

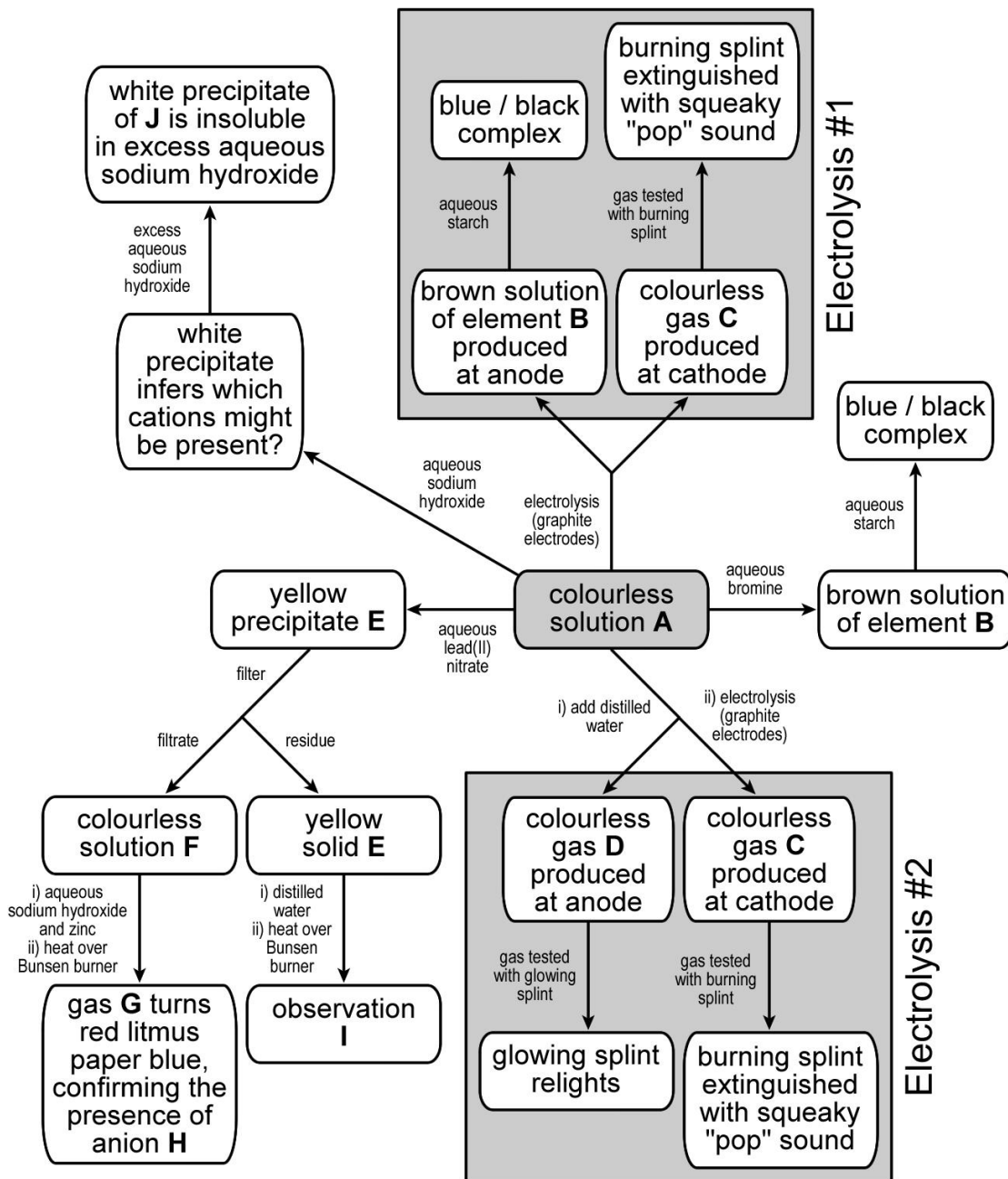
Name: ..... ( )

Chem!stry Class: .....

Date: ..... / ..... / .....

**Revision of Qualitative Analysis, Redox and Electrochemistry #2**

Study the reaction sequence below, and then answer the questions on page 2.



**Question 1:** Using chemical formulae, identify chemicals **A** to **J**:

**A** is ..... **B** is ..... **C** is .....

**D** is ..... **E** is ..... **F** is .....

**G** is ..... **H** is ..... **J** is .....

**Question 2:**

Write the ionic equation for the reaction between solution **A** and aqueous bromine:

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**Question 3:**

Write the ionic equation for the reaction between solution **A** and aqueous lead(II) nitrate:

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**Question 4:**

When aqueous sodium hydroxide is added to solution **A**, a white precipitate is formed. This observation infers that which cations might be present in solution **A**?

.....

**Question 5:**

What is observed when yellow solid **E** is heated with distilled water?

.....

**Question 6:**

Write ionic half-equations to describe **Electrolysis 1** of solution **A**:

Anode: ..... Cathode: .....

**Question 7:**

a) Write the ionic half-equation for the reaction at the anode during **Electrolysis 2** of solution **A**:

Anode: .....

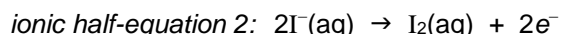
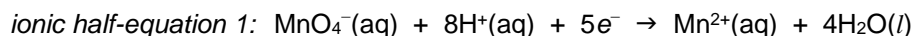
b) Explain why element **B** is produced at the anode during **Electrolysis 1**, but colourless gas **D** is produced at the anode during **Electrolysis 2**:

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**Question 8:**

If an acidified solution of potassium manganate(VII) is added to solution **A**, the following reactions take place:



a) Combine ionic half-equation 1 and ionic half-equation 2 together and hence write the overall ionic equation for the reaction:

.....

b) In the reaction between potassium manganate(VII) and solution **A**, clearly explain:

i) What has been oxidised: .....

ii) What has been reduced: .....

iii) What is the oxidising agent: .....

iv) What is the reducing agent: .....

- Click on the QR code given below to view the answers to this assignment.



[http://www.chemist.sg/electro\\_chem/electro\\_chem\\_and\\_qa/electro\\_chem\\_qa\\_2\\_ans.pdf](http://www.chemist.sg/electro_chem/electro_chem_and_qa/electro_chem_qa_2_ans.pdf)