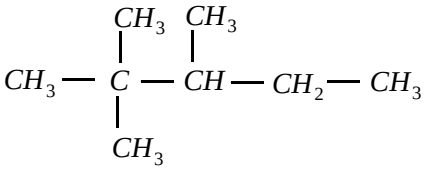
# I YEAR CHEMISTRY QUESTION PAPER – JUNE 2011

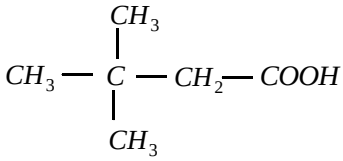
## SECTION - A

**I. Answer all the following:** **10 × 2 = 20**

1. Define Most Probable Velocity.
2. What is cause of Permanent hardness of water?
3. How does Graphite acts as lubricant?
4. Calculate the oxidation number of Carbon in $C_{12}H_{22}O_{11}$ and $CO_2$
5. Name the crystalline allotropes of Carbon and mention the hybridization in them.
6. Define Receptor and Sink.
7. What are the effects of acid rains ?
8. Why are the carbides of Be and Al called methanides ?
9. What is Position isomerism ? Give one example.
10. Write the IUPAC names for the following compounds.

(a) (b)





## SECTION - B

**II. Answer any six of the following:** **6 × 4 = 24**

11. Write the important postulates of Kinetic molecular theory of gases.
12. The percentage composition of an organic compound is given below. Its molecular weight is 136. Calculate its molecular formula.

    C = 70.59, H = 5.88, O = 23.53

13. How does $H_2O_2$ react with the following?

(a) PbS

(b) KI solution

(c) $Cl_2$

(d) Ozone $(O_3)$

14. Explain the orbital structure of Diborane.

15. What is the role of mercury in the manufacture of caustic soda (NaOH)? How does hot, concentrated NaOH react with chlorine? Give equation.

16. Write about Dewar's method for the separation of noble gases from their mixture with diagram.

17. Give any two methods of preparation of Ethylene with equations.

18. How the following are obtained from Benzene?

(a) Nitro benzene

(b) Methyl benzene

**SECTION - C**

**III. Answer any two of the following: 2 × 8 = 16**

19. State the postulates of Bohr's atomic model. Explain the different lines in various series of Hydrogen spectrum with a neat diagram.

20. Write an essay on the classification of elements into s, p, d and f blocks in the periodic table.

21. (a) Explain Co – ordinate covalent bond with an example.

(b) What is Hybridization? Explain $sp^3d$ hybridization with a suitable example.