

# Marking Scheme

## SUMMATIVE ASSESSMENT – II (2014-15)

### Science (Class–X)

**General Instructions:**

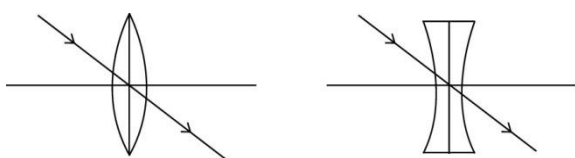
1. The Marking Scheme provides general guidelines to reduce subjectivity and maintain uniformity. The answers given in the marking scheme are the best suggested answers.
2. Marking be done as per the instructions provided in the marking scheme. (It should not be done according to one's own interpretation or any other consideration).
3. Alternative methods be accepted. Proportional marks be awarded.
4. If a question is attempted twice and the candidate has not crossed any answer, only first attempt be evaluated and 'EXTRA' be written with second attempt.
5. In case where no answers are given or answers are found wrong in this Marking Scheme, correct answers may be found and used for valuation purpose.

**भाग-अ / SECTION-A**

1	15	1
2	Round yellow	1
3	Contamination by disease causing micro-organisms	1
4	(i) It regulates the amount of light entering in our eye. (ii) It carries the signals of image to the brain.	2
5	Capturing rain water for later use. Lakes, small pits, tanks or any other	2
6	Biotic components – plants, animals, microorganisms (any two), Abiotic components – sunlight, water, wind etc. Or any other, (any two)	2
7	(i) Liquid at room temperature (ii) Soluble in water (iii) low melting and boiling point/burning taste (i) As medicine (ii) As solvent (iii) As laboratory reagent	3
8	Camphor and alcohol burns with a blue flame and there is no sooty deposit on the metal plate.	3

	Thus camphor and alcohol are saturated hydrocarbons. Naphthalene burns with a yellow flame with lots of sooty smoke. Therefore, unsaturated hydrocarbon.	
9	(a) Neon - group 18 and period 2 (b) Carbon - group 14 and period 2 (c) Sodium - group 1 and period 3 Potassium - group 1 and period 4	3
10	(a) Hydrogen and sodium Beryllium and Magnesium (b) H and Na -1 Be and Mg - 2 (c) 1 - Li or K ( Any one ) 2 - Ca	3
11	(a) Human arm - holding things Forelimb of dog - running Forelimb of whale - paddles (b) Homologous, (c) same origin, diff functions.	3
12	Monohybrid - involves the inheritance of only one dominant and one recessive character Dihybrid - has two dominant and two recessive characters which segregate independently.	3
13	- Has specialized cells - Organism gets cut into many pieces and each piece gives rise to a new individual - Cell proliferation makes large number of cells - Different cells change to become different tissues - Changes take place in an organized sequence	3
14	- Germ-cells from two individuals combine - Chromosome number and DNA content is halved in special lineage cells in specialized organs - Takes place in reproductive cells maintaining the DNA content	3
15	- If organisms are suited to a particular niche, drastic changes in the niche could wipe out that population - If some variations are there, few individuals might survive - Depending on whether the variations are useful to the change in the environment some variants survive whereas others do not	3
16	Explanation using the figure 11.9 Pg 194 NCERT Planets do not twinkle as they are closer to earth and are seen as extended sources.	3

17	<p>(a) Definition of magnification</p> $m = \frac{v}{u}$ <p>(b) <math>m = \frac{h_2}{h_1} = -2</math></p> $h_2 = -2h_1$ <p>The size of image is two times the size of object – ve sign shows the image is inverted and real</p>	3
18	<p>(a) Improvement in our life style has led to use of more of electronic gadgets like computers, laptops, mobile phones etc.</p> <p>The companies in order to increase their sales keep on launching new upgraded versions which attract the buyers and increase the waste.</p> <p>(b) Think about the utility and then only buy the upgraded models not just because friends are having so I should also buy it.</p> <p>Try to reuse the old TV, computers, mobile phones or other electronic gadgets if it is in working condition by selling/ giving it to the needy.</p> <p>(c) concern towards the society, environment friendly</p>	3
19	<p><math>C_n H_{2n-2}</math> – alkyne  <math>C_n H_{2n}</math> – alkene  electron dot structure of ethyne</p> $\begin{array}{c} H \cdot \cdot C : : C \cdot \cdot H \\ \vdots \quad \quad \quad \vdots \\ H \quad H \end{array}$ <p>electron dot structure of ethyne</p> $H \cdot \cdot C : : C \cdot \cdot H$ <p><math>C_2H_4</math> – molecular formula of ethane, <math>C_2H_2</math> – ethyne</p> $\begin{array}{c} H - C = C - H \\   \quad   \\ H \quad H \end{array}, H - C \equiv C - H$	5
20	<p>(a) Breed true as all of their gametes contain the same allele either TT or tt.</p> <p>(b) Heterozygous – Definition</p> <p>(c) Genetic Variation  Natural Selection  Genetic Drift.</p>	5
21	<p>(a) <i>Amoeba</i> – Binary fission  <i>Plasmodium</i> – Multiple fission  <i>Hydra</i> – Budding</p>	5

	(b)	<i>Planaria</i> - Regeneration (any 3 + Explain) Sexual - two parents ; Asexual - single parent	
22	(a)	The peculiar shape of the prism makes the emergent ray bend at an angle to the direction of incident ray. This angle is called the angle of deviation.  When white light passes through a triangular glass prism the different colours of light have different wavelengths and bend through different angles. The violet coloured light bends the most and the red coloured light bends the least	5
	(b)	A rainbow is a natural spectrum appearing in the sky after a rain shower. It is caused by dispersion of sunlight by tiny water droplets, present in the atmosphere.  Two necessary conditions for the formation of rainbow in the sky are :  (i) Water droplets should be there in the air (i.e. during the dizzling /just after the rain shower)  (ii) The sun rays should be coming from behind us.	
23	(a)	Lens is a portion of transparent material bound by two surfaces of which one or both are spherical with different curvatures.	5
	(b)	Convex lens: Both the surfaces are raised in the middle. It is thicker in the middle.  Concave lens: Both the surfaces are depressed in the middle. It is thinner in the middle.	
	(c)	It will pass undeviated.	
			
	(d)	Fig 10.16 (e) (Page 180 NCERT Textbook)	
24	(a)	$\frac{1}{v} + \frac{1}{u} = \frac{1}{f}$ mirror formula  $\frac{1}{v} - \frac{1}{u} = \frac{1}{f}$ lens formula	5
	(b)	It means the height of image is 4 times the height of object and image virtual and erect.	
	(c)	Fig 10.7 (f) and (c) NCERT page 166	
<b>भाग-ब/ SECTION - B</b>			

25	(d)		1
26	(d)		1
27	(b)		1
28	(c)		1
29	(a)		1
30	(b)		1
31	(a)		1
32	(b)		1
33	(b)	Microplye	1
34	(i) (ii)	Sr No. 1 and 3 correct Sr No. 2. Like vinegar Sr No. 4 - CO <sub>2</sub> gas	2
35	(i) (ii) (iii) (iv)	a small protuberance appears. growing of size of protuberance. another bud appears at the tip. resulting a chain of yeast cells.	2
36	(a) (b) (c)	Image of an object is formed at $2F_2$ Size of the image is equal to object Image is real and inverted	2
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