GRADE 8

Natural Sciences

November Examination

MARKS: 60

TIME: 1hour

This question paper consists of 7 pages.

INSTRUCTIONS AND INFORMATION

1. This question paper consists of FOUR questions. Answer ALL the questions in your answer sheet.
2. Number the answers correctly according to the numbering system used in this question paper.
3. Write neatly and legibly.

QUESTION 1: Multiple-choice questions

Various options are provided as possible answers to the following questions. Choose the correct answer and write only the letter (A–D) next to the question numbers (1.1 to 1.10) in your answer sheet e.g. 1.11 G.

1.1 There are … of galaxies across the Universe

A. thousands
B. ten thousand
C. million
D. billion (1)

1.2 Which one is the correct arrangement according to size?

A. Star, constellation, Universe, Galaxy
B. Star, Universe, constellation, Galaxy
C. Star, Galaxy, constellation, Universe
D. Star, constellation, Galaxy, Universe

(1)

1.3 A transparent substance or object ….

A. does not allow light to pass through
B. allows light to pass through
C. is not part of the visible light
D. allows some light to pass though (1)

1.4 Refraction is the bending of light as it enters a …

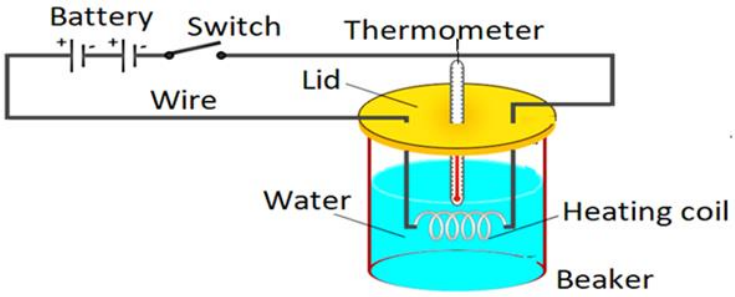
A. different medium
B. colorful medium
C. similar medium
D. a circular medium (1)

1.5 A pinhole camera uses light passed through a very …

A. flat hole
B. triangular hole
C. small hole
D. smooth hole (1)

QUESTION 2: ENERGY TRANSFER IN ELECTRICAL SYSTEMS

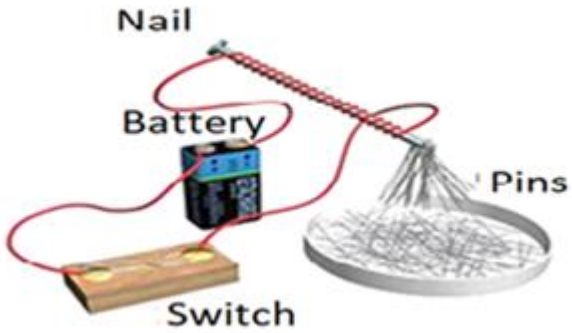
Use the diagram to answer some of the questions that follow.



2.1 What is the aim of this investigation? (2)

2.2 Explain how the coil works in this practical activity. (2)

2.3 In the diagram below, which effect of electric current is being shown? (2)



2.3.2 Explain why an insulated wire must be used. (2)

2.3.3 What do we call the design shown? (1)

2.4 What is a parallel circuit? (2)

2.5 How do bulbs connected in series affect resistance? (1)

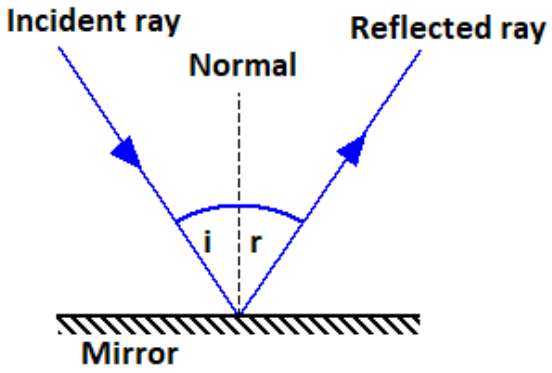
[12]

QUESTION 3: VISIBLE LIGHT

4.1 What is visible light? (2)

4.2 Mention any two colours of the visible light. (2)

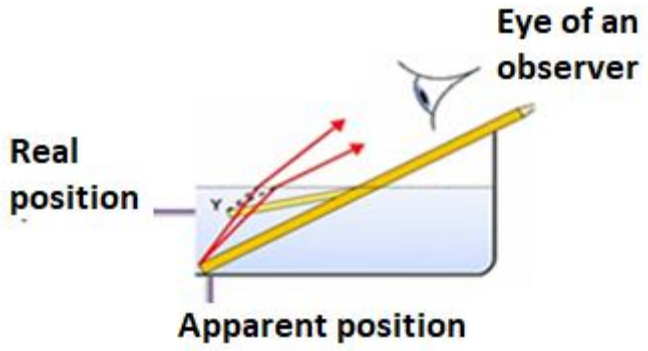
4.3 Use the diagram to answer the questions that follow:



4.3.1 What does i represent? (1)

4.3.2 What does r represent? (1)

4.4 Study the diagram and answer the question that follow.



4.4.1 Why does the part of the pencil that is in the water seem to bend? (2)

[8]

QUESTION 5: The Solar System

5.1 What is the Sun? (1)

5.2 How old is the Sun? (1)

5.3 Discuss how the Sun relates to the Solar System. (2)

5.4 Where do we find the Kuiper Belt and the Oort Cloud? (2)

5.5 Refer to the table to answer the questions that follow:

Planet Name	Number of moons	Orbit Period around the Sun	Day length in hours	Average temperature	Distance from the Sun (million km)
1. Mercury	None	88 days	4222.6	167 °C	57.9
2. Venus	None	225 days	2802.0	464 °C	108.2
3. Earth	1	365.25 days	24.0	15 °C	149.6
4. Mars	2	687 days	24.7	- 65 °C	206.6
5. Jupiter	67	12 years	9.9	-110 °C	740.5
6. Saturn	62	29 years	17.2	-140 °C	1352.6
7. Uranus	27	84 years	10.7	-195 °C	2741.3
8. Neptune	13	166 years	16.1	-200 °C	4444.5

5.5.1 How long is a year in Mercury? (1)

5.5.2 Which planet is the hottest to live in? (1)

5.5.3 Thabo is 14 years old, if he was on Mars how old would he be now? (2)

5.5.4 What would make it difficult for you to drink water in Neptune? (2)

5.5.5 Give one gas planet and one terrestrial planet. (2)

[14]

QUESTION 6: Beyond the Solar System

Answer the following questions:

6.1 In which galaxy is the Solar system? (2)

6.2 Describe the Milky Way Galaxy. (2)

6.3 What would happen if a star could fall where you are staying? (2)

6.4 Discuss the difference between a light year and a light minute. (4)

[10]

QUESTION 7: Looking into space

Answer the following questions

7.1 What time do we see stars? (1)

7.2 What is a telescope? (2)

7.3 How can you tell the difference between a star and a planet at night? (2)

7.4 Between Galileo Galilee and Hans Lippershey who invented the telescope? (1)

7.5 Describe the conditions suitable for looking into space. (2)

7.6 Between the James Webb and the Hubble telescope which one is powerful? (1)

[9]