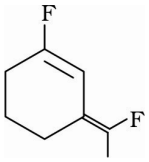
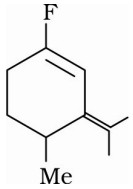
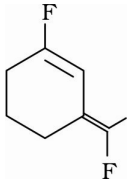
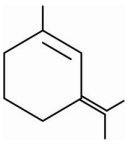
Date Planned : __ / __ / __	Daily Tutorial Sheet-3	Expected Duration : 45 Min
Actual Date of Attempt : __ / __ / __	JEE Main Archive	Exact Duration :_____

31. The most polar compound among the following is : **(2010)**

(A) 

(B) 

(C) 

(D) 

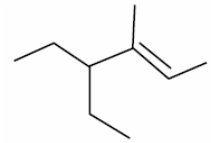
32. 29.5 mg of an organic compound containing nitrogen was digested according to Kjeldahl's method and the evolved ammonia was absorbed in 20 mL of 0.1 M HCl solution. The excess of the acid required 15 mL of 0.1 M NaOH solution for complete neutralization. The percentage of nitrogen in the compound is : **(2010)**

(A) 59.0 **(B)** 47.4 **(C)** 23.7 **(D)** 29.5

33. Identify the compound that exhibits tautomerism. **(2011)**

(A) Lactic acid **(B)** 2-Pentanone **(C)** Benzylalcohol **(D)** 2-Butene

34. The IUPAC name of the following compound is : **(2011)**



(A) 4-methyl-3-ethylhex-4-ene **(B)** 3-ethyl-4-methylhex-4-ene

(C) 4-ethyl-3-methylhex-2-ene **(D)** 4, 4-diethyl-3-methylbut-2-ene

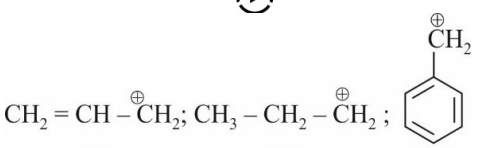
35. The order of stability of the following carbocations : **(2013)**

(A) III > II > I

(B) II > III > I

(C) I > II > III

(D) III > I > II



36. A solution of (–)-1-chloro-1-phenylethane in toluene racemises slowly in the presence of a small amount of $SbCl_5$, due to the formation of : **(2013)**

(A) carbanion **(B)** carbene

(C) carbocation **(D)** free radical

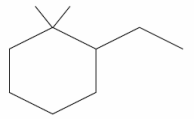
37. A gaseous hydrocarbon gives upon combustion 0.72 g of water and 3.08 g of CO_2. The empirical formula of the hydrocarbon is : **(2013)**

(A) C_3H_4 **(B)** C_6H_5 **(C)** C_7H_8 **(D)** C_2H_4

38. 1.4 g of an organic compound was digested according to Kjeldahl's method and the ammonia evolved was absorbed in 60 mL of $M/10\ H_2SO_4$ solution. The excess sulphuric acid required 20 mL of $M/10$ NaOH solution for neutralization. The percentage of nitrogen in the compound is : **(2014)**

(A) 3 **(B)** 5 **(C)** 10 **(D)** 24

39. The IUPAC name of the following compound is : **(2014)**



(A) 1, 1-Dimethyl-2-ethylcyclohexane

(B) 2-Ethyl-1,1-dimethylcyclohexane

(C) 1-Ethyl-2,2-dimethylcyclohexane

(D) 2, 2-Dimethyl-1-ethylcyclohexane

40. In Carius method of estimation of halogens, 250 mg of an organic compound gave 141 mg of AgBr. The percentage of bromine in the compound is : (Atomic Mass Ag = 108; Br = 80) **(2015)**

(A) 24 **(B)** 36 **(C)** 48 **(D)** 60

41. The optically inactive compound from the following is : **(2015)**

(A) 2-chloropropanal **(B)** 2-chloropentane

(C) 2-chlorobutane **(D)** 2-chloro-2-methylbutane

42. Match the organic compounds in Column-I with the Lassaigne's test results in Column-II appropriately : **(2015)**

Column-I		Column-II	
1	Aniline	**(p)**	Red color with $FeCl_3$
2	Benzene sulfonic acid	**(q)**	Violet colour with nitroprusside
3	Thiourea	**(r)**	Blue color with hot and acidic solution of $FeSO_4$

(A) [1-q] [2-p] [3-r] **(B)** [1-r] [2-q] [3-p] **(C)** [1-q] [2-r] [3-p] **(D)** [1-r] [2-p] [3-q]

43. Which of the following pairs of compounds are positional isomers ? **(2015)**

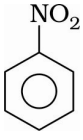
(A) $CH_3-CH_2-CH_2-CHO$ and $CH_3-CH_2-CH_2-\overset{\overset{O}{\|}}{C}-CH_3$

(B) $CH_3-CH_2-CH_2-\overset{\overset{O}{\|}}{C}-CH_3$ and $CH_3-\underset{\underset{CH_3}{|}}{CH}-CH_2-CHO$

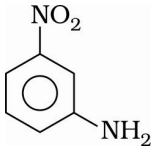
(C) $CH_3-CH_2-CH_2-\overset{\overset{O}{\|}}{C}-CH_3$ and $CH_3-CH_2-\overset{\overset{O}{\|}}{C}-CH_2-CH_3$

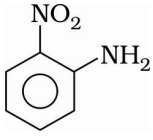
(D) $C_6H_5-CH_2-\overset{\overset{O}{\|}}{C}-CH_2-CH_3$ and $\begin{matrix}H_3C\\H_3C\end{matrix}\!\!>\!CH-CH_2-CHO$

44. Which compound exhibits maximum dipole moment among the following ? **(2015)**

(A) 

(B) 

(C) 

(D) 

45. The distillation technique most suited for separating glycerol from spent-lye in the soap industry is :

(A) Fractional distillation **(B)** Steam distillation **(2016)**

(C) Distillation under reduced pressure **(D)** Simple distillation