TELANGANA STATE BOARD OF INTERMEDIATE EDUCATION I YEAR

CHEMISTRY - I

MODEL QUESTION PAPER -Set 1

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°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 9 Name two crystalline allotropes of carbon.

8.   Define the terms COD and BOD?

9.   What are the harmful effects of acid rains?

10.   Give 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.

13.   Derive the relation between K? and K? for the equilibrium reaction

$$N_{2(g)} + 3H_{2(g)} \rightleftharpoons 2NH_{3(g)}$$
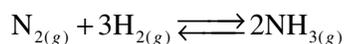
15. Explain electrolytic method of preparation of hydrogen peroxide.

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.

SECTION-C   2x8=16

NOTE : Answer any Two of the following

19. What are Quantum Numbers? Explain the significance of the four quantum numbers associated with an electron.

20. Define first and second ionisation potentials. Why the second ionisation potential of an element is always greater than it's first ionisation potential? Explain any four factors that affect the ionisation potential of an element.

21. (a) Explain sp^3d hybridization with one example.

   (b) Explain the molecular orbital theory of oxygen molecule. Calculate it's bond order and explain it's magnetic property.

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