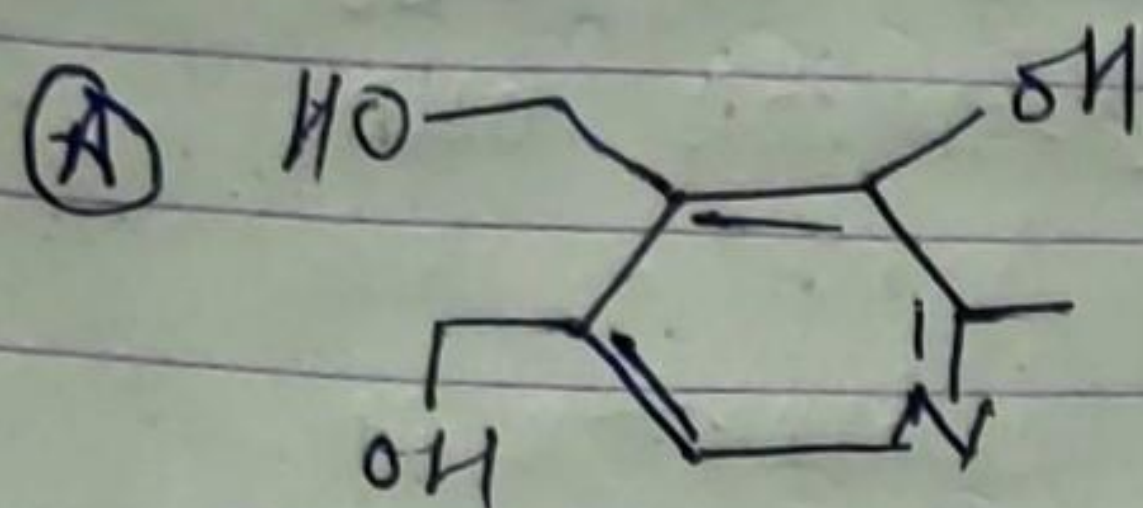
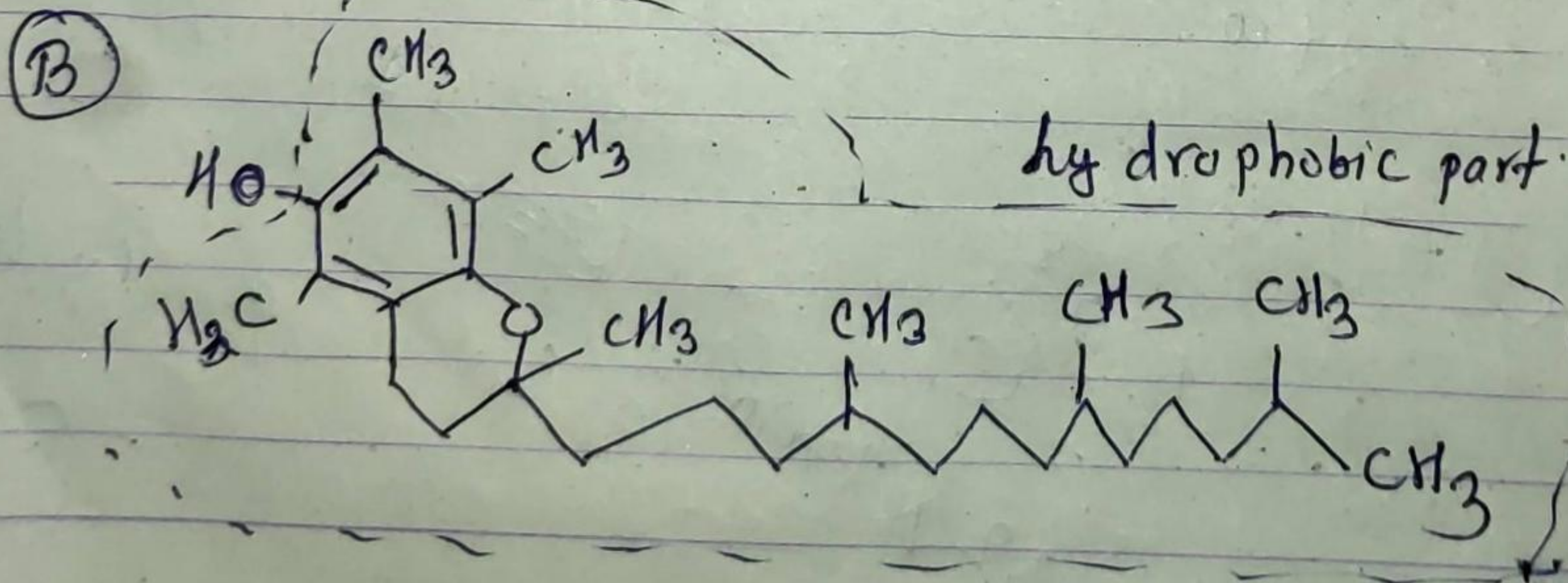
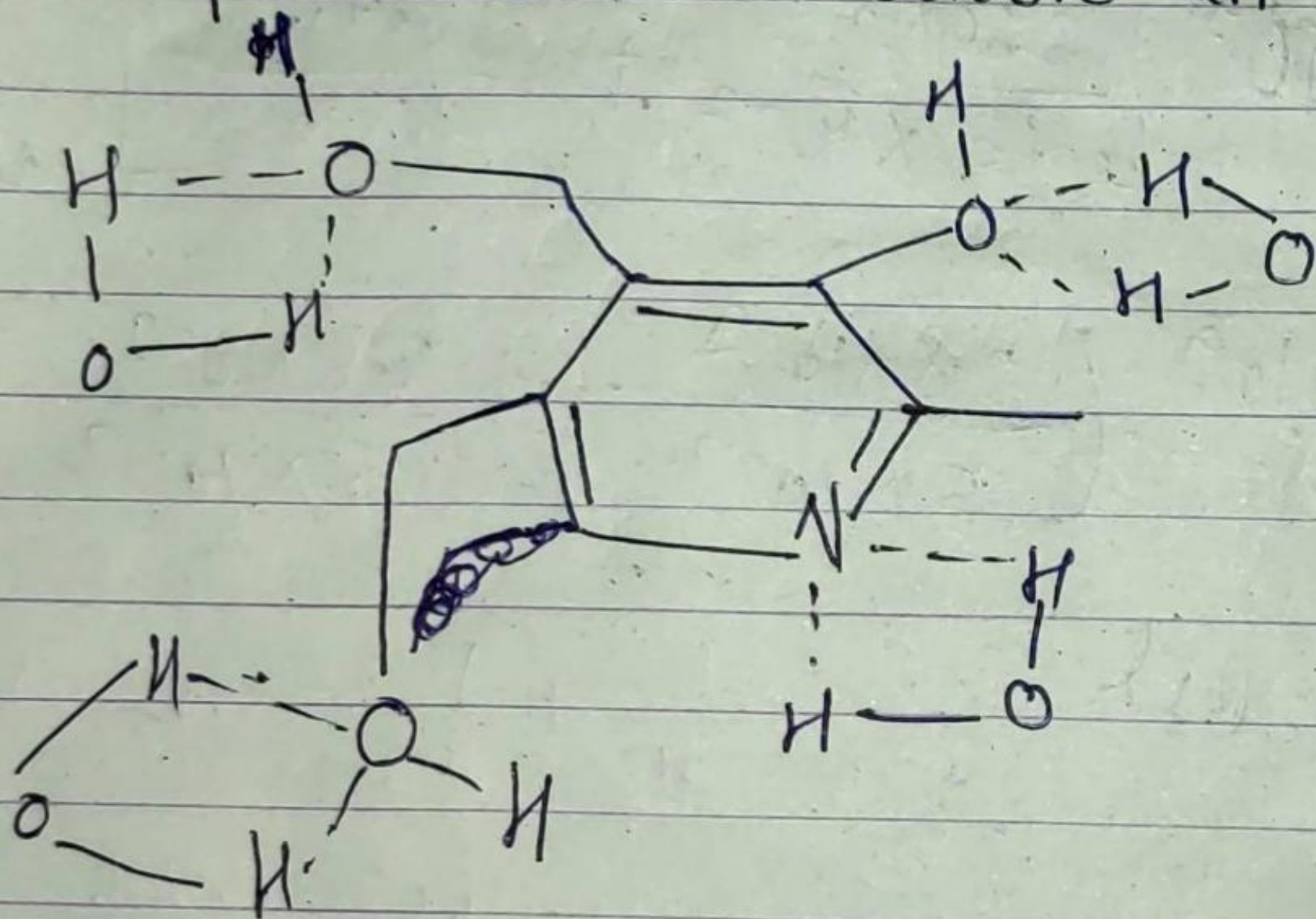


Q. No. 1



This compound will be soluble in water because of the presence of hydrogen atoms attached directly to an oxygen ~~and~~ a nitrogen, which is capable of hydrogen bonding.

Due to this intermolecular H-bonding, this compound will be soluble in water.



This compound will be insoluble in water. It is because of the large hydrophobic part of the molecule. Due to the hydrophobic interaction of the large alkyl part this will not be able to interact with polar water molecule.

Q No. 2

A stain in a piece of fabric will not come out when you wipe it with a wet cloth because stain does not vanish with wet cloth. This implies that the stain is hydrophobic in nature. It is water insoluble.

We can use Acetic Acid, Aceton, Alcohol, ethanol, oxalic acid etc to remove the stain.

Q. No. 3

Covalent bonds are ^aintermolecular bonds whereas hydrogen bonds are intermolecular bonds. Water is held together with covalent bonds in which oxygen is bonded to two hydrogen atoms. The electrons are not shared equally between oxygen and hydrogen atoms. Because of the stronger electronegativity of oxygen, electrons are pulled more closely to the oxygen nucleus than the hydrogen nucleus which results in a partial negative charge of oxygen and a partial ~~th~~ positive charge of hydrogen.

Due to these partial charges, the hydrogen is also attracted to the oxygen atom of a second water molecule. Similarly, the oxygen atom is attracted to the hydrogen atom of a second water molecule.

These attractions are between molecules resulting in hydrogen bonding.

Q. No. 4

The property of a fluid by virtue of which an internal friction comes in to play when fluid is in motion and opposes the relative motion of its different layers is called viscosity.

Viscosity is related to the intermolecular force in the liquid. If the intermolecular force is large, the viscosity will be high. For example, glycerine is a viscous liquid because its intermolecular forces are strong due to hydrogen bonding.