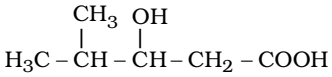
Date Planned : __ / __ / __	Daily Tutorial Sheet-5	Expected Duration : 45 Min
Actual Date of Attempt : __ / __ / __	JEE Main Archive	Exact Duration :_____

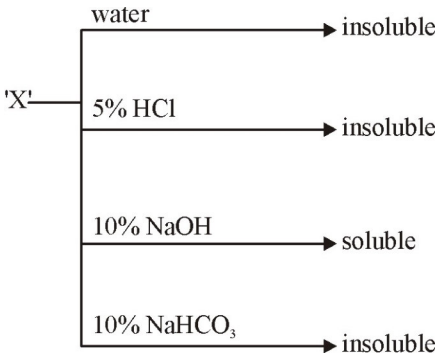
61. The IUPAC name of the following compound is : **(2019)**



(A) 4-Methyl-3-hydroxypentanoic acid **(B)** 2-Methyl-3-hydroxypentan-5-oic acid

(C) 3-Hydroxy-4-methylpentanoic acid **(D)** 4,4-Dimethyl-3-hydroxybutanoic acid

62. An organic compound 'X' showing the following solubility profile is : **(2019)**



(A) m-Cresol **(B)** o-Toluidine **(C)** Oleic acid **(D)** Benzamide

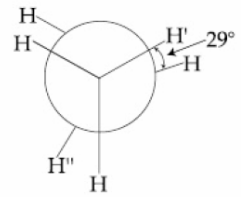
63. An organic compound 'A' is oxidized with Na_2O_2 followed by boiling with HNO_3. The resultant solution is then treated with ammonium molybdate to yield a yellow precipitate. Based on above observation, the element present in the given compound is : **(2019)**

(A) Sulphur **(B)** Fluorine **(C)** Phosphorus **(D)** Nitrogen

64. Which one of the following is likely to give a precipitate with $AgNO_3$ solution ? **(2019)**

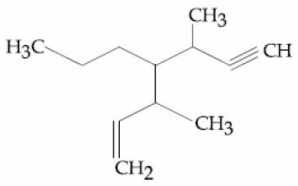
(A) CCl_4 **(B)** $(CH_3)_3CCl$ **(C)** $CHCl_3$ **(D)** $CH_2 = CH = Cl$

65. In the following skew conformatioin of ethane, $H' - C - C - H''$ dihedral angle is : **(2019)**



(A) 120° **(B)** 149° **(C)** 58° **(D)** 151°

66. The IUPAC name for the following compound is : **(2019)**



(A) 3-methyl-4-(1-methylprop-2-ynyl)-1-heptene

(B) 3,5-dimethyl-4-propylhept-1-en-6-yne

(C) 3,5-dimethyl-4-propylhept-6-en-1-yne

(D) 3-methyl-4-(3-methylprop-1-enyl)-1-heptyne

67. In chromatography, which of the following statements is INCORRECT for R_f ? **(2019)**

(A) R_f value depends on the type of chromatography

(B) Higher R_f value means higher adsorption

(C) The value of R_f can not be more than one

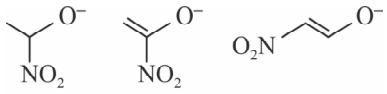
(D) R_f value dependent on the mobile phase

68. Which of these factors does not govern the stability of a conformation in acyclic compounds ? **(2019)**

(A) Torsional strain **(B)** Angle strain

(C) Electrostatic forces of interaction **(D)** Steric interactions

69. The correct order of stability for the following alkoxides is : **(2020)**



(A) (B) (C)

(A) (B) > (A) > (C) **(B)** (B) > (C) > (A) **(C)** (C) > (B) > (A) **(D)** (C) > (A) > (B)

70. A chromatography column, packed with silica gel as stationary phase, was used to separate a mixture of compounds consisting of (A) benzanilide (B) aniline and (C) acetophenone. When the column is eluted with a mixture of solvents, hexane: ethyl acetate (20 : 80), the sequence of obtained compounds is :

(A) (A), (B) and (C) **(B)** (B), (C) and (A) **(2020)**

(C) (C), (A) and (B) **(D)** (B), (A) and (C)

71. Kjeldahi's method cannot be used to estimate nitrogen for which of the following compounds ? **(2020)**

(A) $NH_2 - \overset{\overset{O}{\|}}{C} - NH_2$ **(B)** $CH_3CH_2 - C \equiv N$

(C) $C_6H_5NH_2$ **(D)** $C_6H_5NO_2$

72. Which of the following has the shortest $C - Cl$ bond ? **(2020)**

(A) $Cl - CH = CH_2$ **(B)** $Cl - CH = CH - OCH_3$

(C) $Cl - CH = CH - NO_2$ **(D)** $Cl - CH = CH - CH_3$

73. A flask contains a mixture of isohexane and 3-methylpentane. One of the liquids boils at 63°C while the other boils at 60°C. What is the best way to separate the two liquids and which one will be distilled out first ? **(2020)**

(A) simple distillation, 3-methyl pentane **(B)** fractional distillation, 3-methyl pentane

(C) simple distillation, isohexane **(D)** fractional distillation, isohexane

74. The predominant intermolecular forces present in ethyl acetate, a liquid, are : **(2020)**

(A) London dispersion, dipole-dipole and hydrogen bonding

(B) London dispersion and dipole-dipole

(C) Dipole-Dipole and hydrogen bonding

(D) Hydrogen bonding and London dispersion