**GATITU DAY MIXED SEC SCHOOL**

**CHEMISTRY FORM THREE C.A.T 1**

**TERM 2 2012**

**TIME: 1 HR 30 MIN**

1. State (6mks)

a. Boyle’s law

b. Charles’ law

c. Graham’s law

2. A gas occupies 450cm3 at 27c0, what volume will it occupy at 177c0 the pressure is constant? (3mks)

3. At a temperature of 57c0 nitrogen gas occupies a volume of 750cm3. At what temperature will occupy 100cm3 if the temperature is kept constant? (3mks)

4. A volume of 375cm3 of a gas has a pressure of 20 atmospheres what will be its volume if the pressure is reduced to 15 atmospheres (3mks)

5. 375cm3 of gas P has a pressure of 800mmHg and 25c0 what would be its volume at 700mmHg 75c0 (3mks)

6. A fixed mass of a certain gas has a volume of 96cm3 at 67c0 and 700mmHg pressure. What volume will it occupy the same temperature but at a pressure of 400mmHg (3mks)

7. Explain the meaning of the following terms (2mks)

a. Deliquescence

b. Efflorescence

8. Given the names and molecular formula of the following compounds (3mks)

H H H H

a. H- C- C -C -C- H

H H H H

H H C H3 H

b. H - C -C - C - C - H

H C H3 H H

H H H H H H

c. H - C - C - C - C - C - C - H

Br Br H H H H

9. Draw the structural formula of the following (2mks )

i) 2,2 – dimethylPropane

ii) 2,2 –dimethylbotane

10. What are isomers? (1mk)

11. Define (4mks)

a. Electrolysis

b. Cathode

c. Anode

d. Electrolyte

12. i) What is allotropy? (1mk)

ii) Give two allotropes or carbon (2mks)

13. Give the 4 raw materials used in the Solvay process (4mks)