SAMAGRA SHIKSHA , KERALA

SECOND TERMINAL EVALUATION 2018

CHEMISTRY -**Answer key (STD IX)**

Q	Answer/ Hint	Score	Total Score	
1	Atomic Number	1	1	Any Four
2	6	1	1	
3	Heavy Water (D_2O)	1	1	
4	Chlorofluorocarbons (CFC s)	1	1	
5	Nitrogen	1	1	
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6	**a)** Atomic size ***increases*** down the group	1	2	Any Four
	d) Non- metallic nature generally ***increases*** from left to right across a period	1		
7	***a) <u>During lightning</u>*** *the triple bond in* ***nitrogen*** *breaks and* ***combines with*** *the atmospheric* ***oxygen to form nitric oxide (NO). Nitric oxide*** *thus formed further* ***combines with*** *more amount of* ***oxygen to form nitrogen dioxide (NO_2).*** $NO + O_2 \rightarrow 2NO$ ***Nitrogen dioxide dissolves in rain water in the presence of oxygen and reaches the soil as nitric acid (HNO_3).*** $4NO_2 + 2H_2O + O_2 \rightarrow 4HNO_3$ $N_2 + O_2 \rightarrow 2NO$	1	2	
	b) *In the manufacture of nitrogenous fertilizers* • *For inflating tyres of vehicles* • *Liquid nitrogen is used as a refrigerant* • *To avoid the presence of oxygen in food packets* ***(Any two)***	1		
8	<table><tr><th>Element</th><th>Atomic Number</th><th>Electronic Configuration</th><th>Group Number</th></tr><tr><td>Nitrogen</td><td>7</td><td>(a) 2,5</td><td>(b) 15</td></tr><tr><td>Calcium</td><td>(c) 20</td><td>2,8,8,2</td><td>(d) 2</td></tr></table>	½ x 4	2	
9	**a)** H_2SO_4, H_2CO_3	1	2	
	b) Two	1		
10	**a)** Hydrogen / H_2	1	2	
	b) H_2O	1		
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11	**a)** 2,8,2	1	3	11-15 Any Four
	b) Group = 2 , Period = 3	1		
	c) 2	1		

12	**a)** Carbon dioxide / CO_2	**1**	**3**	
	b) Carbonic acid (Soda water)	**1**		
	c) Potassium carbonate	**1**		
13	**a)1.** High calorific value **2.** No environmental pollution **(Or any other suitable answers)**	**½ each**	**3**	
	b) Hydrogem is not easily available. Hydrogen is a gas that burns explosively in air. The storage and distribution of hydrogen is difficult.	**2**		
14	**a)** $H_2SO_4 \rightarrow 2H^+ + \underline{SO_4^{2-}}$ $Ca(OH)_2 \rightarrow Ca^{2+} + \underline{2\ OH^-}$	**2**		
	b) **$CaSO_4$** or **$Ca(HSO_4)_2$**	**1**		
15	**a)** The stick flares up	**1**	**3**	
	b) Oxygen / O_2	**1**		
	c) Oxygen is industrially produced by the fractional distillation of liquefied air.	**1**		

16	***a)****Take 50 mL dilute hydrochloric acid (HCl) in a burette. Take 20 mL dilute sodium hydroxide (NaOH) solution in a conical flask.* *Add one or two drops of phenolphthalein to the sodium hydroxide solution. Add dilute HCl gradually. Mix the solution well by shaking the conical flask continuously. Observe the change in colour taking place in the NaOH solution. As the reaction proceeds, add HCl drop by drop and shake well. Stop adding HCl when the colour disappears completely with just one drop of HCl solution. Record the volume of HCl consumed by noting the level of acid in the burette.*	**2**	**4**	**16-20 Any Four**
	b) $NaOH + HCl \rightarrow NaCl + H_2O$	**1**		
	c) 7	**1**		
17	**a)** Chlorine / $_{17}Cl$	**1**	**3**	
	b) Sodium / ($_{11}Na$)	**1**		
	c) Nuclear charge , Size of the atom	**1**		
18	**a)** Bleaching	**1**	**4**	
	b) $KMnO_4$, Con. HCl	**1**		
	c) Sulphuric acid / H_2SO_4	**1**		
	d) Bleaching Powder	**1**		
19	**a)** E	**1**	**4**	
	b) C	**1**		
	c) Any two properties of Acids (Sour Taste, Turns blue litmus red ..)	**1**		
	d) Slaked lime	**1**		
20	**a)** Halogens	**1**	**4**	
	b) C :2,8,8	**1**		
	c) A , D	**1**		
	d) BA	**1**		

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