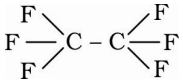
Level - 2	DTS-6

76.(B) Alkane having even number of carbon atoms has higher melting points then the neighbouring alkane having odd number of carbon atoms.

77.(A) $R-Cl \xrightarrow[2.CuCl\\3.R'-Cl]{1.Li} R-R' + CuCl + LiCl$

R and R′ may be same or different.

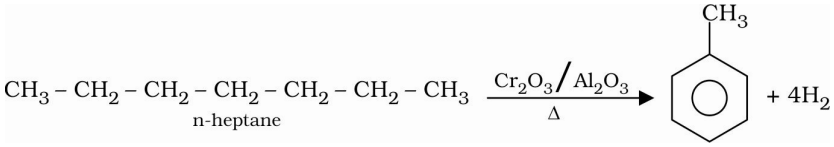
78.(B) $CH_3COONa + \underbrace{NaOH + CaO}_{\text{Sodalime}} \xrightarrow{\Delta} \underset{\text{Methane gas}}{CH_4} + CO_2$

79.(D) 

More electronegative element fluorine atom increases the $C-C$ bond length. Hence, rotation around $C-C$ bond become more easy.

80.(B) $CH_3-CH_2-CH_2-CH_3 + Br_2 \xrightarrow{h\nu} CH_3-CH_2-\underset{\displaystyle Br}{\underset{|}{CH}}-CH_3$

81.(A) Bromination of alkane is more selective while chlorination is less selective. Hence, Bromination proceeds at a slower rate.

82.(D) 

$CH_3-CH_2-CH_2-CH_2-CH_2-CH_2-CH_3 \xrightarrow[\Delta]{Cr_2O_3/Al_2O_3}$ (benzene ring with CH_3) $+ 4H_2$

n-heptane

83.(A) $CH_3-CH_2-CH_2-CH_2-Cl \xrightarrow[KOH]{alc} \underset{\text{1–butene}}{CH_3-CH_2-CH=CH_2}$

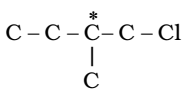
84.(ABCD)

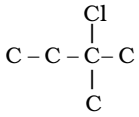
This is based upon "Corey – House Synthesis". $RX \xrightarrow[2.CuI]{1.Li} R_2CuLi \xrightarrow{R'X} R-R'$

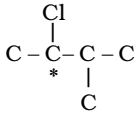
Important : R' (i.e., 2nd alkyl halide) can be only 1° or 2°, cycloalkyl so here, R can be any type of group (R ≠ 3°).

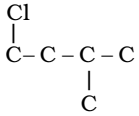
85.(A) $CH_3CH_2-\underset{\displaystyle CH_3}{\underset{|}{CH}}-CH_3 \xrightarrow[\text{or }\Delta]{Cl_2,h\nu}$ 'monochlorination'

Let us draw possible structures. There will be '4' in all.

I. 

II. 

III. 

IV. 

Note that I and III have chiral centre (marked with *), hence there will be '2' pairs of enantiomers.