- 1. Which **one** of the following statements regarding compounds A-C is true?
  - a. B has the highest boiling point and the highest water solubility
  - b. A is highest boiling and has the highest water solubility
  - c. B is highest boiling; C has the lowest water solubility
  - d. A is highest boiling; B has the highest water solubility

$$OH$$
  $OH$   $OH$   $C$   $CH_S$ 

- 2. Which functional group is **not** found in the following structure?
  - a. alcohol
  - b. arene (aromatic)
  - c. ester
  - d. ketone

- 3. Which one of the following statements is **<u>true</u>** regarding the structure shown?
  - a. The only sp<sup>2</sup>-hybridized atom is C-2.
  - b. The only sp<sup>3</sup>-hybridized atoms are C-1, C-3, and C-5.
  - c. C-2, O-6, and N-4 are all sp² hybridized
  - d. C-2 and O-6 are sp<sup>2</sup>-hybridized; N-4 is sp<sup>3</sup> hybridized.

- 4. The CCC bond angle (relative to the central carbon) in acetone,  $CH_3COCH_3$  is:
  - a. ~90°
  - b. ~109°
  - c. ~120°
  - d. ~180°
- 5. For the 3 pairs of structures shown, which of the following statements is true?
  - a. A are the same; **B** are the same; **C** are structural isomers
  - b. A are stereoisomers; B are the same; C are structural isomers
  - c. A are the same; **B** are stereoisomers; **C** are stereoisomers
  - d. A are stereoisomers; B are stereoisomers; C are structural isomers

