

AEQUAM SERVARE MENTEM

**SASTRI COLLEGE**

**GRADE 8**

**NATURAL SCIENCES**

**NOVEMBER 2018**

**TIME: 1.5 HOURS**

**MAX. MARKS: 100**

**EXAMINER: MISS S. GANGARAM**

**MODERATORS: MRS R.C. JIVAN**

## INSTRUCTIONS AND INFORMATION

NB: This paper consists of 2 sections typed on 8 pages.

1. Answer **all** the sections and all the questions.
2. **RULE OFF AFTER EACH QUESTION.**
3. Number the answers correctly according to the numbering system used in this question paper.
4. You are requested to follow the instructions of the questions or you will be penalized.
5. Write neatly and legibly.

## SECTION A

### QUESTION ONE

1.1 Various possible answers are provided for each question. Write only the letter corresponding to the correct answer next to the number.

1.1.1. The resistant wire inside a light bulb that glows to produce light is called a...

- A] conducting wire
- B] filament
- C] resistor
- D] magnetic field

1.1.2. The following is not an example of an output device...

- A] light bulb
- B] buzzer
- C] beeper
- D] cell

1.1.3. Materials through which a current can flow is called a...

- A] battery
- B] switch
- C] conducting wire
- D] cell

1.1.4. Which of the following would not be classified as transparent?

- A] glass
- B] clear plastic
- C] water
- D] clay

1.1.5. An astronomer wishes to measure the distance between two galaxies. Which of the units of measurement below should she use?

- A] light centuries
- B] hours
- C] light years
- D] light days

[5x2=10]

1.2. **Give the correct biological term for each of the following descriptions.**  
**Write only the term next to the relevant question number.**

- 1.2.1. The transfer of charge by rubbing objects together.
- 1.2.2. A component which opens and closes a circuit.
- 1.2.3. A collection of stars held by their gravity.
- 1.2.4. A material which does not allow light to pass through it.
- 1.2.5. A device that opposes the flow of current.

[5]

1.3 **Match a statement from Column A with the correct term from Column B.**  
**Write the question number and only the letter of your answer.**

	COLUMN A	COLUMN B
1.3.1.	Converts electrical energy to light energy	A) cell
1.3.2.	Source of electrical energy in a circuit	B) repulsion
1.3.3.	Occurs between two like charges	C) bulb
1.3.4.	Also known as dirty snowballs	D) pluto
1.3.5.	Found between Mars and Jupiter	E) comets
		F) ceres

[5]

1.4. The table below gives information on the movements of some planets. Study the table and answer the questions that follow.

PLANET	TIME TAKEN FOR ROTATION ON IT'S AXIS (HOURS)
URANUS	20
MERCURY	60
JUPITER	10
MARS	30

1.4.1. Identify the independent variable. (1)

1.4.2. Using the information above, construct a bar graph showing the time taken for rotation of each planet. (4)

[5]

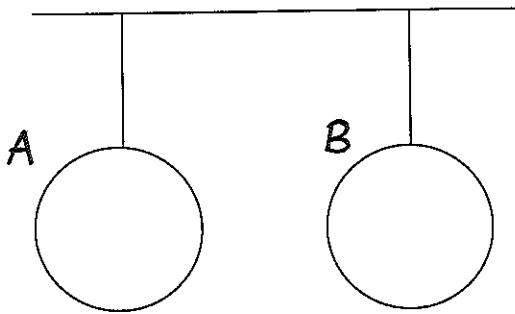
SUB-TOTAL QUESTION 1: [25]

TOTAL SECTION A: [25]

### SECTION B

#### QUESTION TWO

2.1. Two charged balloons are hanging from a ceiling by a light thread



Balloon A is positively charged. They attract each other. The charge on balloon B is unknown.

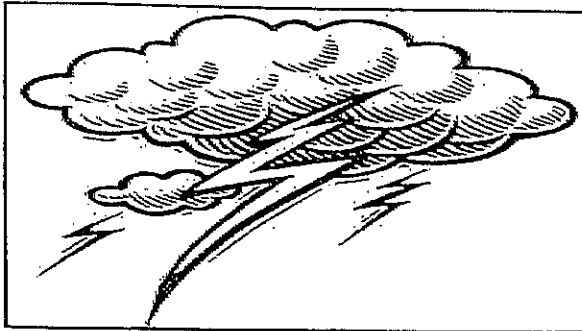
2.1.1. What charge does balloon B have? Explain. (3)

2.1.2. Did balloon A lose or gain electrons? (1)

2.1.3. They repel each other after a while. Give a reason for this. (1)

[5]

2.2. The picture below shows an effect of static electricity.



2.2.1. Describe how lightning occurs. (3)

2.2.2. List TWO ways in which you can prevent being struck by lightning. (2)

[5]

SUB-TOTAL QUESTION 2: [10]

### QUESTION THREE

3.1. Read the following study below and answer the questions that follows:

*“Reflection is when light bounces off an object. When we look at objects we are really seeing the light reflecting off them.”*

3.1.1. Draw a fully labeled diagram showing the reflection of a light ray from a mirror surface. (5)

3.1.2. State ONE difference between a regular reflection and a scattered reflection. (2)

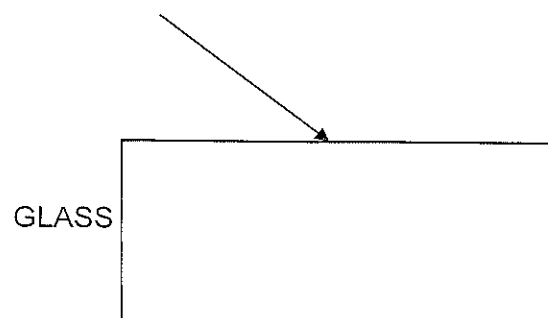
3.1.3. Make a sketch drawing to represent scattered reflection. (3)

[10]

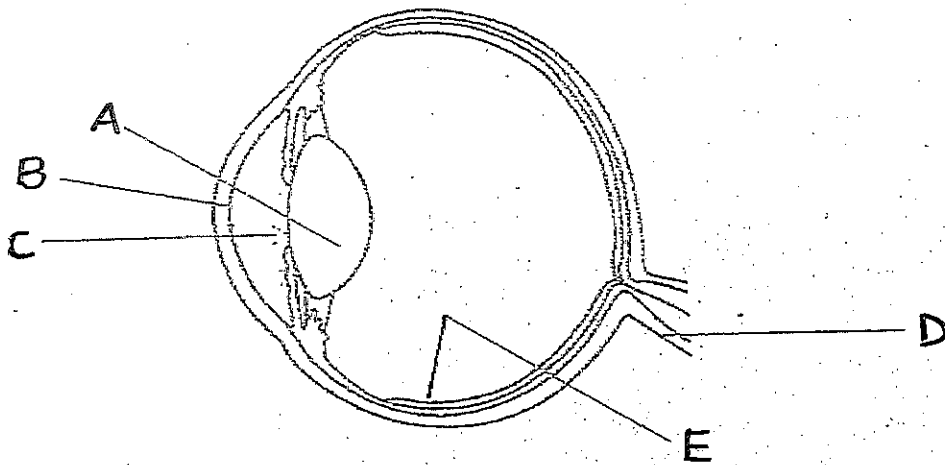
3.2.1. Define refraction. (1)

3.2.2. A ray of light passes from air into a transparent glass block. This is represented below. Redraw the diagram below in your answer book and complete the path of light as it passes through. (Label the normal, incident ray and refracted ray). (4)

[5]



3.3. Refer to the diagrams below and answer the questions that follow.



3.2.1. Provide labels for the eye A, D and E (3)

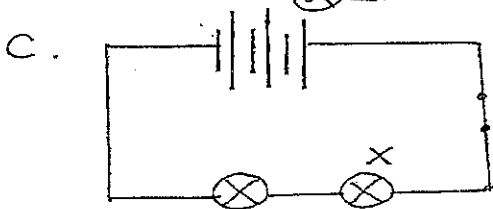
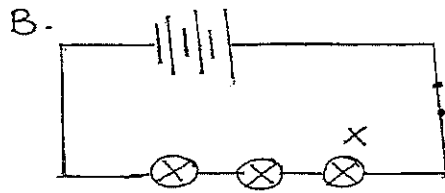
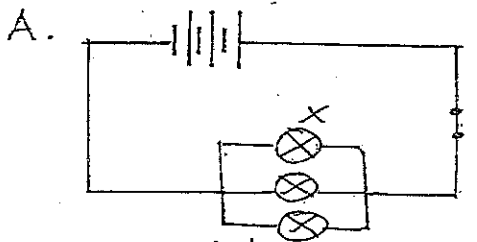
3.2.2. Predict what would happen in the eye if structure labeled D is damaged. (2)

[5]

**SUB-TOTAL QUESTION 3: [20]**

**QUESTION FOUR**

4.1. Refer to the circuit diagrams below and answer the questions that follow:



4.1.1. In which circuit does bulb X burn the brightest? (1)

4.1.2. Give a reason for your answer in 4.1.1. (2)

4.1.3. How does the brightness of X in diagram B and C compare? (2)

4.1.4. In which circuit will the remaining bulbs continue to burn if bulb X burns out? (1)

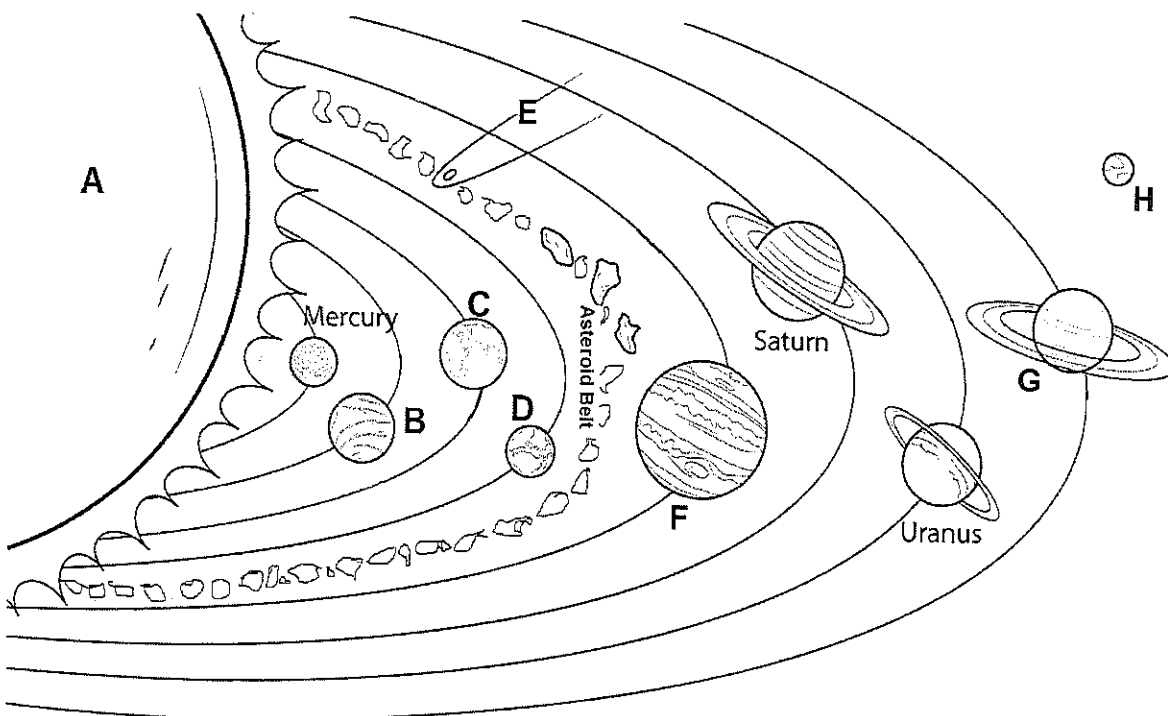
- 4.1.5. Draw a circuit diagram with the following components: TWO cells in series, a resistor in series, a closed switch and TWO bulbs in parallel. (5)
- 4.2. List TWO safety measures you would observe when working with electricity (2)
- 4.3. Differentiate between a conductor and an insulator. (2)

[15]

**SUB-TOTAL QUESTION 4: [15]**

**QUESTION FIVE**

5.1. Study the diagram below and answer the questions that follow:



- 5.1.1. Name the galaxy above. (1)
- 5.1.2. Provide labels for:
- a) C
  - b) E
  - c) F
  - d) G
  - e) H
- (5)
- 5.1.3. What are the TWO gases that make up the ball of gas numbers A? (2)

5.1.4. Provide the LETTER and the NAME of:

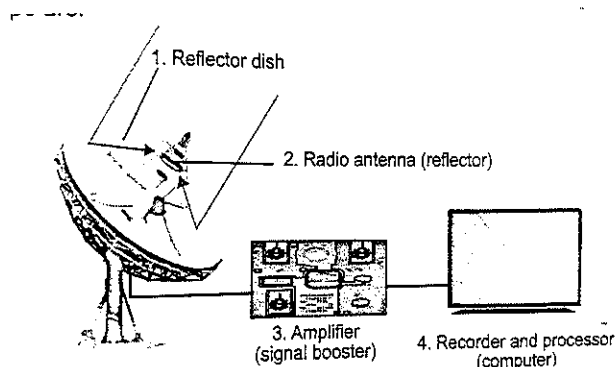
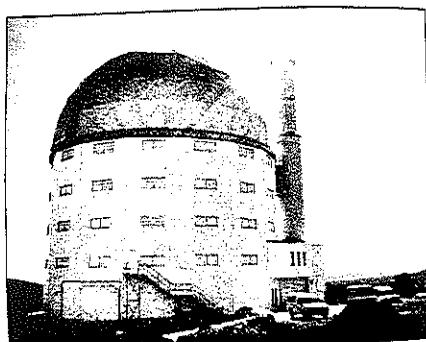
- a) The coldest planet (2)
- b) The largest planet (2)
- c) The planet in which plants and animals can be found. (2)
- d) The planet which is no longer considered a giant planet. (2)
- e) The hottest planet. (2)

5.1.5. List FOUR conditions which favor life to exist and be sustained on planet labeled C. (4)

5.1.6. Differentiate between an asteroid, a comet and a meteorite. (3)

[25]

5.2. Study the telescopes below and answer the questions based on it.



5.2.1. Identify the type of telescope represented by each of the following:

- a) Diagram A (1)
- b) Diagram B (1)

5.2.2 State THREE advantages of radio telescopes. (3)

[5]

**SUB-TOTAL QUESTION 5: [30].**

**TOTAL SECTION B: [75]**

**GRAND TOTAL: 100 MARKS**