

INDIAN SCHOOL MUSCAT
FIRST PRE-BOARD EXAMINATION

SET A

JANUARY 2021

CLASS X

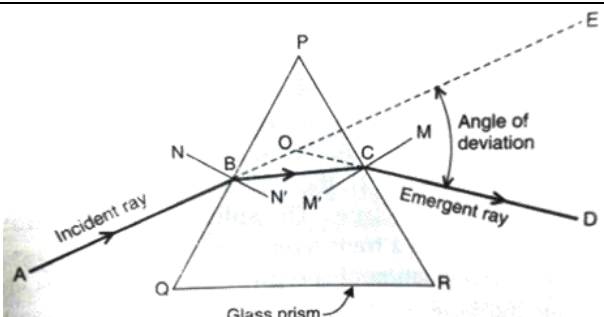
Marking Scheme – SCIENCE

SECTION - A		
Q.N O.	VALUE POINTS	
1.	Aluminium OR Reduction	1
2.	Vanilla, onion. any two	1
3.	Iodine	1
4.	In outer space , the sky appears dark instead of blue to an astronaut because there is no atmosphere containing air in outer space to scatter sunlight. Since there is no scattered light to reach our eyes in outer space , the sky appears to be dark there.	1
5.	The nature of this image is virtual and erect	1
6.	The object should be kept in between the "C centre of curvature and the focus F " in concave mirror ." (OR) power of lens $p = 1/f$ $P = -0.5 \text{ D}$	1
7.	The force experienced by a current-carrying conductor is the maximum when the direction of current is perpendicular to the direction of the magnetic field .	1
8.	The magnetic field lines never intersect each other because if two or more lines intersect each other than it means that at that point of intersection , the magnetic field has two directions at the same point. This is not possible for a magnetic field to point in more than one direction at the same point.	1
9.	The commercial unit of electric energy is kilowatt-hour (kWh) . $1\text{kWh} = 3.6 \times 10^6 \text{ J}$ (OR) Write the function of voltmeter in an electric circuit?	1

10.	Does not allow the collapse of trachea even when there is not much air in it.	1
11.	<p>1 Excess water gets removed through transpiration 2. Some waste products are stored as resins and gums especially in old xylem. $\frac{1}{2} + \frac{1}{2}$</p> <p style="text-align: center;">OR</p> <p>The blood passes through the heart twice in one complete cycle. Right heart – de oxygenated and left heart – Oxygenated</p>	1
12.	<p>Since so little energy is available for the next level of consumers. The loss of energy at each step is so great.</p> <p style="text-align: center;">OR</p> <p>A food chain refers to the order of events in an ecosystem, where one living organism eats another organism and later that organism is consumed by another larger organism.</p>	1
13.	<p>(i) Aerobic respiration $\frac{1}{2}$ (ii) Anaerobic respiration $\frac{1}{2}$</p>	1
14.	(d) A is false, but R is true.	1
15.	Option C –A is true but Reason is false	1
16.	Option C –A is true but Reason is false	1
17.	BIOLOGY- CASE BASED QUESTIONS	1x4
	i) c	
	ii) d	
	iii) c	
	iv) c	
	v) d	
18.	CHEMISTRY- CASE BASED QUESTIONS	1x4
	i) Li, Na, K, Rb , Cs	
	ii) Bromine	
	iii) Fluorine	
	iv) Increases	
	v) Ionic	
19.	PHYSICS- CASE BASED QUESTIONS	1x4

	i) D	
	ii) B	
	iii) A	
	iv) D	
	v) B	
20.	PHYSICS- CASE BASED QUESTIONS	1x4
	i) B	
	ii) C	
	iii) B	
	iv) D	
	v) D	
SECTION - B		
21.	1 Exchange of gases by diffusion process. 1 mark 2. (i) Absorption and upward movement of water (ii) temperature regulation. $\frac{1}{2} + \frac{1}{2}$ OR 1. Filtration of nitrogenous waste from blood and osmoregulation. $\frac{1}{2} + \frac{1}{2}$ 2. For exchange of materials by diffusion process. 1 mark	2
22.	1 Absorption of light energy by chlorophyll 2. Conversion of light energy into chemical energy 3. Splitting up of water molecules into hydrogen and oxygen $\frac{1}{2}$ each 4. Reduction of carbon di oxide into carbohydrate.	2
23.	Magnesium .Only highly reactive metal can displace less reactive metal. (0.5 + 0.5) $\text{Mg} + \text{ZnSO}_4 \rightarrow \text{MgSO}_4 + \text{Zn}$ (1) OR Those oxides which shows both acidic and basic character.(1) Any one example with equation. (0.5 + 0.5)	2
24.	Definition (1) C_3H_6 (1)	2
25.	The splitting up of white light into seven colours on passing through a transparent medium like a glass prism is called dispersion of light. <u>Cause of dispersion of light:</u> When light passes through a prism, the different frequencies of light travel at different velocities. Because of refraction, the different velocities make the angles of refraction different, causing the light to travel in slightly different directions. (i) the most is violet (ii) the least is red	2
26.	(a) Parallel combination of 3Ω and 6Ω resistors in series with 2Ω resistor. (b) 2Ω, 3Ω and 6Ω are connected in paralle.	2

SECTION - C

27.	<p>i) Green plants</p> <p>ii) 25%</p> <p>iii) 1:2</p> <p>OR</p> <p>Agree with the statement. $\frac{1}{2}$</p> <p>All the variation do not have an equal chance of surviving in the environment in which they find themselves. $\frac{1}{2}$</p> <p>The chances of surviving depend on the nature of variation different individuals have different kind of advantages. 1 M</p> <p>A bacteria that can withstand heat will survive better in heat wave. 1 M</p>	3
28.	<p>1) Skin cancer , cataract 1 M</p> <p>2) a. the breakdown of complex organic substances into simple substances will not take place.</p> <p>b. Natural replenishment of soil will not take place. 2 M</p>	3
29.	<p>1. Blood passes through filtration units in the kidney called nephron $\frac{1}{2}$ M</p> <p>2. Passes through glomerulus in the Bowman's capsule – Ultra filtration $\frac{1}{2}$ M</p> <p>3. Reabsorption – Water (as per the need of the body), Glucose and amino acids are all reabsorbed 1 M</p> <p>4. Secretion of excess water, salts and urea (nitrogenous waste) which makes up the urine 1 M</p>	3
30.	<p>Electron dot structure (1)</p> <p>Transfer & Formation (1)</p> <p>Ions (0.5 +0.5)</p>	3
31.	<p>Definition (1)</p> <p>Example with Equation(1 +1)</p>	3
32.	<p>Definition (1)</p> <p>Any two difference (1)</p> <p>2 structures (0.5 + 0.5)</p>	3
33.		3

SECTION - D

34.	<p>Blue (1)</p> <p>Cl₂ (1)</p> <p>Na₂CO₃(1)</p> <p>Acid-H₂SO₄ , Base- KOH (1 +1)</p> <p>OR</p> <p>Salt-CaSO₄.$\frac{1}{2}$ H₂O ...as it becomes hard (Gypsum)(1 + 1)</p> <p>CaSO₄ .$\frac{1}{2}$ H₂O + $\frac{3}{2}$ H₂O →CaSO₄ + 2H₂O (1)</p> <p>Definition (1) Example(1)</p>	5
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35.	<p>1. Female reproductive part of a flower is carpel. 1 M Ovule develops into a seed and a fertilized ovary develops into fruit. 1 M Male germ cells are present in the pollen grain of a flower. Female gamete are present in the ovules located in ovary of a flower. 1 M</p> <p>2. The secretions of seminal vesicle and prostate glands provide nutrition to the sperms and also facilitate their transport. 1M Gonorrhea caused by bacteria AIDS caused by HIV (Human immune deficiency virus) 1 M</p>	5
36.	<div data-bbox="211 462 641 745" data-label="Diagram"> </div> <p> $R = R_1 + R_2 + R_3 = 30\Omega$ $I = V/R = 30 / 30 = 1A$ $V \text{ across } 10\Omega = IR_2 = 1 \times 10 = 10 V$ </p> <p>(b) solve for ratio $X : Y = n^2 : 1$</p> <p style="text-align: center;">(OR)</p> <p>(a)</p> <div data-bbox="203 1123 560 1438" data-label="Image"> </div> <p>(b)(1) Increases (2) Increases</p>	5