



INDIAN SCHOOL MUSCAT  
SECOND PERIODIC ASSESSMENT

SCIENCE - 086



CLASS: X

MAX.MARKS: 20

Marking Scheme

PHYSICS		
1	Refractive index of Air with respect to water is $\frac{3}{4}$	1
2	Concave mirror should be used for obtaining a real image	1
3	Laws of refraction a) Incident ray, refracted ray and normal lies on the same plane -- (1) b) $\sin i / \sin r = \text{constant}$ --for a given pair of media and wavelength----- (1)	2
4	a) it gives how many times the image of an object is magnified with respect to the object size $m = -v/u$ , $m = h_i/h_o$ -----1 mark  b) $h_o = 2\text{cm}$ , $u = -16\text{cm}$ , $h_i = -3\text{cm}$ $v = ?$ $m = h_i/h_o = -3/2 = -1.5$ -----1/2 mark $m = -v/u$ ----- 1/2 mark $-1.5 = -v/u$ $-1.5 \times -16 = -v$ $24\text{ cm} = -v$ $V = -24\text{ cm.}$ ----- 1 mark	3
CHEMISTRY		
1	It is because properties of compound water are different from properties of its constituents elements, i.e. Hydrogen and Oxygen.	1
2	Balance the following chemical equations. a) $\text{Ca}(\text{OH})_2 + 2\text{HNO}_3 \rightarrow \text{Ca}(\text{NO}_3)_2 + 2\text{H}_2\text{O}$ b) $\text{MnO}_2 + 4\text{HCl} \rightarrow \text{MnCl}_2 + 2\text{H}_2\text{O} + \text{Cl}_2$	1
3	a) It is because water contains hydrogen and oxygen in the ratio of 2:1. 1 mark b) Exothermic reaction are those in which heat is evolved. $\frac{1}{2}$ mark  Endothermic reaction are those in which heat is absorbed. $\frac{1}{2}$ mark	2
4	a) Lead nitrate is the white salt and residue formed is Lead oxide. 1 mark b) A reaction in which two or more elements or compounds combined to form a single product. 1 mark c) e.g. $\text{CaO} + \text{H}_2\text{O} \rightarrow \text{Ca}(\text{OH})_2 + \text{Heat}$ It is also an exothermic reaction along with a combination reaction because heat is evolved. 1 mark	3
BIOLOGY		
1	Yes $\frac{1}{2}$ Mark The rate of breathing will become fast to supply more oxygen to meet the increased demand of energy. $\frac{1}{2}$ Mark	1
2	a) Even after forceful expiration, Some amount of air remains in the lungs, known as residual volume. 1 Mark b) Aerobic More energy is released.	2

	<p>Takes place in mitochondria. (Any one difference – 1 Mark)</p> <p>Anaerobic</p> <p>Less energy is released</p> <p>Takes place in cytoplasm (Any relevant point)</p>	
3	<p>a)The aquatic organisms obtain oxygen dissolved in water. As compared to air, the availability of oxygen in water is fairly low. 1 Mark</p> <p>c) Trachea is a tube that connects pharynx with lungs for carrying air to and from lungs.1 M</p> <p>They filter and warm the air which is coming through the nostrils. 1 Mark</p>	3