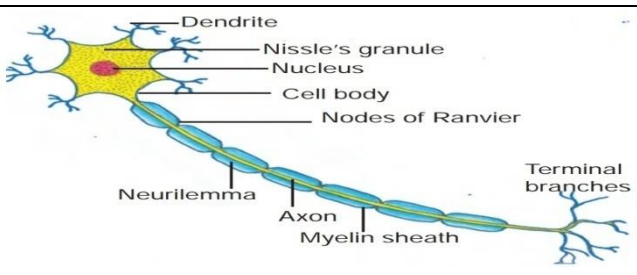
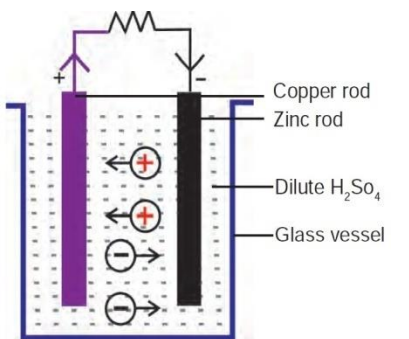
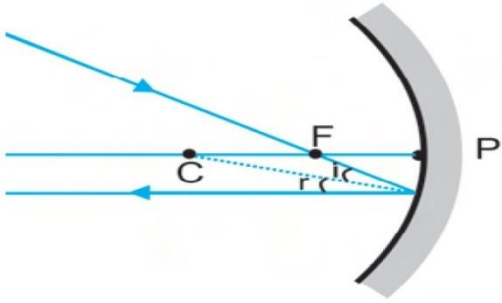


SSLC – HALF YEARLY EXAMINATION DECEMBER 2018
SCIENCE – ANSWER KEY (English Medium)

	1	(a) Africa	9	(b) Lactic Acid										
	2	(c) Virus	10	(b) Stainless Steel										
	3	(c) Thyroid	11	(a) CH ₂										
	4	(d) Sexual Reproduction	12	(a) Positive										
	5	(a) Incisor	13	(c) Force										
	6	(a) Transport of water	14	(d) Coal										
	7	(b) Compact Florescence Light	15	(a) Crystalline Lens										
	8	(a) Helium - oxygen												
16	<table border="1"> <tbody> <tr> <td>Vaccine</td> <td>Microbes</td> </tr> <tr> <td>Natural gas</td> <td>Fuel</td> </tr> <tr> <td>Citric acid</td> <td>Organic acids</td> </tr> <tr> <td>Monoclonal antibodies</td> <td>Medicines</td> </tr> <tr> <td>Vitamins</td> <td>Metabolism</td> </tr> </tbody> </table>				Vaccine	Microbes	Natural gas	Fuel	Citric acid	Organic acids	Monoclonal antibodies	Medicines	Vitamins	Metabolism
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17	<p>Phenotype: Expression of morphological characters is called Phenotype. E.g. tall or dwarf plant, violet or white flower</p> <p>Genotype: Genetic makeup of an individual for a particular trait is called Genotype. E.g. TT, Tt, tt</p>													
18	<p>a) Amylase b) Pancreas</p>													
19	<ul style="list-style-type: none"> ➤ Triple antigen is a vaccine which is used against 3 infectious diseases in human. ➤ It is also known as DTP vaccine. ➤ Diseases which can be prevented by using this vaccine - Diphtheria, Pertussis, Tetanus. 													
20														
21	<ul style="list-style-type: none"> ➤ The mesocarp of coconut is fibrous and is easily carried by water currents. ➤ The fibrous mesocarp of coconut fruit is the modification for hydrochory. 													
22	<table border="1"> <tbody> <tr> <td>Whales</td> <td>Limbs</td> </tr> <tr> <td>Polar Bear</td> <td>Thick skin</td> </tr> <tr> <td>Kangaroo</td> <td>Abdominal pouches</td> </tr> <tr> <td>Herbivorous Mammals</td> <td>Cellulose</td> </tr> </tbody> </table>				Whales	Limbs	Polar Bear	Thick skin	Kangaroo	Abdominal pouches	Herbivorous Mammals	Cellulose		
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23	<p>Matured red blood cells (RBC) are without nuclei.</p> <p>Advantage: The space occupied by the nucleus is taken by the haemoglobin molecules. Haemoglobin molecules are concerned with carrying of respiratory gases. They carry oxygen from lungs to all cells of the body.</p>																							
24	(b) Kidneys maintain the chemical composition of blood.																							
25	(a) 180 L (b) One litre or two litres																							
26	(a) Carbon di-oxide (b) Alveoli																							
27	<ol style="list-style-type: none"> 1. If we touch the touch-me-not plant at one point, all the leaflets show the folding movement. 2. This indicates that the stimulus at one point is communicated. 3. The folding effect of touch-me-not plant is caused by a change in the turgidity of the leaflets brought about by the movement of water into and out of the parenchymatous cells of pulvinus or swollen leaf base. 																							
28	If all the grass is removed from the grass land ecosystem then it would affect both land and water eco-system as there will be no food for organisms. Killing animals and polluting land, air and water also disturb the balance in nature.																							
29	(a) Natural gas(Hydrogen gas) is used in the production of fertilizers. (b) Hydrogen gas.																							
30	<p>Bioremediation in Sewage Treatment</p> <p>Bioremediation is a technique which is used to clean up the environment using microorganisms. Nitrosomonas europaea can be used to treat sewage, freshwater, walls of buildings and the surface of monuments especially in polluted areas, where there are high levels of nitrogen compounds.</p>																							
31	<ul style="list-style-type: none"> ▪ Wind energy is an environment-friendly and efficient source of renewable energy. ▪ It requires no recurring expenses for the production of electricity. 																							
32	<table border="1"> <thead> <tr> <th>Items</th> <th>Solute</th> <th>Solvent</th> </tr> </thead> <tbody> <tr> <td>(a) Cheese</td> <td>Liquid</td> <td>Solid</td> </tr> <tr> <td>(b) Soda Water</td> <td>Gas</td> <td>Liquid</td> </tr> <tr> <td>(c) Smoke</td> <td>Solid</td> <td>Gas</td> </tr> <tr> <td>(d) Sugar solution</td> <td>Solid</td> <td>Liquid</td> </tr> </tbody> </table>			Items	Solute	Solvent	(a) Cheese	Liquid	Solid	(b) Soda Water	Gas	Liquid	(c) Smoke	Solid	Gas	(d) Sugar solution	Solid	Liquid						
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34	<p>Gram molar volume of oxygen = $\frac{\text{Gram molar mass}}{\text{Density of oxygen}} = \frac{32}{1.429} = 22.4$ litre</p> <p>Gram molar volume of oxygen = 22.4 litre.</p>																							

35	<ul style="list-style-type: none"> • Iron is more reactive than copper. • So, iron displaces copper from copper sulphate solution. • Blue colour of the copper sulphate solution changes into green colour and the iron nail acquires a brownish look. $\text{Fe} + \text{CuSO}_4 \rightarrow \text{FeSO}_4 + \text{Cu}$								
36	<ul style="list-style-type: none"> • In fireworks, powdered magnesium is used rather than magnesium ribbon. • Copper sulphate solution acts as a catalyst. So, it speeds up the reaction. 								
37	<p>i. Pig iron is used in making pipes, stoves, radiators, railings, manhole covers and drain pipes.</p> <p>ii. Steel is used in the construction of buildings, machinery, transmission cables and T.V. towers and in making alloys.</p> <p>iii. Wrought iron is used in making springs, anchors and electromagnets.</p>								
38	(a) Assertion and reason are correct and relevant to each other								
39	<p>(a) Graphite is a good conductor of electricity since it has free electrons in it.</p> <p>(b) Vander Waals force.</p>								
40	<p>Mass of cart, $m = 65 \text{ kg}$ Acceleration, $a = 0.3 \text{ ms}^{-2}$</p> <p>Force exerted on cart, $F = m.a$</p> <p style="padding-left: 100px;">$= 65 \times 0.3$</p> <p style="padding-left: 100px;">$= 19.5 \text{ N}$</p>								
41	Positive, Negative								
42	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;">1. Electric current</td> <td style="width: 50%; padding: 5px;">Ampere</td> </tr> <tr> <td style="padding: 5px;">2. Potential difference</td> <td style="padding: 5px;">Volt</td> </tr> <tr> <td style="padding: 5px;">3. Resistor</td> <td style="padding: 5px;">Ohm</td> </tr> <tr> <td style="padding: 5px;">4. Electric charge</td> <td style="padding: 5px;">Coulomb</td> </tr> </table>	1. Electric current	Ampere	2. Potential difference	Volt	3. Resistor	Ohm	4. Electric charge	Coulomb
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43	<div style="display: flex; align-items: center;"> <div style="flex: 1;">  </div> <div style="flex: 1; padding-left: 20px;"> <p>44</p> <ol style="list-style-type: none"> 1. Using smokeless appliances 2. Promoting afforestation. 3. Installing pollution control equipment to reduce the escape of harmful gases and ashes into the surroundings. 4. Bio fuels such as Bio-diesel and Bio-alcohol can be used as vehicle fuel instead of petroleum. </div> </div>								
45	<ol style="list-style-type: none"> 1. The band of coloured component of a light beam is called its spectrum 2. The prism splits the white light into a band of colours. <p style="text-align: center;">Sequence of colours: Violet, Indigo, Blue, Green, Yellow, Orange and Red (VIBGYOR)</p>								

46	(a) The light will bend (Refraction) (b) No. Light will change its direction.
47	<p>a) Ray diagram</p>  <p>b) A ray passing through the principal focus of a concave mirror, after reflection, will emerge parallel to the principal axis.</p>
	<p style="text-align: center;">BY M. MOHAN , B.T ASSISTANT Chennai Girls Hr.Sec. School, M.H Road Perambur, Chennai – 11 Mob: 9444528287</p>