Many organic molecules share similar properties because they have similar clusters of atoms, called **functional groups**. Each functional group gives the molecule a particular property, suc as acidity or polarity. The more common functional groups with their properties are listed in Figure 1-3.

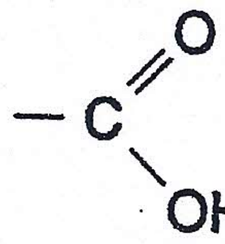
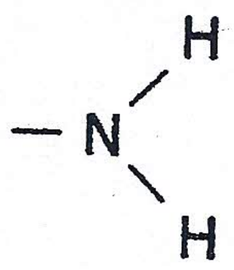
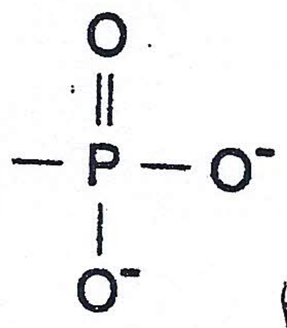
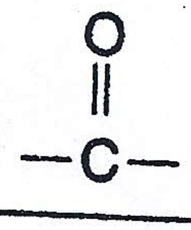
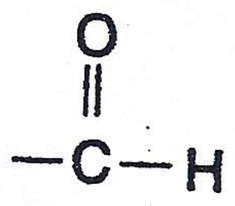
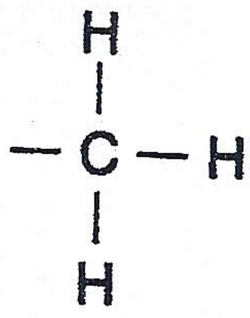
Functional Group	Class Name	Examples	Characteristics
—OH hydroxyl —OH	alcohols	ethanol, glycerol, sugars	polar hydrophilic
 carboxyl —COOH	carboxylic acids	aceticacid, aminoacids, fattyacids, sugars	polar, hydrophilic, weakacid
 amino $-NH_2$	amines	aminoacids	polar, hydrophilic, weakbase
 phosphate H_3PO_4	organic phosphates	DNA, ATP, phospholipids	polar, hydrophilic, acid
 carbonyl —CO	ketones	acetone, sugars	polar, hydrophilic
 carbonyl	aldehydes	formaldehyde, sugars	polar, hydrophilic
 methyl $-CH_3$	—	fatty acids, oils, waxes	nonpolar, hydrophobic
—SH Sulfhydrl	thiols	proteins	strong covalent bond

Figure 1-3