

Date Planned : __ / __ / __	Daily Tutorial Sheet-14	Expected Duration : 90 Min
Actual Date of Attempt : __ / __ / __	Level-3	Exact Duration : _____

- 153.** Two isomeric alkyl bromides A and B ($C_5H_{11}Br$) yield the following results in the laboratory. A on treatment with alcoholic KOH gives C and D (C_5H_{10}). C on ozonolysis gives formaldehyde and 2-methyl propanal. B on treatment with alcoholic KOH gives only C (C_5H_{10}). Deduce the structures of A, B, C and D. Ignore the possibility of geometrical and optical isomerism. ▶
- 154.** Alkenes (A) and (B) yield the same alcohol (C) on hydration. On vigorous oxidation with $KMnO_4$, (A) gives a carbonyl compound (D) and an acid (E) each containing four carbon atoms. On the other hand, (B) gives an acid (F) and a carbonyl compound (G). In (G) no two identical groups are attached to the same carbon atom. Give the structures of (A) to (G). ▶
- 155.** Hydrocarbon (A), C_6H_{10} , on treatment with $H_2/Ni, H_2/Lindlar$ catalyst and $Na/liquid\ NH_3$ forms three different reduction products (B), (C) and (D) respectively. (A) does not form any salt with ammoniacal $AgNO_3$ solution but forms a salt (E) on heating with $NaNH_2$ in an inert solvent. Compound (E) reacts with CH_3I to give (F). Compound (D) on oxidative ozonolysis gives n-butanoic acid along with other products. Give structures of (A) to (F) with proper reasoning. ▶
- 156.** An organic compound (A) of molecular formula C_5H_8 when treated with sodium in liquid ammonia followed by reaction with n-propyl bromide yields (B), C_8H_{14} . (A) gives a ketone (C), $C_5H_{10}O$ when treated with dilute H_2SO_4 and $HgSO_4$. (B) on oxidation with alkaline $KMnO_4$ gives two isomeric acids (D) and (E) $C_4H_8O_2$. Give structures of compound (A) to (E) with proper reasoning. ▶
- 157.** An alkane (A), C_5H_{12} , on chlorination at $300^\circ C$ gives a mixture of four different monochloro derivatives (B), (C), (D) and (E). Two of these derivatives give the same stable alkene (F) on dehydrohalogenation. On oxidation with hot alkaline $KMnO_4$ followed by acidification, (F) gives two products (G) and (H). Give structures of (A) to (H) with proper reasoning. ▶
- 158.** An organic compound (A), C_4H_4 , on hydrogenation gives compound (B) C_4H_{10} and form white precipitate with ammoniacal $AgNO_3$ solution. What is the structure of product formed if (A) reacts with one equivalent of HCl at $40^\circ C$. ▶