

INTERNATIONAL INDIAN SCHOOL, RIYADH

First Term Examination 2014-15

SET-B

Class- XI  
Sub. – Chemistry

Time- 3 hrs.  
Max. Marks- 70

General Instructions:

- 1) Questions 1 to 5 are very short answer questions carrying 1 mark each.
- 2) Questions 6 to 10 are short answer questions carrying 2 marks each.
- 3) Questions 11 to 22 are short answer questions carrying 3 marks each.
- 4) Question 23 is value based question carrying 4 marks.
- 5) Questions 24 to 26 are long answer questions carrying 5 marks each.
- 6) There is no overall choice for questions. However internal choices have been provided for one 2 mark questions, one 3 mark question and for all questions carrying 5 marks.
- 7) Use of calculator is not allowed. However log tables can be used if necessary.

1. State the law of definite proportion.
2. Write the general electronic configuration of f-block elements.
3. Define molarity.
4. What is intramolecular hydrogen bonding?
5. State Heisenberg's Uncertainty Principle.
6. A) Write the electronic configuration of Cr (24).  
B) State Pauli exclusion principle.
7. Chlorine is prepared in the laboratory by treating manganese dioxide ( $\text{MnO}_2$ ) with aqueous hydrochloric acid according to the reaction,  
 $4 \text{HCl} (\text{aq}) + \text{MnO}_2 (\text{s}) \rightarrow 2\text{H}_2\text{O} (\text{l}) + \text{MnCl}_2 (\text{aq}) + \text{Cl}_2 (\text{g})$   
How many grams of HCl react with 5.0 g of manganese dioxide?

Or

2.46g of NaOH (molar mass = 40) are dissolved in water and the solution is made upto  $100\text{cm}^3$  in a volumetric flask. Calculate the molarity of the solution.

8. A compound contains 54.2% C, 9.2% H and 36.6% O. Determine its molecular formula if its molecular weight is 88u. [atomic wt. of C= 12u, H=1u, O=16u]
9. A. Give the drawbacks of Rutherford's model of atom.  
B. Predict the group and period to which the element with the given outer electronic configuration belongs.  $(n-1)d^6 ns^2$  for  $n=5$
10. A) Arrange the given species in the increasing order of ionic radii.  
 $\text{O}^{2-}, \text{K}^+, \text{Na}^+, \text{F}^-$



