SASTRI COLLEGE

GRADE: 8 NATURAL SCIENCE

SEPTEMBER CONTROLLED TEST - 2017

TIME: 1 HOUR MAX. MARKS: 80

EXAMINER: MISS S. GANGARAM MODERATOR: MR. G. PILLAY

INSTRUCTIONS AND INFORMATION

NB: This paper consists of 3 sections typed on 4 pages.

1. Answer all the questions in each section on the answer sheet provided.
2. Follow the instructions of the questions or you will be penalized.
3. Write neatly and legibly.
4. Rule off after each question

SECTION A

QUESTION ONE

1.1. Various possible answers are provided for each question. Write down ONLY the letter of the alphabet corresponding to the correct answer on your answer sheet.

1.1.1. The charge of an atom that has gained an electron.

A. positive
B. neutral
C. no charge
D. negative

1.1.2. An example of a luminous body is:

A. the sun
B. a shiny pencil
C. a mirror
D. the water

1.1.3. The method of transfer of heat from the Sun to the Earth?

A. reflection
B. refraction
C. radiation
D. conduction

1.1.4. A *LED* light bulb stands for:

A. Light eroding diode
B. Luminescent Effective Device
C. Light Emitting Device
D. Lumin Excreting Dinges

1.1.5. An object that blocks the path of light.

A. transparent
B. translucent
C. opaque
D. reflector

[5]

1.2. Give the correct scientific term for each of the following. Write down only the answer on your answer sheet.

1.2.1. The colours red, blue and green.

1.2.2. Energy provided by the sun and is required for photosynthesis.

1.2.3. Process of coating a metal.

1.2.4. The bending of light due to a change in medium.

1.2.5. Breaking down a compound by passing current through it.

[5]

1.3. Match column A with column B. Only write the letter from column B which appropriately corresponds to the statement in column A.

COLUMN A	COLUMN B
1.3.1. Reflects all light	A. luminous
1.3.2. Are able to disperse light into its spectrum	B. white objects
1.3.3. Objects that generate their own light	C. ammeter
1.3.4. Opposes the flow of current	D. resistor
1.3.5. Measures the flow of current	E. raindrops

[5]

1.4. State the function of each of the following:

1.4.1. Output device

1.4.2. Motor

1.4.3. Circuit breaker

1.4.4. Buzzer

1.4.5. Fuses [5]

SECTION A = [20]

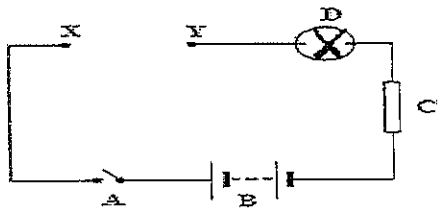
SECTION B

QUESTION TWO

2.1. The diagram below shows a simple electrical circuit.

2.1.1. Complete the table below by correctly matching each of the names of the components in the circuit with one of the labels A, B, C or D. In your answer book copy down the table below and write only the letter corresponding to the correct component as shown on the diagram below. (4)

Label	Circuit component
	BULB
	POWER SUPPLY
	RESISTOR
	SWITCH



2.1.2. You are given a piece of copper wire and a piece of timber. Which piece, copper wire or timber, should you connect between X and Y in order that the bulb would light when the switch is closed? (1)

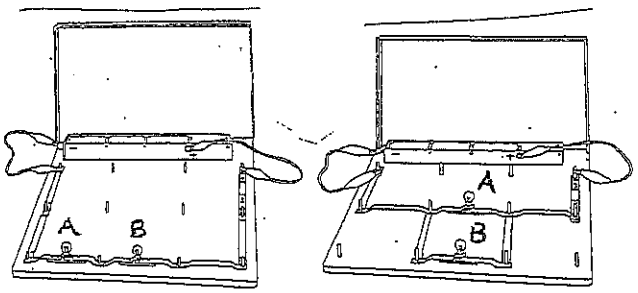
2.1.3. Give a reason for your answer in 2.1.2. above. (2)

2.1.4. Draw a diagram of a light bulb and label only the filament. (2)

2.1.5. Name the element that the filament in the light bulb is made of. (1)

[10]

2.2. Mr G. Pillay set up the following two circuits in a grade 8 lesson.



CIRCUIT 1 CIRCUIT 2

2.2.1 Which of the 2 circuits above (circuit 1 or circuit 2) is a series circuit? (1)

2.2.2 Give a reason for your answer above in question 2.2.1. (2)

2.2.3. If bulb B in circuit 2 stops working, will light still be produced? (1)

2.2.4. Explain your answer in 2.2.3 above. (2)

2.2.5. Which of the 2 circuits above represents the connection of the bulbs in your home? (1)

2.2.6. Draw a circuit diagram with one light bulb, 2 cells in parallel and 1 closed switch on the main circuit. (3)

[10]

QUESTION THREE

3.1. Yusra rubbed a balloon on a flannel cloth and then held the balloon close to her head.

3.1.1. Draw a diagram showing what happens to the balloon while it is being rubbed with the flannel cloth. (2)

3.1.2. Explain what happens during the above process. (2)

3.1.3. What charge will the balloon have after it has been rubbed? Define this charge. (2)

3.1.4. Carefully explain by means of words and a diagram, why her hair was attracted to the balloon? (4)

[10]

SECTION B = [30]

SECTION C

QUESTION FOUR

4.1. Draw a diagram showing how light is reflected off a shiny surface.
(You must include the incident ray, angle of incident, angle of reflection, reflected ray, reflected surface and the normal line) (7)

4.2. You are sitting in a dentist's waiting room and waiting to be called in for your appointment. You pick up a magazine and begin to read an article. You are having a problem with seeing the words as too much of light is entering your eye.

4.2.1. What kind of reflection is discussed above? (1)

4.2.2. Explain your answer in 4.2.1. above. (2)

4.2.3. Draw a diagram to explain your answer. (2)

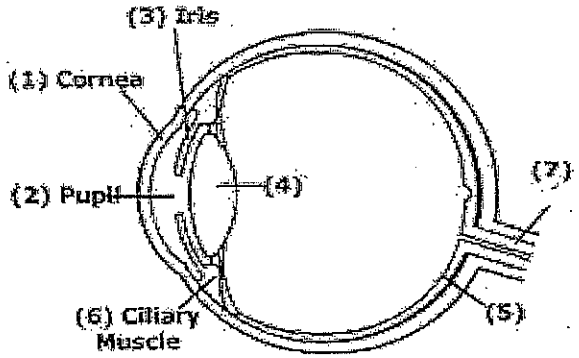
4.3. State the law of refraction and with the aid of a diagram explain this law. (6).

4.4. Explain what happens when white light is passed through a triangular glass prism. (2)

[20]

QUESTION FIVE

5.1. Refer to the diagram below



5.1.1. Provide labels for the parts numbered 4, 5 and 7. (3)

5.1.2. State the functions of the parts labeled 4 and 5. (2)

5.2. Explain how the eye enables us to see? (5)

[10]

SECTION C = [30]

GRAND TOTAL: 80 MARKS