed at the center and self image formed is enlarged and inverted.

Correct selection of the mirror was suggested by:

(a) A

(b) B

(c) C

(d) D

33. While performing experiment to trace the ray of light through a triangular glass prism a student is asked to draw the boundary of a prism on paper. This is done to:
- (a) see whether it is triangular or not?
 - (b) ensure that it is always kept within this boundary during experiment.
 - (c) check if it is broken from edges.
 - (d) make the diagram more clear.
34. If you add a pinch of sodium hydrogen carbonate to about 2 mL of acetic acid taken in a test tube, what would you observe immediately. Name the gas evolved in the reaction and write balanced chemical equation.
35. Write the differences between binary fission and budding.
36. (a) A ray of light is passing through the principal focus of a convex lens. How will it emerge after refraction through the lens?
- (b) An object is placed on the left side of a lens within its focal length. What will be the sign of image distance?