Practice Paper

CBSE Class 8 Science (Curiosity) — Chapter 11: Keeping Time with the Skies

Time: 1½ hours	**Maximum Marks:** 40	**Session:** 2026–27
Name: _____	Roll No.: _____	Date: _____

General Instructions: (1) All questions are compulsory. (2) Questions marked **[Fig. N]** are figure-based (Fig. 1 to Fig. 7); study the figure carefully. (3) Write answers in the answer sheet; draw neat labelled diagrams wherever needed. (4) Marks for each question are shown in square brackets.

SECTION A — Multiple Choice Questions (1 mark each)

1. The day on which the Moon is not visible at all is called **[1]**

(a) full Moon day (Purnima)

(b) new Moon day (Amavasya)

(c) the waxing day

(d) the waning day

2. [Fig. 1] Fig. 1 shows four shapes P, Q, R and S of the bright part of the Moon seen from the Earth. Which one shows the gibbous phase? **[1]**



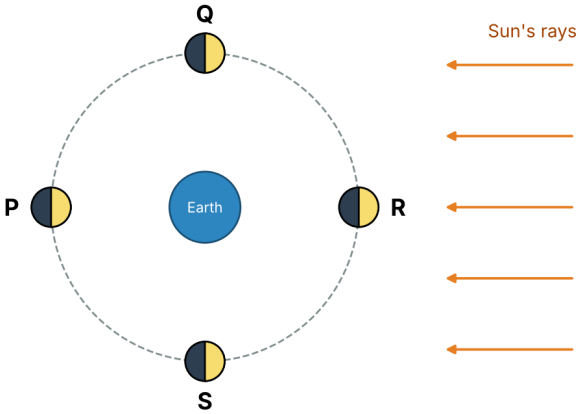
(a) P

(b) Q

(c) R

(d) S

3. [Fig. 2] Fig. 2 shows four positions P, Q, R and S of the Moon in its orbit around the Earth. At which position will the Moon appear as the new Moon? **[1]**



(a) P

(b) Q

(c) R

(d) S

4. A lunar year consisting of 12 lunar months has nearly **[1]**

(a) 365 days

(b) 360 days

(c) 354 days

(d) 366 days

5. Which of the following is a leap year in the Gregorian calendar? **[1]**

(a) 1900

(b) 2026

(c) 2100

(d) 2024

6. On successive days, the Moon rises later by about **[1]**

(a) 5 minutes

(b) 50 minutes

(c) 5 hours

(d) 24 hours

Questions 7 and 8 consist of two statements – Assertion (A) and Reason (R). Answer these questions by selecting the appropriate option given below:

7. Assertion (A): Lunar and solar eclipses do not occur every month.
Reason (R): The Moon's orbit around the Earth is slightly tilted with respect to the Earth's orbit around the Sun. **[1]**

(A) Both A and R are true, and R is the correct explanation of A.

(B) Both A and R are true, and R is not the correct explanation of A.

(C) A is true but R is false.

(D) A is false but R is true.

8. Assertion (A): The shape of the Moon changes because the Moon gives out its own light.
Reason (R): The Moon shines by reflecting sunlight that falls on it. **[1]**

(A) Both A and R are true, and R is the correct explanation of A.

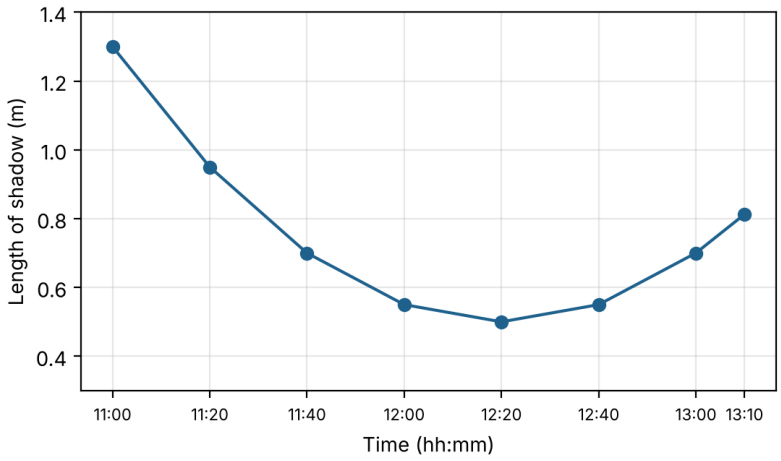
(B) Both A and R are true, and R is not the correct explanation of A.

(C) A is true but R is false.

(D) A is false but R is true.

SECTION B — Short Answer Questions (2 marks each)

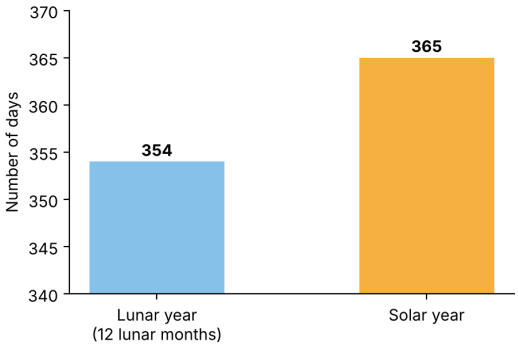
9. [Fig. 3] A student fixed a 1 m stick vertically in the ground and measured the length of its shadow at different times on a sunny day, as shown in Fig. 3. **[2]**



(a) At what time was the shadow shortest? [1]

(b) What does the position of the Sun at this time tell us, and how can this be used to find the length of a solar day? [1]

10. [Fig. 4] Fig. 4 compares the number of days in a lunar year and in a solar year. **[2]**



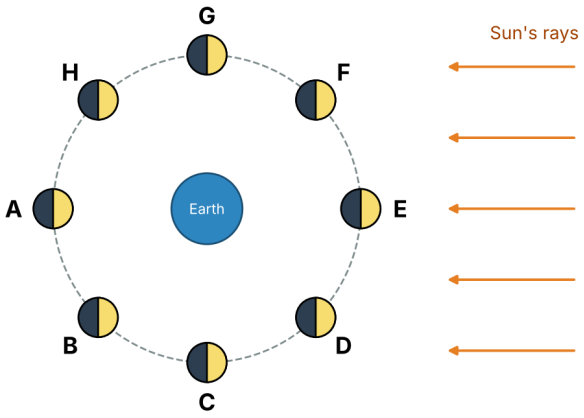
(a) By how many days does the lunar year fall short of the solar year? [1]

(b) Name the extra month added every few years in luni-solar calendars to correct this difference. [1]

11. (a) What are the phases of the Moon? [1] (b) What is the period during which the bright part of the Moon increases called in science and in India? [1] **[2]**

SECTION C — Long Answer Questions (4 marks each)

12. [Fig. 5] Fig. 5 shows the Moon at eight positions A to H in its orbit around the Earth. The side of the Moon facing the Sun is lit. Position A is opposite to the Sun. **[4]**



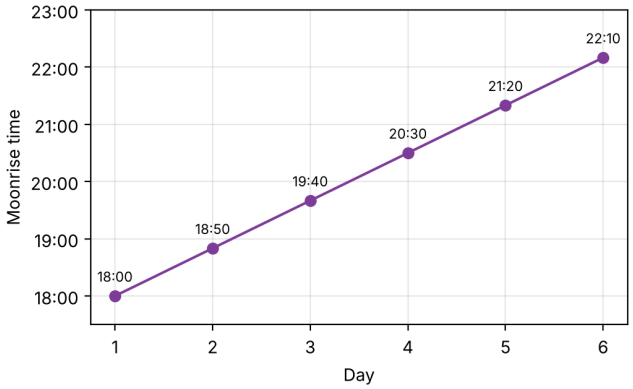
(i) At which position is the full Moon seen? [1]

(ii) At which position is the new Moon seen? [1]

(iii) At which two positions is the crescent Moon seen? [1]

(iv) Is the Moon waxing or waning as it moves from E to G to A? [1]

13. [Fig. 6] Fig. 6 shows the moonrise time on six consecutive days in a town. **[4]**



(i) By about how many minutes does the moonrise get later each day? [1]

(ii) Predict the moonrise time on Day 7. [1]

(iii) Why does the Moon rise later each day? [1]

(iv) Is it true that the Moon always rises when the Sun sets? Give a reason. [1]

14. (i) Why is an extra day added to the Gregorian calendar every four years? [1] (ii) Which of the years 1700, 2000, 2024 and 2100 are leap years under the Gregorian rules? [1] (iii) How many days does February have in 2024? [1] (iv) Name the type of calendar the Gregorian calendar is. [1] **[4]**

15. Give scientific reasons: **[4]**

(i) The Moon appears to change its shape every night, although its actual shape does not change. [1]

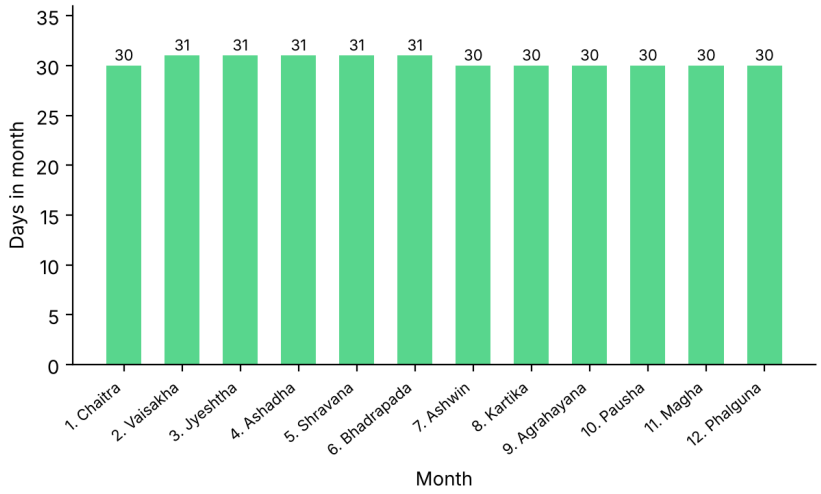
(ii) The festival Eid-ul-Fitr falls in different months of the Gregorian calendar in successive years. [1]

(iii) Eclipses do not occur every full Moon day or new Moon day. [1]

(iv) Many people on different parts of the Earth see nearly the same phase of the Moon on a given day. [1]

SECTION D — Case-Based / Practical Questions (5 marks each)

16. [Fig. 7] Case: A student plotted the number of days in each of the twelve months of the Indian National Calendar for a regular (non-leap) year, as shown in Fig. 7. **[5]**



(i) Which months have 31 days? [1]

(ii) Find the total number of days in the year. [1]

(iii) Which month gets an extra day in a leap year? [1]

(iv) On which date of the Gregorian calendar does this year begin in a regular year? [1]

(v) Is the Indian National Calendar a solar, lunar or luni-solar calendar? [1]

17. Case: Arjun's family celebrates Diwali on the new Moon day of Kartika, and Holi on the full Moon of Phalguna. Their Gregorian-calendar dates change every year. Arjun's friend Imran says that Eid-ul-Fitr shifts even more, through different seasons. Arjun also notices that Makar Sankranti always falls on about 14 or 15 January. One night he sees a bright point of light moving quickly across the sky. His teacher says it is an artificial satellite, which takes about 100 minutes to complete one orbit around the Earth. **[5]**

(i) On which kind of calendars are festivals like Diwali and Holi based? [1]

(ii) Why does Eid-ul-Fitr shift across the seasons while Diwali stays within a month or so of its usual period? [1]

(iii) Why does Makar Sankranti fall on nearly the same Gregorian date every year? [1]

(iv) How many orbits does such a satellite complete in one day (24 hours)? [1]

(v) Name any two uses of artificial satellites. [1]

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