Sample Exam Questions

(8) 3. Identify the interparticle attractive force(s) present in the solids of the following substances. If more than one interparticle force, indicate which is the most important.

a) SCl_2

b) NH_4Cl

c) CH_3OH

d) $C_{diamond}$

(12) 4. In each of the following groups, pick the member which has the given property. Provide a brief explanation for our choice. Be sure explanation explains why the other two choices were ruled out.

a) highest boiling point; CH_4, CCl_4, CF_4

b) lowest vapor pressure at 25 ˚C; CH_3CH_2OH, $CH_3CH_2CH_3$, CH_3OCH_3

(12) 2. In each of the following groups, pick the member which has the given property. Explain your answer.

a) highest boiling point; CO_2, CSe_2, CS_2

b) lowest boiling point; HF, HCl, HBr

c) lowest vapor pressure at 25 ˚C; H_2SO_4, NH_3, $CH_3CH_2CH_2CH_3$

(16) 6. The boiling point of the first two binary hydrogen compounds in Group IV and V are shown in the Table below:

Compound	Boiling Point (˚C)
CH_4	–164
SiH_4	–112
H_2O	100
H_2S	–61

Explain why CH_4 has a lower boiling point compared to SiH_4, but H_2O has a higher boiling point compared to H_2S?