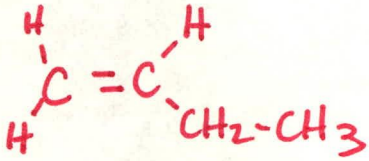
KEY

1. In each case, decide whether cis-trans isomers exist:

a. 1-butene

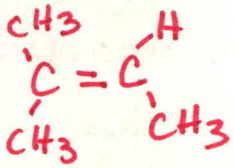
$CH_2=CH-CH_2-CH_3$



NO

b. 2-methyl-2-butene

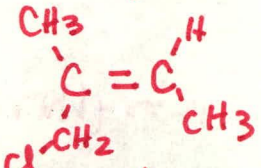
$CH_3-C(CH_3)=CH-CH_3$



NO

c. 1-chloro-2-methyl-2-butene

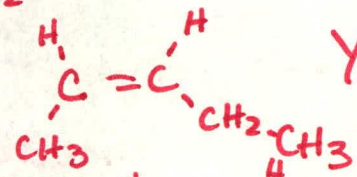
$CH_2Cl-C(CH_3)=CH-CH_3$



YES

d. 2-pentene

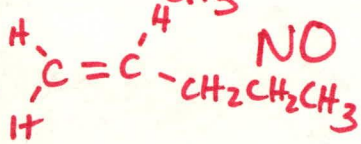
$CH_3-CH=CH-CH_2-CH_3$



YES

e. 1-pentene

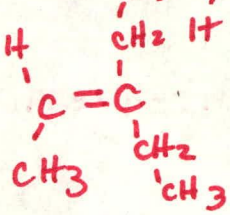
$CH_2=CH-CH_2-CH_2-CH_3$



NO

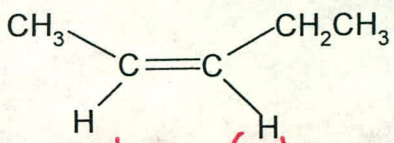
f. 3-ethyl-2-pentene

$CH_3-CH=C(CH_2-CH_3)-CH_2-CH_3$

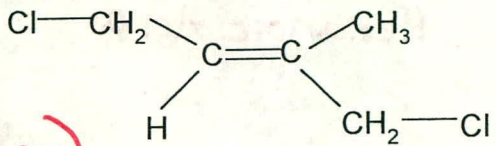


NO

2. Name the following cis or trans isomers:

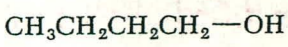


cis-2-pentene (cis-pent-2-ene)

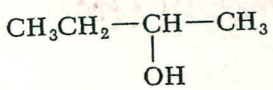


trans-1,4-dichloro-2-methylbut-2-ene

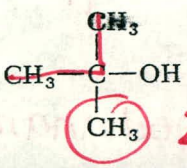
3. Give the IUPAC name for the following :



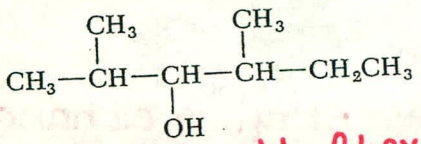
butan-1-ol



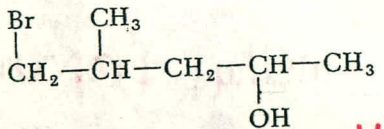
butan-2-ol



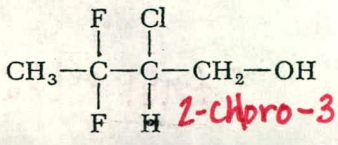
2-methylpropan-2-ol



2,4-dimethylhexan-3-ol

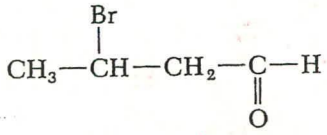


5-bromo-4-methylpentan-2-ol

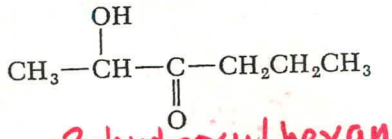


2-chloro-3,3-difluorobutan-1-ol

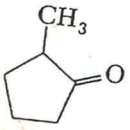
3. Continued - Give the IUPAC name for the following :



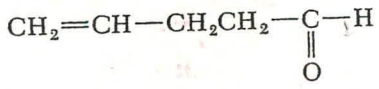
3-bromobutanal



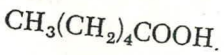
2-hydroxylhexan-3-one



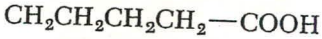
2-methylcyclopentanone



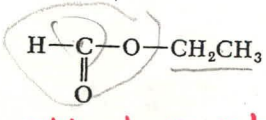
pent-4-enal



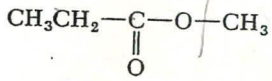
Hexanoic Acid



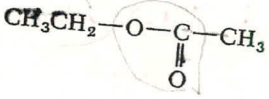
Pentanoic Acid



ethyl methanoate

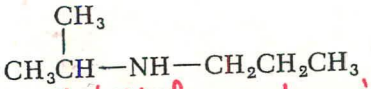


methyl propanoate

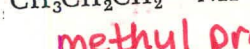


ethyl ethanoate

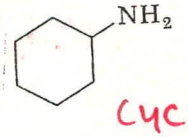
ethylamine



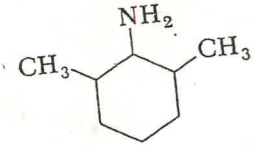
1-methylethyl propyl amine
isopropylamine



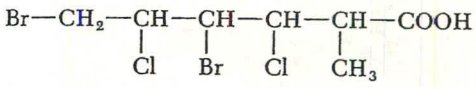
methyl propyl amine



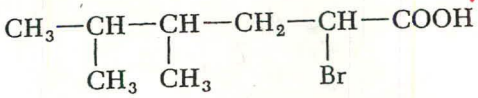
cyclohexylamine
or 1-aminocyclohexane



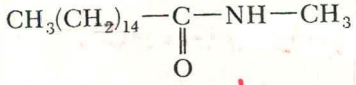
1-amino-2,6-dimethylcyclohexane



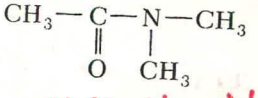
4,6-dibromo-3,5 dichloro-2-methyl hexanoic acid



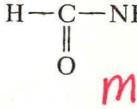
2-bromo-4,5-dimethylhexanoic acid



N-methyltoomanyanamide



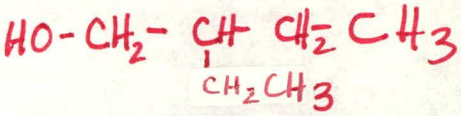
N,N-dimethylethanamide



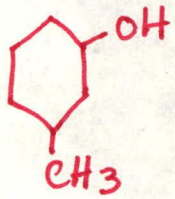
methanamide

4. Draw the following:

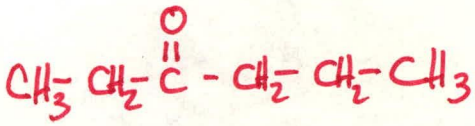
2-ethylbutan-1-ol



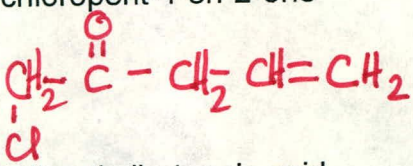
3-methylcyclohexanol



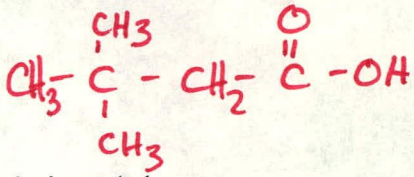
Hexan-3-one



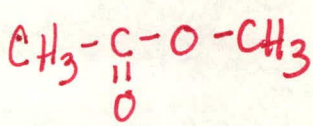
1-chloropent-4-en-2-one



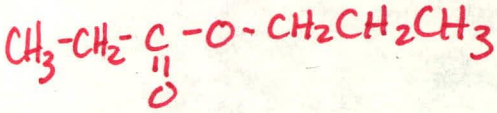
2,2-dimethylbutanoic acid



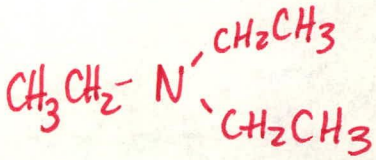
Methyl acetate



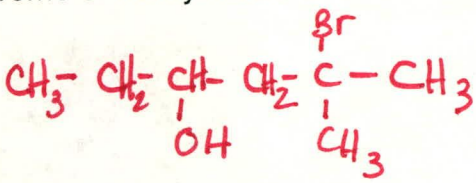
Propyl propionate



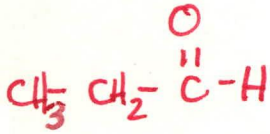
Triethylamine



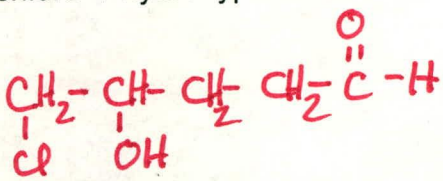
5-bromo-5-methylhexan-3-ol



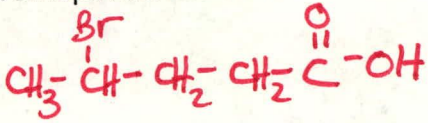
propanal



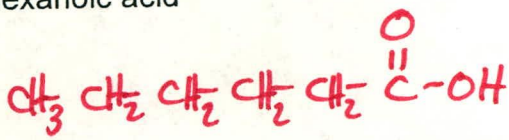
5-chloro-4-hydroxypentanal



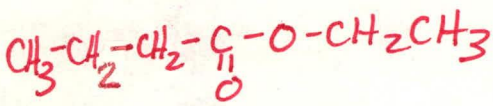
4-bromopentanoic acid



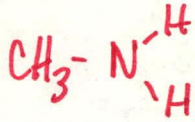
hexanoic acid



ethyl butyrate



methylamine



ethanoic acid