

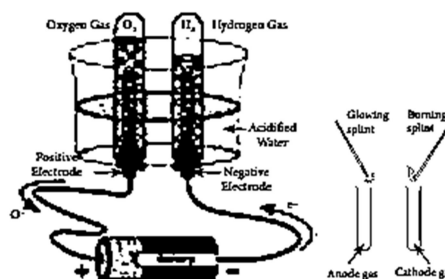
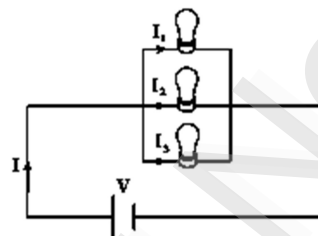
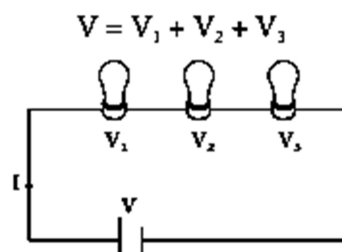
Half Yearly Common Examination Dec – 2023**Science – Answer Key****VIII Standard**

Question No.	Answer Key	Marks		
I.1.	(a) base	1		
2.	(c) 20cm	1		
3.	(d) violin	1		
4.	(a) carbon	1		
5.	(c) carbon dioxide	1		
6.	(a) 0°C	1		
7.	(d) Bacteria	1		
8.	(a) higher concentration to a region of lower concentration	1		
9.	(c) larynx	1		
10.	(d) formic acid	1		
II. 11.	increases	1		
12.	Smaller, virtual, erect	1		
13.	Calorie	1		
14.	Series connection	1		
15.	Water and oxygen	1		
16.	atom	1		
17.	Natural indicator	1		
18.	dicot	1		
19.	ostrich	1		
20.	Radial	1		
III. 21.	False. Atomic clocks are used in GPS DEVICES	1		
22.	True	1		
23.	True	1		
24.	True	1		
25.	False. Formation of slaked lime from quicklime is an exothermic reaction	1		
26.	False. Sea water is not suitable for irrigation as it contains dissolved salts	1		
27.	False. Acids are sour in taste	1		
28.	True	1		
29.	False. Pinus is an open seeded plant	1		
30.	True	1		
IV.31.	Ultrasonics	-	Frequency more than 20000 Hz	1
32.	Speed of sound in air	-	330ms ⁻¹	1
33.	Infrasonics	-	Frequency below 20 Hz	1
34.	Atom	-	Smallest unit of a substance	1
35.	Element	-	Atoms of same kind	1
36.	Compound	-	Atoms of different kind	1

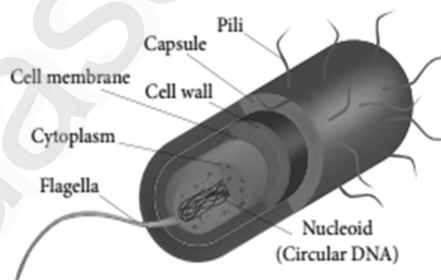
37.	Carbohydrates	-	Glucose	1
38.	Protein	-	Amino acid	1
39.	Amino acids	-	Enzymes, hormone, protein	1
40.	Fatty acids	-	Cholesterol and other steroid	1
V.41.	Celsius Fahrenheit Kelvin			2
42.	The measure of the power of the emitted light, by a light source in a particular direction, per unit solid angle is called as luminous intensity.			2
43.	Broader straps are provided on heavy bags for giving less pressure on the shoulders by providing a larger area of contact with the shoulder.			2
44.	The distance between the pole and the principal focus is called focal length (f) of a spherical mirror.			2
45.	The process of heat transfer in solids from the region of higher temperature to the region of lower temperature without the actual movement of atoms or molecules is called as conduction.			2
46.	Rubbing certain materials with one another can cause the built-up of electrical charges on the surfaces. So charges are produced by friction.			2
47.	Music		Noise	2
	provides a pleasing sensation to the ear.		unpleasant to the ear	
	produced by the regular patterns of vibrations.		irregular and non-periodic vibrations.	
48.	Metals		Non-metals	2
	Usually solid		Solid, liquid or gas.	
	Boiling point is Usually high		Boiling point is Usually low	
49.	The unwanted change in the physical, chemical and biological properties of the environment is termed as pollution			2
50.	1. Liquid nitrogen is used as a refrigerant. 2. It provides an inert atmosphere for conducting certain chemical reactions.			2
51.	Law of constant proportions states that in a pure chemical compound the elements are always present in definite proportions by mass.			2
52.	Every litre of sea water contains 35 grams of dissolved salts most commonly known as sodium chloride (NaCl). So it is unfit for drinking			2
53.	Acid is defined as a substance which contains one or more replaceable hydrogen atoms.			2
54.	Disease causing organisms are called pathogens.			2
55.	1. Mushrooms contain rich protein, minerals and are edible. Example: Agaricus. 2. The antibiotic penicillin is got from the fungus penicillium notatum other antibiotics like gentamycin, erythromycin are also got from fungi.			2
56.	1. Epithelial (covering) tissue for protection. 2. Muscular (contractile) tissue for movements and locomotion. 3. Connective (supporting) tissue for binding different structures of body. 4. Nervous tissue for conduction of nerve impulses			2
57.	1. Muscles often work in pairs which work against each other. These are called antagonistic pairs. 2. The muscles in the upper arm control the bending and straightening of the arm.			2

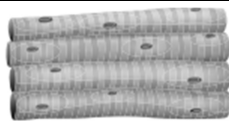
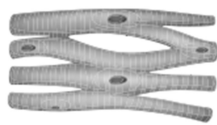

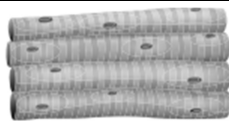
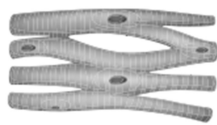

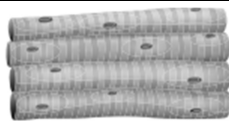
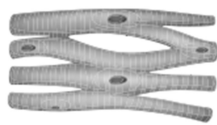
58.	<ol style="list-style-type: none"> The term adolescence is derived from the Latin word 'adolescere' meaning 'to grow' or 'grow to maturity'. Biologically it is a physical transition marked by the onset of puberty and termination of physical growth in an individual. 	2																								
59.	The fusion of the sperm and egg is called fertilization.	2																								
60.	<ol style="list-style-type: none"> A bird has streamlined body. Its bones are light and strong. They are hollow and have air spaces between them. The hind limbs of birds are modified as claws, which help them to walk and to perch. The breast bones are modified to hold massive flight muscles which help in moving wings up and down. Birds have special flight muscles and the forelimbs are modified as wings. The wings and tail have long feathers, which help in flying. Birds show two types of flight: gliding and flapping. 																									
VI.61.	<table border="1"> <thead> <tr> <th>Quantity</th> <th>Unit</th> <th>Symbol</th> </tr> </thead> <tbody> <tr> <td>Length</td> <td>metre</td> <td>m</td> </tr> <tr> <td>Mass</td> <td>kilogram</td> <td>kg</td> </tr> <tr> <td>Time</td> <td>second</td> <td>s</td> </tr> <tr> <td>Temperature</td> <td>kelvin</td> <td>K</td> </tr> <tr> <td>Electric Current</td> <td>ampere</td> <td>A</td> </tr> <tr> <td>Amount of Substance</td> <td>mole</td> <td>mol</td> </tr> <tr> <td>Luminous Intensity</td> <td>candela</td> <td>cd</td> </tr> </tbody> </table>	Quantity	Unit	Symbol	Length	metre	m	Mass	kilogram	kg	Time	second	s	Temperature	kelvin	K	Electric Current	ampere	A	Amount of Substance	mole	mol	Luminous Intensity	candela	cd	5
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62.	<p>A ray of light, falling on a body having a shiny polished and smooth surface alone is bounced back. This bouncing back of the light rays as they fall on the smooth, shiny and polished surface is called reflection.</p> <p>Regular reflection:</p> <ol style="list-style-type: none"> When a beam of light (collection of parallel rays) falls on a smooth surface, it gets reflected. After reflection, the reflected rays will be parallel to each other. Here, the angle of incidence and the angle of reflection of each ray will be equal. Hence, the law of reflection is obeyed in this case and thus a clear image is formed. This reflection is called 'regular reflection' or 'specular reflection'. <p>Irregular reflection:</p> <ol style="list-style-type: none"> In the case of a body having a rough or irregular surface, each region of the surface is inclined at different angles. When light falls on such a surface, the light rays are reflected at different angles. In this case, the angle of incidence and the angle of reflection of each ray are not equal. Hence, the law of reflection is not obeyed in this case and thus the image is not clear. Such a reflection is called 'irregular reflection' or 'diffused reflection'. 	5																								
63.	<p>Series Circuit:</p> <ol style="list-style-type: none"> A series circuit is one that has more than one resistor (bulb) but only one path through which the electrons can travel. From one end of the battery the electrons move along one path with no branches through the resistors (bulbs) to the other end of the cell. 	5																								

	<p>3. All the components in a series circuit are connected end to end.</p> <p>4. So, current through the circuit remains same throughout the circuit.</p> <p>5. But, the voltage gets divided across the bulbs in the circuit.</p> <p>6. In the following series circuit two bulbs are used as resistors.</p> <p>7. Let I be the current through the circuit and V_1, V_2, V_3 be the voltage across each bulb.</p> <p>8. The supply voltage V is the total of the individual voltage drops across the resistances. $V = V_1 + V_2 + V_3$</p> <p>Parallel Circuit:</p> <p>1. In a parallel circuit, there is more than one resistor (bulb) and they are arranged on many paths.</p> <p>2. This means charges (electrons) can travel from one end of the cell through many branches to the other end of the cell.</p> <p>3. Here, voltage across the resistors (bulbs) remains the same but the current flowing through the circuit gets divided across each resistor.</p> <p>4. Let us consider three bulbs connected in series.</p> <p>5. Let V be the voltage across the bulbs and I_1, I_2, I_3 be the current across each bulb.</p> <p>6. The current I from the battery is the total of the individual current flowing through the resistances. $I = I_1 + I_2 + I_3$</p>	
64.	<p>Acid rain affects us in many ways. Some of the consequences are given below.</p> <ol style="list-style-type: none"> 1. It irritates eyes and skin of human beings. 2. It inhibits germination and growth of seedlings. 3. It changes the fertility of the soil, destroys plants and aquatic life. 4. It causes corrosion of many buildings, bridges, etc. <p>Preventive measures:</p> <p>Acid rain and its effects can be controlled by the following ways.</p> <ol style="list-style-type: none"> 1. Minimizing the usage of fossil fuel such as petrol, diesel etc. 2. Using CNG (Compressed Natural Gas). 3. Using non – conventional source of energy. 4. Proper disposal of the industrial wastes. 	5
65.	<p>The process of breaking down of water molecules by the passage of electric current is known as electrolysis of water.</p> <p>Electrolysis of Water:</p> <ol style="list-style-type: none"> 1. A glass beaker is fixed with two carbon electrodes and it is filled with water up to one third of its volume. 2. The positive carbon electrode acts as anode and the negative carbon electrode acts as cathode. 3. Two test tubes are placed on the electrodes. 4. The electrodes are connected to a battery and current is passed until the test tubes are filled with a particular gas. 	5



	<p>5. If the gas collected is tested using a burning splint we can notice that the gas in cathode side burns with a popping sound when the burning splint is brought near the mouth of the test tube.</p> <p>6. This property is usually shown by hydrogen gas and so it is confirmed that the gas inside the test tube is hydrogen.</p> <p>7. The burning splint placed near the anode side burns more brightly confirming that it is oxygen gas. This experiment shows that water is made up of hydrogen and oxygen.</p> <p>8. The ratio of hydrogen and oxygen is 2:1. Hence, for every two volumes of hydrogen collected at the cathode, there is one volume of oxygen collected at the anode.</p>	
66.	<p>1. Hydrochloric acid present in our stomach helps in the digestion of foodstuff.</p> <p>2. Vinegar (acetic acid) is used to preserve food materials.</p> <p>3. Benzoic acid is also used to preserve food materials like pickles.</p> <p>4. Sodium or potassium salts of higher fatty acids are used to make washing and bathing soaps.</p> <p>5. Sulphuric acid is called the king of chemicals. It is an effective dehydrating agent. It is used in various industries to make detergents, paints, fertilizers and many more chemicals.</p> <p>6. Hydrochloric acid, Nitric acid and Sulphuric acid are important laboratory reagents.</p> <p>7. Cells of all living organisms contain the fundamental nuclear material called nucleic acids. Animals have deoxyribo nucleic acid (DNA) whereas plants contain ribo nucleic acid (RNA).</p>	5
67.	<ul style="list-style-type: none"> • A bacterium has an outer covering known as the cell wall. • Nuclear material is represented by a nucleoid without nuclear membrane. • An extra chromosomal DNA called plasmid is present in the cytoplasm. • Protein synthesis is carried out by 70S ribosomes. • Other cell organelles (mitochondria, golgi body, endoplasmic reticulum etc.,) are absent. • Flagella aids in locomotion. 	5
68.	<p>Medicinal plants and their uses:</p> <p>1. <i>Acalypha indica</i> (Kuppaimeni):</p> <ul style="list-style-type: none"> • The paste obtained from the leaves of this plant is used to cure the bums on the skin. • The juice of this plant leaves is mixed with lemon juice to cure ringworm. <p>2. <i>Aegle marmelos</i> (Vilvam):</p> <ul style="list-style-type: none"> • The unripe fruit of this tree is used to treat indigestion. • It is used to cure chronic, diarrhoea and dysentery. <p>3. <i>Solanum trilobatum</i>:</p> <ul style="list-style-type: none"> • The leaves and fruits of this plant cure cough and cold. • It is widely used in the treatment of tuberculosis and bronchial asthma. <p>4. <i>Phyllanthus amarus</i> (Keezhanelli):</p>	5



	<ul style="list-style-type: none"> The entire plant is used for the treatment of jaundice. It gives additional strength to human liver and used to treat other liver disorders. <p>5. Aloe vera (Sothu katrazhai):</p> <ul style="list-style-type: none"> Leaves of this plant is used to cure piles and inflammations on the skin. It cures peptic ulcer. 																	
69.	<table border="1"> <thead> <tr> <th>Inhalation</th> <th>Exhalation</th> </tr> </thead> <tbody> <tr> <td>The muscles of the diaphragm contract.</td> <td>The muscles of the diaphragm relax.</td> </tr> <tr> <td>The diaphragm goes downward.</td> <td>The diaphragm goes upward.</td> </tr> <tr> <td>The ribs move upwards and outwards.</td> <td>The ribs move downwards.</td> </tr> <tr> <td>The volume of thoracic (chest) cavity increases.</td> <td>The volume of thoracic (chest) cavity decreases.</td> </tr> <tr> <td>Air enters the lungs through the nose.</td> <td>Air goes out of the lungs through the nose.</td> </tr> </tbody> </table>	Inhalation	Exhalation	The muscles of the diaphragm contract.	The muscles of the diaphragm relax.	The diaphragm goes downward.	The diaphragm goes upward.	The ribs move upwards and outwards.	The ribs move downwards.	The volume of thoracic (chest) cavity increases.	The volume of thoracic (chest) cavity decreases.	Air enters the lungs through the nose.	Air goes out of the lungs through the nose.	5				
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70.	<p>Muscles found in higher vertebrates are of three types:</p> <ol style="list-style-type: none"> Striated or skeletal muscles or voluntary muscles. Unstriated or smooth muscles or involuntary muscles. Cardiac muscles. <table border="1"> <thead> <tr> <th>Muscle</th> <th>Location</th> <th>Characteristics</th> <th>Example</th> </tr> </thead> <tbody> <tr> <td>Striated / Skeletal / Voluntary muscle</td> <td>Attached to bones. Found in arms, legs, neck.</td> <td>Multinucleate, Unbranched, Voluntary.</td> <td></td> </tr> <tr> <td>Non striated / Smooth / Involuntary muscle</td> <td>Attached to soft parts of the body like blood vessels, iris, bronchi and the skin.</td> <td>Single, central nucleus Involuntary</td> <td></td> </tr> <tr> <td>Cardiac muscle</td> <td>Heart</td> <td>Branched, 1 -3 central nuclei Involuntary</td> <td></td> </tr> </tbody> </table>	Muscle	Location	Characteristics	Example	Striated / Skeletal / Voluntary muscle	Attached to bones. Found in arms, legs, neck.	Multinucleate, Unbranched, Voluntary.		Non striated / Smooth / Involuntary muscle	Attached to soft parts of the body like blood vessels, iris, bronchi and the skin.	Single, central nucleus Involuntary		Cardiac muscle	Heart	Branched, 1 -3 central nuclei Involuntary		5
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