Model Paper 2014 Chemistry

Inter 1st Year

TIME : 3 HOURS]   [MAX. MARKS : 60

SECTION-A   10x2=20

NOTE : Answer **all** the questions

1. Calculate the R M S speed of nitrogen molecules at $27^{\circ}C$?
2. What is disproportionation reaction? Give example.
3. Calculate the pH of 0.05M $Ba(OH)_2$ solution.
4. Write the biological importance of magnesium and calcium
5. Give the reactions that takes place at anode and cathode in Castner-Kellner process.
6. Graphite is a good conductor of electricity, Why?
7. What is allotropy ? Name two crystalline allotropes of carbon.
8. Define the terms C O D and B O D?
9. What are the harmful effects of acid rains?
10. G ive the structural formulae of the following compounds
    (a)2,3- dimethyl butane (b) 2-methyl but-1-ene

SECTION-B   6x4=24

NOTE: Answer any **Six** of the following questions.

11. Write any four postulates of kinetic molecular theory of gases.
12. Balance the following redox equation in acidic medium by ion-electron method

    $$MnO_4^- + C_2O_4^{2-} \rightarrow Mn^{2+} + CO_2$$

13. State Hess's law of constant heat summation. Explain with one example.
14. Derive the relation between Kp and Kc for the equilibrium reaction
    $$N_{2(g)} + 3H_{2(g)} \rightarrow 2 NH_{3(g)}$$
15. Explain electrolytic method of preparation of hydrogen peroxide.
16. Explain the structure of diborane on the basis of VBT
17. Explain (a) position Isomerism and (b) functional group Isomerism with one example for each of them.
18. Explain (a) Wurtz reaction and (b) Friedel- Craft's alkylation with one example for each of them.