

ANSWER KEY

Question No	Answer Key	mark
1	concave mirror -ve convex mirror +ve	½ ½
2	carboxylic acid (COOH)	1
3	Organism look similar because their body designs are similar. For body designs to be similar their blue prints are to be similar. The DNA present in the nucleus keeps the information for these designs. Therefore copying of DNA is very essential in reproduction.	1
4	blue colour of sky colour of sky at early morning and in evening	½ ½
5	a) Newlands b) Dobereiner	1
6	Plastic bottles, Glass jars	1
7	atmospheric refraction explanation diagram	½ 1 ½
8	Formation of ester take place $\text{CH}_3\text{COOH} + \text{C}_2\text{H}_5\text{OH} \xrightarrow{\text{con. H}_2\text{SO}_4} \text{CH}_3\text{COOC}_2\text{H}_5 + \text{H}_2\text{O}$	1 1
9	Parental characters are conserved. Easy reproduction method	2
10	diagram different colours have different wave length travels with different speed and hence deviate	1 ½ ½
11	a) Size decreases. Due to large positive charge on the nucleus. b) Metallic character decreases	1 1
12	Definition of sustainable management. Reuse-reasons	1 1
13	thick - more convex thin - less convex	1 1
14	a) Size decreases. Due to large positive charge on the nucleus. b) Metallic character decreases	1 1

15	Plastic pollution Recycling of plastic bags in to useful products.	1 1
16	a) Ketone Methanal	1 1
17	Condoms Chemical methods Family planning	3
18	diagram virtual diminished erect	1 ½ ½ ½ ½
19	a)Chloromethane and hydrogen chloride will form $\text{CH}_4 + \text{Cl}_2 \xrightarrow{\text{sunlight}} \text{CH}_3\text{Cl} + \text{HCl}$ b)Addition of hydrogen top organic compounds mainly in unsaturated compounds.Useful for the conversion of vegetable oil to vegetable ghee. a) i) soaps are the sodium or potassium salts of the long chain carboxylic acids.Detergents are the sodium salts of long chain benzene sulphonic acids or long chain alkyle hydrogen sulphates ii)Soaps are not siutable in hard water.Detergents are useful in hard water	1 1 1
20	Blue 3:1 1:2	3
21	lens formula f= -ve for diverging lens and +ve for converging lens calculation	½ ½ 2
22	They are zero valent elements and unreactive These elements are called noble gases	2 1
23	Cutting of rat's tail and it's crossing produce rats with tails. Acquired traits.	3
24	a) Properties of elements are a periodic function their	1

	<p>atomic numbers.</p> <p>b) The elements having same number of valence</p> <p>c) electrons occur at regular intervals</p> <p>Noble gases.</p>	<p>1</p> <p>1</p>
25	<p>i) Effect of pesticides and chemicals in water and soil</p> <p>ii) Recycle or reuse.</p>	3
26	<p>They are zero valent elements and unreactive</p> <p>These elements are called noble gases</p>	3
27	<p>Budding in Hydra</p> <p>Explanantion with diagram</p>	3
28	<p>short sightedness can see near by objects clearly cant see far away objects clearly</p> <p>causes high converging power of eye lens , eye ball being two long</p> <p>diagram</p>	<p>1</p> <p>2</p> <p>2</p>
	<p>Laws of refraction with diagram</p> <p>Refractive index –determine the extend of bending of light</p> <p>$n=c/v$</p> <p>calculation</p>	<p>2</p> <p>1</p> <p>1</p> <p>1</p>
29	<p>a) Hydrogenation reaction</p> $\begin{array}{c} \text{H} \quad \text{H} \\ \quad \\ -\text{C} = \text{C}- \\ \quad \\ \text{H} \quad \text{H} \end{array} + \text{H}_2 \rightarrow \begin{array}{c} \text{H} \quad \text{H} \\ \quad \\ -\text{C} - \text{C}- \\ \quad \\ \text{H} \quad \text{H} \end{array}$ <p>b) The alkaline hydrolysis of esters is known as saponification.</p> $\text{CH}_3\text{COOC}_2\text{H}_5 + \text{NaOH} \longrightarrow \text{CH}_3\text{COONa} + \text{C}_2\text{H}_5\text{OH}$ <p>c) Micelle formation takesplace when soap is added to water because the hydrocarbon chains of soap molecules are hydrophobic which are insoluble in water but the ionic ends of soap molecules are hydrophilic and hence soluble in water.</p>	1
30	<p>Diagramn</p> <p>X,Y chromosomes of males.Male provide Y chromosomes to the</p>	3

	offspring and thus it becomes male.	2
		1
31	b	1
32	d	1
33	b	1
34	b	1
35	d	1
36	c	1
37	b	1
38	d	1
39	a	1
40	d	1
41	b	1
42	b	1
43	d	1
44	c	1
45	a	1
46	a	1