

Marking Scheme

SUMMATIVE ASSESSMENT – II (2015-16)

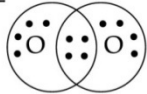
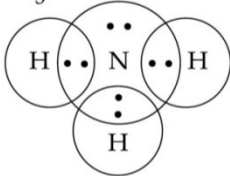
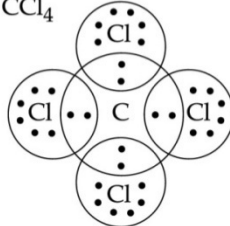
Science (Class–X)

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.

SECTION-A

1	Acidic oxides.	1						
2	Sperm-Testes ; Egg- Ovary	1						
3	Collecting and processing the articles to obtain the material again.	1						
4	The lens is placed along the path of light-either sun rays or rays through electric lamp. The rays converge at a point. The distance between converging point and lens is measured which gives the rough focal length of the convex lens.	2						
5	Sustainable development Resources for present as well as future generations	2						
6	Saves exploitation of natural resources, reduces pollution.	2						
7	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 5px;">Saturated</th> <th style="text-align: left; padding: 5px;">Unsaturated</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">(i) Generally burns with blue flame</td> <td style="padding: 5px;">(i) Burn with yellow flame with lots of smoke</td> </tr> <tr> <td style="padding: 5px;">(ii) Butane, $\begin{array}{cccc} & & & \\ -C & -C & -C & -C- \\ & & & \end{array}$ </td> <td style="padding: 5px;">(ii) $H-C \equiv C-H$ Ethyne</td> </tr> </tbody> </table>	Saturated	Unsaturated	(i) Generally burns with blue flame	(i) Burn with yellow flame with lots of smoke	(ii) Butane, $\begin{array}{cccc} & & & \\ -C & -C & -C & -C- \\ & & & \end{array}$	(ii) $H-C \equiv C-H$ Ethyne	3
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8	(a) Magnesium (b) Sodium	3						

	(c) Mg - 2 Na - 1									
9	<p>O₂</p>  <p>O=O</p> <p>NH₃-</p>  <p>H-N-H H</p> <p>CCl₄</p>  <p>Cl-C-Cl Cl</p>	3								
10	<p>(a) To arrange them according to their properties so that a proper order could be set up which would Facilitate their further studies</p> <p>(b)</p> <ul style="list-style-type: none"> • Atomic Number • Properties elements are periodic function of their atomic number 	3								
11	<table border="1"> <tbody> <tr> <td>Natural</td> <td>Artificial</td> </tr> <tr> <td>(a) Cared by nature</td> <td>Artificial process</td> </tr> <tr> <td>(b) Results-short pd</td> <td>Long period</td> </tr> <tr> <td>(c) Beneficial to man</td> <td>For species</td> </tr> </tbody> </table>	Natural	Artificial	(a) Cared by nature	Artificial process	(b) Results-short pd	Long period	(c) Beneficial to man	For species	3
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12	<ul style="list-style-type: none"> - All multi-cellular organisms cannot simply divide cell-by -cell - As they are not a random collection of cells. - Specialized cells form tissue and then organs placed at definite positions. - Need more complex ways of division. 	3								
13	<p>(a) Inflated</p> <p>(b) Round</p> <p>(c) Purple</p>	3								
14	<table border="1"> <tbody> <tr> <td>Incorrect</td> <td>Correct</td> </tr> <tr> <td>- Vas deferens</td> <td>- Fallopian tube/ Oviduct</td> </tr> <tr> <td>- Placenta</td> <td>- Uterus</td> </tr> </tbody> </table> <p>Vagina - entry point of sperms</p>	Incorrect	Correct	- Vas deferens	- Fallopian tube/ Oviduct	- Placenta	- Uterus	3		
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- Placenta	- Uterus									

15	When bushes on which beetles feed is large, beetle population is large. But feed on nearby bushes. So subpopulation result.	3
16	<ul style="list-style-type: none"> • Real and inverted image is formed on retina. • Retina has light sensitive cells. When light falls on them, these receptors get activated and electric signals are generated. • These signals are sent to brain for interpretation via optic nerve. 	3
17	$h_2 = 3h_1$ $u = -10 \text{ cm.}$ $\frac{h_2}{h_1} = -\frac{v}{u}$ $\frac{3h_1}{h_1} = \frac{+v}{+10}$ $v = 30 \text{ cm.}$ $\frac{1}{f} = \frac{1}{v} + \frac{1}{u}$ $\frac{1}{f} = \frac{1}{30} + \frac{1}{-10}$ $= \frac{1}{30} - \frac{1}{10}$ $\frac{1-3}{30} = \frac{-2}{30}$ $f = -15 \text{ cm.}$ <p>Radius of curvature = $2f$ $= 2 \times -15$ $= -30 \text{ cm}$</p>	3
18	<p>(a) Oxides of Nitrogen & sulphur released from vehicular & industrial emissions on mixing with rain water produce acid rain.</p> <p>(b) Travelling in metro (MRTS) instead of fossil fuel driven vehicles.</p> <p>(c) Associated Value : The learners will adopt Eco-friendly lifestyle so that lesser amount of (NO) and (SO₂) are released into atmosphere which are the main contribution factors causing Acid Rain.</p>	3
19	<p>(i) Dehydration $\text{CH}_3\text{CH}_2\text{OH} \xrightarrow{\text{conc. sulphuric acid}} \text{CH}_2 = \text{CH}_2$</p> <p>(ii) oxidation $\text{CH}_3\text{CH}_2\text{OH} \xrightarrow{\text{pot permanganate} + \text{acid}} \text{CH}_3\text{COOH}$</p> <p>(iii) in medicines/ tincture of iodine car radiator in cold countries it's a very good coolant. Property - Good solvent. (any two)</p>	5
20	(a) Because with the spray of the same chemicals every time, insects evolve to resistant varieties, by undergoing gradual change in their DNA.	5

	(B)	In homozygous condition. tt	
21	(a) (b) (c) (d) (e)	Fusion of egg and sperms Reproduction from leaves, stems and roots Removal of uterine lining in the form of blood Organism cut into many pieces and each piece forms a new individual Formation of two equal halves	5
22	(a) (b)	Short sightedness / myopia Reason is due to (i) excessive curvature of cornea or (ii) eye ball elongation or shifting of far point nearer Remedy is using spectacles of concave lens Fig 11.2 (c) Nature of the lens concave/ diverging	5
23	(a) (b)	The ratio of speed of light in vacuum to the speed of light in medium is called absolute Refractive index of the medium. (i) medium C + Reason (ii) medium A + Reason (iii) towards the normal + Reason (iv) less than unit + Reason	5
24	(a) (b) (c)	Fig 11.6 NCERT page 193 When two identical prisms are placed in an inverted position with respect to another prism, the incident white light on first prism splits into spectrum which on passing through the second prism recombine. This results in emergence of white beam from the other side of the second prism. Newton. The band of the coloured components of a beam of light	5
/ SECTION - B			
25	(a)		1
26	(b)		1
27	(a)		1
28	(a)		1
29	(a)		1
30	(d)	More than RS	1
31	(b)		1
32	(b)		1

33	(b)		1
34	(i) (ii)	Corrosive nature - avoid inhaling its excess vapours Flammable - it (vapour) can catch fire	2
35	(i) (ii)	Slide first observe under low power and then high power of the microscope. Bring down the eye piece of microscope slowly and gradually.	2
36	(i) (ii)	The convex lens should be thin and of small aperature Proper arrows should be drawn to name the rays (or any other)	2
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