



Module 4- The Earth & Universe

SECTION A

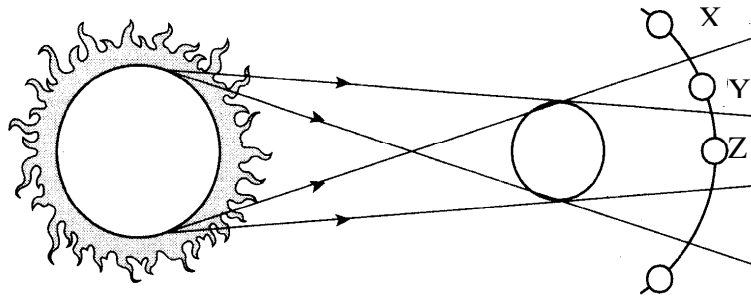
Answer all questions.

Every question is followed by four answer **A, B, C** and **D**. Choose the correct answer. Then, blacken your answer on the answer sheet provided. The suggested time for this section is 45 minutes. If you are unable to answer a question, proceed to the next question.

- 1 The eclipse of the Moon occurs when light from the Sun is blocked by
- A the Earth
 - B the Moon
 - C the stars
 - D the clouds

- 2 The Eclipse of the sun occurs when light from the Sun is blocked by
- A the Earth
 - B the stars
 - C the Moon
 - D the clouds

- 3 The diagram shows several positions of the Moon during an eclipse of the Moon.



Which of the following is true?

- | | | | |
|---|-----------------|-----------------|---------------|
| | <u>X</u> | <u>Y</u> | <u>Z</u> |
| A | Partial eclipse | Total eclipse | No eclipse |
| B | Partial eclipse | No eclipse | Total eclipse |
| C | No eclipse | Partial eclipse | Total eclipse |
| D | No eclipse | No eclipse | Total eclipse |

4 Which of the following phenomena are caused by the Earth and Moon revolving around the Sun, and the Moon revolving around the Earth?

- I Phases of the Moon
- II Eclipse of the Moon
- III Eclipse of the Sun
- IV The occurrence of day and night

- A** I and IV only
- B** II and III only
- C** I, II and III only
- D** I, II, III and IV

5 Which of the following occurrences is not related to the eclipse of the Sun?

- A** Rotation of the Earth around the Sun
- B** Rotation of the Moon around the Earth
- C** Light travels in a straight line
- D** Rotation of the Earth on its own axis

6 An eclipse of the Moon occurs when

- I the Moon is between the Earth and the Sun
- II the Moon, the Earth and the Sun lie in a straight line
- III the Moon passes through the Earth's shadow

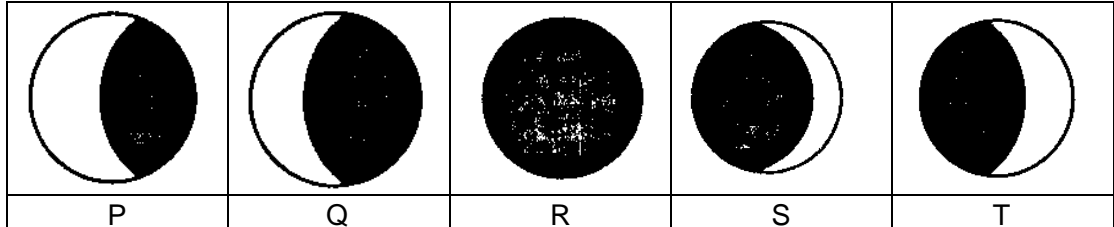
- A** I and II only
- B** I and III only
- C** II and III only
- D** I, II and III

7 Which of the following would be observed by a person on Earth during a total Eclipse of the Sun?

- I The Sun totally blocked out
- II The sky becomes dark as night as night
- III There is slight fall in temperature

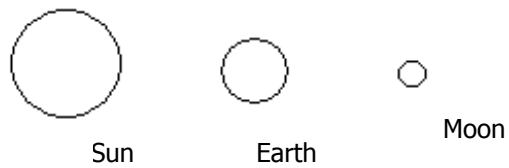
- A** I and II only
- B** I and III only
- C** II and III only
- D** I, II and III

- 8 The diagram shows the change in the Moon's shape that is observed during an eclipse of the Moon.



A total eclipse of the Moon occurs at ...

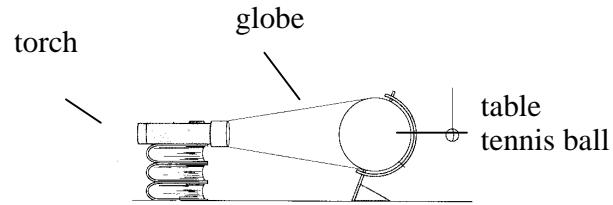
- A P
 B R
 C S
 D T
- 9 Figure shows the position, Moon and Earth.



What phenomenon occurs when the Sun, Earth and Moon are in the arrangement as in the figure above ?

- A Eclipse of the Sun
 B Eclipse of the Moon
 C Four seasons in a year
 D Occurrence of the monsoon season

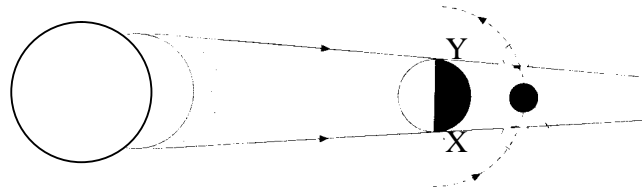
- 10 The diagram shows a simulation of an eclipse of the Moon.



Which of the following observations are **true**?

- I Light is blocked by the globe.
 - II The table tennis ball reflects light.
 - III The table tennis ball lies in the shadow of the globe.
 - IV Part of the table tennis ball is covered by the shadow of the globe.
- A III only
 - B I and III only
 - C II and IV only
 - D I, II and III only

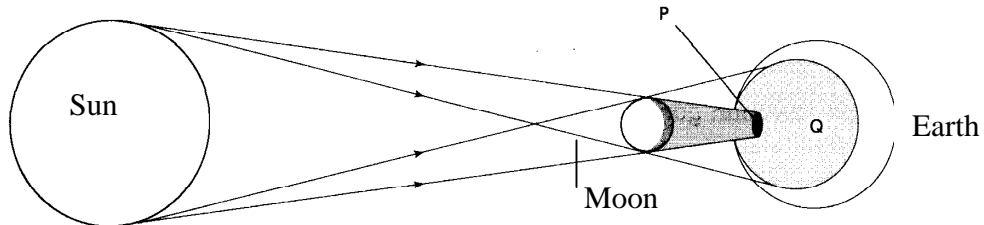
- 11 The diagram shows an eclipse of the Moon.



What will happen when the Moon moves from X to Y?

- A The Moon cannot be seen at all.
 - B The Moon reflects the sunlight to the Earth.
 - C The Moon looks dark grey or brown.
 - D The Moon looks brighter.
- 12 Which of the following occurs during an eclipse of the Sun?
- A The Moon lies in the shadow of the Earth.
 - B The Moon's shadow covers part of the Earth.
 - C The Moon's surface reflects sunlight.
 - D Sunlight is totally blocked by the Moon.

- 13 The diagram shows an eclipse of the Sun.



Which of the following about areas P and Q are true?

- | | <u>P</u> | <u>Q</u> |
|---|-----------------|-----------------|
| A | No eclipse | No eclipse |
| B | Total eclipse | No eclipse |
| C | Total eclipse | Partial eclipse |
| D | Partial eclipse | Total eclipse |

- 14 Which of the following is the safe way to observe an eclipse of the Sun?

- A Observe by using a telescope
- B Observe with the naked eye
- C Observe the shadow in water
- D Observe the reflection on a mirror

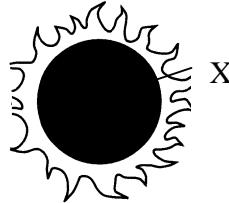
- 15 Which of the following statements is **true** about the eclipse of the Moon?

- A The Sun is between the Moon and the Earth
- B The Earth is between the Moon and the Sun
- C The Moon is between the Sun and the Earth
- D The Moon is between the Sun and the Star

- 16 Eclipse of the Sun occurs because the shadow of the _____ is formed on the surface of the _____.

- A Earth, Moon
- B Sun, Earth
- C Moon, Earth
- D Moon, Sun

- 17 The diagram shows the total eclipse of the Sun.



What is X in the diagram shown above?

- A Sun
 - B Earth
 - C Moon
 - D Moon's shadow
- 18 The diagram shows an eclipse of the Sun.

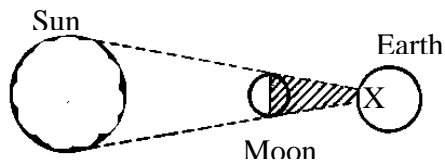
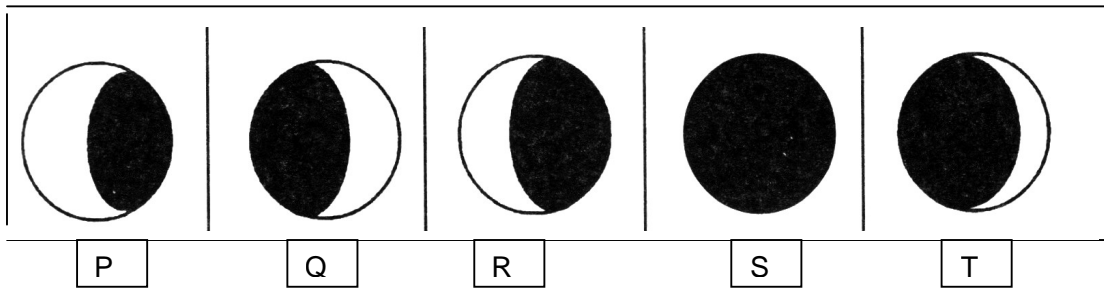


Diagram 8

Which of the following about the situation in the area labelled X are **true**?

- I X becomes very dark.
 - II A total eclipse of the Sun can be observed from X.
 - III The Moon appears to be shining from X.
- A II only
 - B I and II only
 - C I and III only
 - D I, II and III
- 19 Which of the following causes an eclipse of the Sun?
- A The Moon reflects sunlight.
 - B Sunlight is blocked by the Earth.
 - C The Moon lies between the Sun and the Earth.
 - D The Earth lies between the Sun and the Moon.

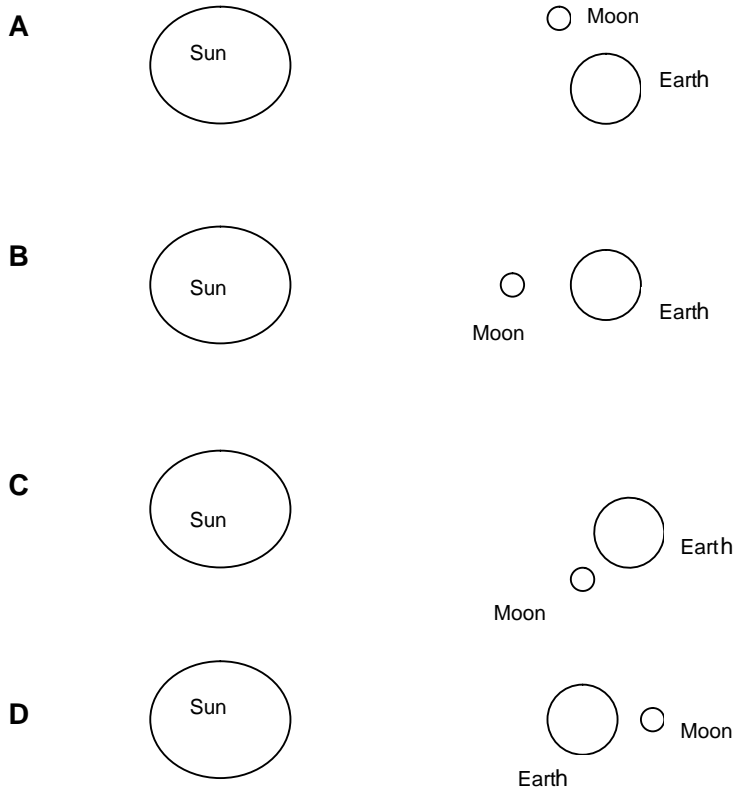
- 20 During the eclipse of the Moon, sunlight is blocked by an opaque object. What is the opaque object?
- A The Earth
 B The Moon
 C The Sun
 D A satellite
- 21 Which of the following properties of light causes eclipse to occur ?
- A Light can pass through opaque line
 B Light gives out heat
 C Light can be reflected
 D Light travels in straight line
- 22 Which of the following is **true** about the eclipse of the Sun phenomenon?
- I The Earth's temperature increases
 II A crescent Moon is clearly seen in the sky
 III The Sun is hidden for a short while
 IV The Moon is in between the Earth and the Sun in a straight line
- A I and II only
 B I, II and IV only
 C III and IV only
 D I, II, III and IV
- 23 The diagram shows the different phases of the eclipse of the Sun.



Which of the following shows the correct sequence of the phase ?

- A P, R, S, T, Q
 B P, Q, S, R, T
 C P, S, Q, T, R
 D P, T, R, Q, S

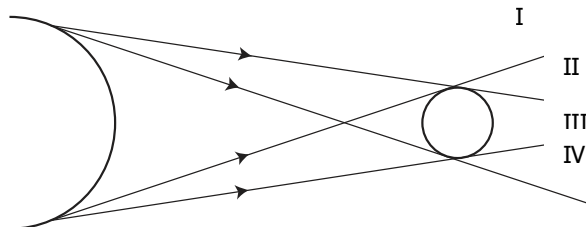
24 During the eclipse of the Moon, how are the Sun, the Moon and the Earth aligned?



25 During the total eclipse of the Sun, a person observing the eclipse is in the

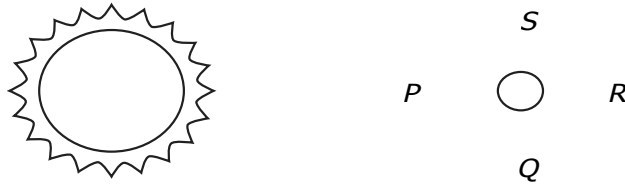
- A darker part of the Earth's shadow
- B lighter part of the Earth's shadow
- C darker part of the Moon's shadow
- D lighter part of the Moon's shadow

26 In which position is the Moon in the umbra area?



- A I
- B II
- C III
- D IV

- 27 The eclipse of the Sun may happen when the Moon is in position



- A P
B Q
C R
D S
- 28 The eclipse of the Moon occurs..
A in the morning
B in the afternoon
C in the evening
D during night-time

29

- | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none">- The Earth blocks sunlight from reaching the Moon- The Moon looks reddish, dark grey or brown |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|

- A the eclipse of the star
B the eclipse of the Earth
C the eclipse of the Moon
D the eclipse of the Sun
- 30 Which characteristic of light contributes to the occurrence of eclipses?
A It shines brightly
B It travels in straight lines
C It is easily refracted
D It is easily absorbed

SECTION B

Answer all questions.

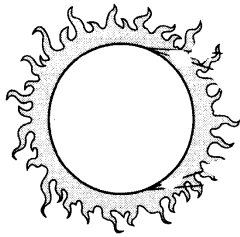
1 Fill in the blanks with the correct words.

- a For an eclipse to occur, the Sun, the Moon and the Earth must be in a _____ line.
- b The eclipse of the Moon occurs when the _____ is between the _____ and the _____ and the three of them lie in a straight line.

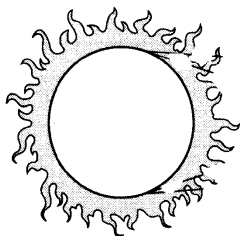
(4 marks)

2 Draw the actual position of the Moon and the Earth according to the phenomena given.

a Eclipse of the Moon

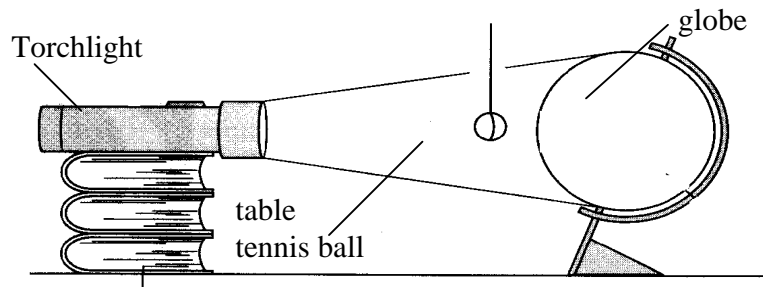


b Eclipse of the Sun



(6 marks)

3 The diagram shows an investigation carried out by a group of pupils.



- (a) What is represented by the
- i the torchlight : _____
 - ii table tennis ball : _____
 - lii globe : _____
- (3 marks)

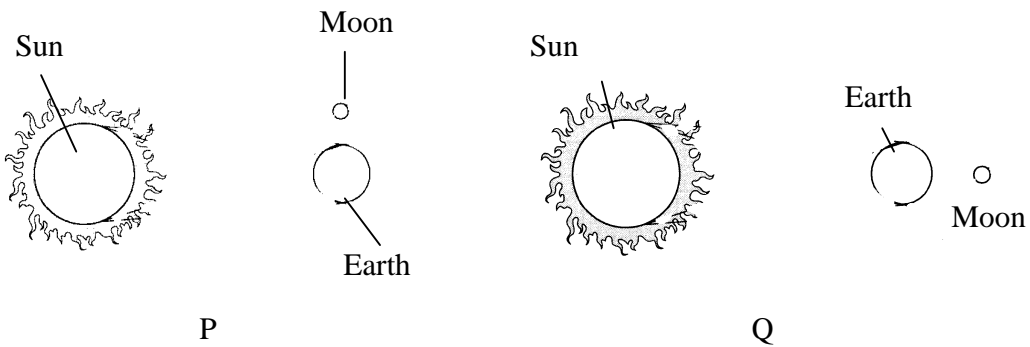
- (b) What is the aim of the investigation?
- _____
- (2 marks)

- (c) What causes a shadow of the table tennis ball fall on the globe?
- _____
- (1 mark)

- (d) State **two** properties of light that cause a shadow of the table tennis ball to fall on the globe.
- i _____
 - ii _____
- (2 marks)

- (e) Based on the investigation, explain how an eclipse of the Sun occurs.
- _____
- (2 marks)

4 The diagram shows the positions of the Sun, Earth and Moon.



(a) Explain why the phenomenon of eclipse does not occur at P.

(1 mark)

(b) What eclipse occurs at Q?

(1 mark)

(c) State **three** reasons to explain why the phenomenon of eclipse occurs at Q.

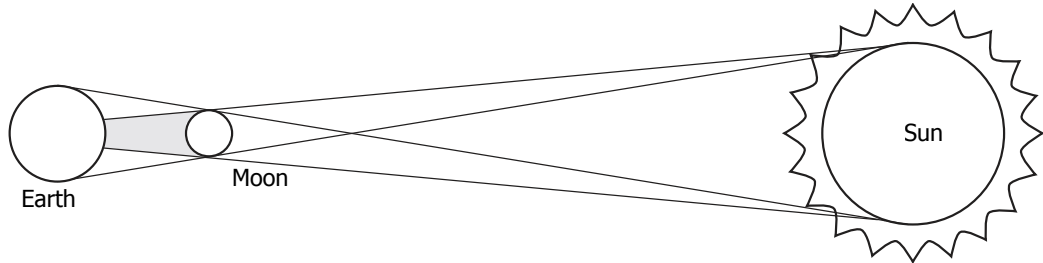
i _____

ii _____

iii _____

(3 marks)

- 5 The diagram shows the positions of the Sun, the Earth and the Moon during the eclipse of the Sun.



- (a) Name the phenomenon shown in the diagram.

_____ (1 mark)

- (b) State the characteristic of the Moon that causes this phenomenon.

_____ (1 mark)

- (c) What is the conclusion that can be made?

_____ (1 mark)