

EXTERNAL PAPER
B.O.T TERM II
S.4 CHEMISTRY PAPER 2

TIME: 1 HOUR

INSTRUCTIONS

- Attempt all questions in the spaces provided.

1. (a) What is meant by the following terms?

(i) Electrolysis

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(ii) Electrolyte

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(iii) Electrode

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(b) Using suitable examples explain what is meant by the following terms.

(i) Weak electrolyte

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(ii) Strong electrolyte

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(iii) Basicity of an acid.

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2. Explain the following giving an example in each case.

(a) Solid ionic compounds don't conduct electricity but when in aqueous or molten form they conduct.

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(b) Graphite conducts electricity but diamond does not.

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(c) Concentrated sulphuric acid is a none electrolyte but in dilute form it is a strong electrolyte.

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(d) Metals conduct electricity but non-metals are poor conductors.

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3. State what would be observed when each of the members of the following pairs of ions is treated with aqueous ammonia drop wise until in excess.

(a) Pb^{2+} and Al^{3+}

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(b) Zn^{2+} and Cu^{2+}

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4. Sulphur dioxide can be prepared in the laboratory from the reaction of copper metal and sulphuric acid.

(a) (i) State the conditions for the reaction.

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(ii) Write the equation of reaction leading to the formation of sulphur dioxide gas.

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(b) (i) State what would be observed when burning magnesium is lowered in a gas jar containing sulphur dioxide.

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(ii) Write the equation of the reaction in (b) (i) above.

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5. 3.5g of copper carbonate was heated to constant mass.

(a) State what was observed.

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(b) Calculate the apparent loss in mass (Cu = 64, C = 12, O = 16)

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(c) Calculate the volume of gaseous product at s.t.p. (molar gas volume at s.t.p is 22400cm³).

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END