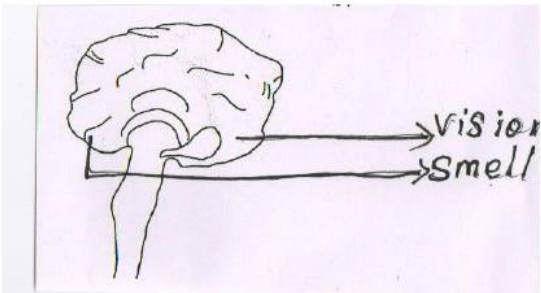


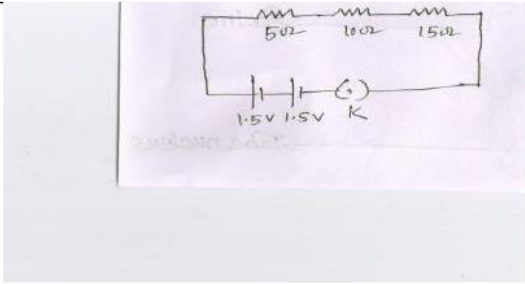
SSLC PUBLIC EXAMINATION MAR/APRIL -2015, SCIENCE ANSWER KEY

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Qn No	Answer	Mark
1	Africa	1
2	Utensils of Patients	1
3	Micropyle	1
4	Transports of Water	1
5	Petroleum	1
6	Helium – Oxygen	1
7	Lactic Acid	1
8	Ag-Sn Amalgam	1
9	7	1
10	Free Electrons	1
11	Nitrogen	1
12	4V	1
13	Electric Energy	1
14	Magnetic Field	1
15	Convex Lens	1
Section II		
16	a) Natural clones b) Similar to each other	1 1
17	1) Vitamine A - nyctalopia 2) Vitamine B1 – beri beri 3) Vitamine C - scurvy 4) Vitamine D - rickets	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$
18		1+1
19	Emergency Hormones (or)	

	Hormones of flight and fight	2
20	a) Alpha cells produce glucagon and beta cells produce insulin b) Ovary produces eggs and oestrogen	1 1
21		1+1
22	Forelimbs are modified into Wings or echo	2
23	Any two parts 	1+1
24	a) It carries Oxygen b) Engulfing the germs or antibody	1 1
25	Pancreas	2
26	<p>Mulberry → Caterpillar → Sparrow → Kite</p>	1
27	The statement is incorrect A renewable resource is a natural resource if it is replaced by natural process at a rate comparable or faster than its rate of consumption by human	1 1
28	a) Dengue fever , chikungunya	1

	b) This is caused by insect vectors which breed in water	1
29	Solar water heater, electronic choke	2
30	Any two points	1+1
31	weight of solute = 20g weight of solvent = 50g Weight percentage = $\frac{\text{weight of the solute}}{\text{wt of solute+wt of solvent}} \times 100$ = $\frac{20}{20+50} \times 100$ = 28.57%	1 1
32	Isotopes - ${}_{17}\text{Cl}^{35}$, ${}_{17}\text{Cl}^{37}$ Isobars - ${}_{18}\text{Ar}^{40}$, ${}_{20}\text{Ca}^{40}$	1 1
33	a) Decomposition Reaction b) Oxidation or Combination reaction	1 1
34	Apple – Malic acid Lemon – Citric Acid Grape – Tartaric acid Tomato – oxalic Acid	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$
35	When iron is dipped in con HNO ₃ with becomes chemically inert or passive due to the formation of a layer of iron oxide on its surface	2
36	Any two point Uses of Aluminium 1. Household utensils 2. Electrical cable industry 3. Aeroplanes and other industrial parts 4. aThermite welding	1+1
37	Alcohol -OH Aldehyde - CHO Ketone >C=O Carboxylic acid -COOH	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$
38	a) Momentum = mass x velocity b) Liquid Helium	1 1
39	c) It is measured using spring balance	2
40	Energy produced $E = mc^2$ Mass $m = 1\text{Kg}$ Velocity of light $C = 3 \times 10^8 \text{ m/s}$ $E = 1 \times (3 \times 10^8)^2$ $= 9 \times 10^{16} \text{ J}$	$\frac{1}{2}$ $\frac{1}{2}$ 1
41	a) A good source of energy would be one which does a large amount of work per unit volume of mass b) Any source of energy we use to do work is consumed and cannot be used again.	1 1

42		2
43	<p>a) Magnetic field is a quantity that has both magnitude and direction .</p> <p>b) The magnetic field lines emerge from the north pole and merge at the south pole.</p>	1 1
44	<p>a) Iris</p> <p>b) Retina</p>	1 1
45	<p>a) Hypermetropia and Presbyopia</p> <p>b) By using convex lens for Hypermetropia and by using Bi-focal lens for Presbyopia</p>	1 1
SECTION - III		
PART A		
46	<p>Various applications of Bio Technology</p> <p>ANY 5 POINTS</p>	1+1+1+1+1
47	<p>a) 3 points</p> <p>b) Chill and Shiver</p>	3 2
PART II		
48	<p>Polination and Fertilization</p> <p>a) Explanation of Pollination</p> <ol style="list-style-type: none"> 1. Self Pollination 2. Cross pollination <p>b) Advantages and disadvantages (each one point)</p>	1 1 1 1+1
49	Any 5 measures to meet scarcity of water	5x1=5
PART III		
50	<p>a) $H_2O = 2(H)+1(O)$</p> <p>$= 2(1) + 1(16)$</p> <p>$= 18g$</p> <p>b) Any three points</p>	1 1 3x1 = 3

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51	SI No	Molecular formula	Common name	IUPAC name		
	1	$\text{CH}_3\text{CH}_2\text{CHO}$	Propionaldehyde	Propanal	$\frac{1}{2} + \frac{1}{2}$	
	2	CH_3COCH_3	Dimethyl ketone (Acetone)	Propanone	$\frac{1}{2} + \frac{1}{2}$	
	3	$\begin{array}{c} \text{CH}_3-\text{CH}-\text{CH}_3 \\ \\ \text{OH} \end{array}$	Isopropyl alcohol	2- Propanol	$\frac{1}{2} + \frac{1}{2}$	
	4	CH_3COOH	Acetic Acid	Ethanoic Acid	$\frac{1}{2} + \frac{1}{2}$	
	5	HCHO	Formaldehyde	Methanal	$\frac{1}{2} + \frac{1}{2}$	
PART IV						
52	a) Newtons first Law				2	
	Example				1	
	b) Newtons law of gravitation				2	
53	a) Diagram				1	
	i) PE incident ray ii) EF Refracted ray iii) FS emergent ray iv) $\angle r$ angle of refraction v) $\angle D$ angle of deviation vi) $\angle e$ angle of emergence				2	
b) Refractive index $V = C/\mu$ $= 3 \times 10^8 / 2.42$ $= 1.23 \times 10^8 \text{ ms}^{-1}$				2		
The speed of light in diamond is less than the speed of light in Air						