CHEMISTRY DEPARTMENT

S.6 BRAINSTORMING TEST

TOPIC; TRANSITION ELEMENTS

SUB-TOPIC; CHEMISTRY OF ZINC

NAME_____

Signature _____ **STREAM**_____

Instructions; Attempt **all** questions in this paper.

1. (a) Write

(i) The electronic configuration of zinc atom (atomic number =30) (01 mark)

_____

(ii) The all the possible oxidation states of zinc. (01 mk)

_____

b) (i) State the oxidation state of zinc.

_____

c) (i)Write the formula of the oxide of zinc in the above oxidation state. (1 mark)

_____

(ii) State two reasons why zinc is not a transition element. (02 marks)

_____

_____

_____

2. (a) Write an equation for the reaction of zinc with

(i) Air ($1\frac{1}{2}$ marks)

_____

(ii) Chlorine ($1\frac{1}{2}$ marks)

_____

(iii) dilute acids (03 marks)

(iv) Concentrated acids. (03 marks)

(b) A solution of zinc sulphate turns a blue litmus paper to red. Explain this observation (03 marks)

3. (a) State what is observed and write an equation for the reaction when zinc sulphate solution is added each of the following

(i) Sodium hydroxide solution drop-wise until in excess

Observation (01 mark)

Equation(s) (03 marks)

(ii) Ammonia solution drop wise until in excess.

Observation (01 mark)

_____

Equation (03 marks)

_____

_____

(iii) Potassium hexacyanoferrate(II) solution.

Observation

_____

Equation ($1\frac{1}{2}$ marks)

_____

(iv) potassium hexacyanoferrate(III) solution

Observation

_____

Equation ($1\frac{1}{2}$ marks)

_____

4. (a)Write the name and formula from which zinc can be extracted.

_____

(b) Describe how the ore is concentrated.

_____

_____

_____

_____

_____

_____

(ii) Describe how pure zinc can be obtained from its concentrated ore above

_____

_____

_____

_____

_____

(iii) State any one alloy of zinc.

_____

_____

END.