EXAMINATIONS COUNCIL OF ESWATINI
Eswatini General Certificate of Secondary Education

PHYSICAL SCIENCE **6888/03**

PAPER 3 Practical Test **October/November 2021**

Confidential

MARK SCHEME

{6888/03}

MARKS: 40

[Turn over

1 **(a)** **R**: grey/shiny/silver; [1]

S: brown/shiny; [1]

(b) **(i)** **R**: brown solid formed on the surface of **R**/blue solution becomes

colourless; [1]

iron nail: brown solid formed on the surface of the nail/blue solution becomes colourless; [1]

(ii) **R**: more bubbles formed; [1]

S: no change; [1]

iron nail: less bubbles formed; [1]

(iii) **R**; ⟶ iron ⟶ **S**; [2]

(c) **(i)** brilliant flame ; AW [1]

white solid; [1]

(ii) pH: above 10; [1]

alkaline; [1]

(iii) drop onto Universal indicator paper; [1]

match colour formed with colour on the pH chart; [1]

(d) **(i)** white crystals (solid) formed; [1]

(ii) neutralisation; [1]

(e) **(i)** white precipitate formed; [1]

(ii) filter funnel, filter paper, collecting vessel;

decanting apparatus correctly assembled and two labels;

any two labels; [max 2 marks]

(f) avoid contact with skin by wearing gloves, lab coats, goggles, etc. [1]

2 **(a)** **(i)** attract or repel; [1]

(ii) attract/repel; opposite to **(i)** [1]

(iii) North/South; deduced from **(i)** and **(ii)** [1]

opposite polarity of the paper clip; [1]

(b) **(i)** **observation:**

the second paper clip is attracted to the first one; [1]

explanation:

the first paper clip is magnetised (induced magnetism); [1]

it then attracts the second one; [1]

(ii) **observations:**

the last paper clip is no longer attracted or stated maximum number of paper clips attracted; [1]

reasons:

further away from the solenoid, induced magnetism is weakened; [1]

(iii) paper clips will drop; [1]

no magnetism/some magnetism is lost; [1]

(c) increasing the number of cells increases the number of paper clips attracted; [1]

more cells increase the strength of the electromagnet; [1]

(d) increasing the number of turns increases the number of paper clips attracted; [1]

more turns increase the strength of the magnet; [1]

(e) use new cells for each measurement/ switch off between measurements/use variable power supply instead of cells/repeat the experiment and average the results/use a soft iron core/use variable power supply;

(f) use of iron filings or plotting compass; [1]

place a piece of paper on the electromagnet; [1]

sprinkle iron filings over the paper and tap (gently) the piece of paper to form lines/

place compass on piece of paper and mark the direction to which it is pointing; [1]