

The Hijri Lunar and Solar Calendars: Differences, Historical Background, and Their Cultural and Scientific Significance

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Annotation: Throughout human history, various calendar systems have been developed to measure and regulate time. Among the most widely used are the Islamic calendar (Hijri calendar) and the Gregorian calendar. This article examines the principal differences between these two calendar systems and highlights the distinctive features and characteristics of each.

Keywords: Hijri, lunar, Anno Domini (AD), solar, leap year, Ashura, Gregorian calendar, Mawlid.

Throughout its ancient history, humanity has employed various methods of measuring time, and today this practice is primarily based on solar and lunar calendars, that is, solar and lunar year systems. In the solar calendar, one year is defined as the complete revolution of the Earth around the Sun. In the lunar calendar, by contrast, one month is determined by the complete revolution of the Moon around the Earth. In contemporary societies, two main systems of year reckoning are predominantly used: the solar Gregorian calendar and the lunar Hijri calendar.

The Islamic calendar (Hijri calendar) is a lunar calendar used by Muslims and is calculated beginning from the year in which the Prophet Muhammad (peace be upon him) migrated from Mecca to Medina, namely 622 CE. This calendar is based on the motion of the Moon, and a Hijri year consists of either 354 or 355 days. The Islamic calendar was officially introduced in 638 CE by the Caliph 'Umar ibn al-Khattāb (may Allah be pleased with him). He established this calendar in order to eliminate inconsistencies and confusion arising from the simultaneous use of different calendar systems during his time. The starting point of the calendar was designated as the first day of the month of Muharram in the year of the Hijra. In the Gregorian calendar, this date corresponds to 16 July 622. However, the actual migration of the Prophet Muhammad (peace be upon him) from Mecca to Medina occurred in September of the year 622 according to the Gregorian calendar. In the Hijri calendar, odd-numbered months consist of 30 days and even-numbered months consist of 29 days, with the exception of the twelfth month, which has 30 days in leap years.

The Moon gradually increases in size from its initial crescent shape and becomes full within fourteen days, entering the phase of the full moon. It then gradually diminishes and eventually returns to its initial state. This cyclical process repeats approximately every 29 days and nights.

The lunar calendar is based on the phases of the Moon and consists of either 354 or 355 days in a year. It is founded on the precise synodic movement of the Moon, the Earth's natural satellite, which lasts 29 days, 12 hours, 44 minutes, and 2 seconds. The period that elapses until the Moon returns to the same phase constitutes one lunar month. The additional 12 hours within the average length of 29.5 days are accumulated and counted as one extra day every two months. For this reason, in the lunar calendar, odd-numbered months (Muharram, Rabi' al-Awwal, Jumada al-Awwal, Rajab, Ramadan, and Dhu al-Qa'dah) are assigned 30 days, while even-numbered months (Safar, Rabi' al-Thani [al-Akhir], Jumada al-Thani, Sha'bān, Shawwal, and Dhu al-Hijjah) consist of 29 days.

The remaining fractional parts of the day (44 minutes and 2 seconds) accumulate over four years to form an additional day, which is added at the end of the twelfth month in a leap year, increasing it from 29 to 30 days. Consequently, an ordinary lunar year contains 354 days, whereas a leap year consists of 355 days. The lunar calendar forms the basis of the Hijri year system in the Muslim world and plays a crucial role in determining the dates of Islamic religious observances and rituals, such as the beginning of the month of Ramadan and the celebration of Eid al-Adha.

The Hijri lunar year is a chronological system whose era begins with the migration (Hijra) of the Prophet Muhammad (peace be upon him) and is based on the lunar (qamariy) calendar. This system of time

reckoning has a long historical background. Ancient peoples inhabiting the Arabian Peninsula employed the lunar calendar as early as the first millennium BCE.

Arablar qo'llagan oy-quyosh taqvimidagi oylarning tartibi, nom va ma'nosi quyidagicha edi:

1. Muharram. The term *Muharram* denotes the meanings of “forbidden,” “prohibited,” and “sacred.” According to religious tradition, it is one of the four sacred months during which warfare and military campaigns are strictly prohibited. This prohibition also applies to the seventh month (Rajab), the eleventh month (Dhu al-Qa'dah), and the twelfth month (Dhu al-Hijjah). The most virtuous day of the month of Muharram is its tenth day, which in Islam is known as *Ashura*. The word *Ashura* itself literally means “the tenth day.” Fasting on this day is an established and recommended religious practice.¹

2. Safar. Safar is the second month of the Hijri lunar calendar. The term *Safar* is associated with the meanings “yellow” and “saffron.” According to traditional accounts, during this month Arabs experienced severe hardships and were afflicted by serious, often fatal diseases that caused painful wounds, as a result of which the skin of the affected individuals turned yellow. According to another hypothesis, the month was given this name because Arabs, together with groups known as *safariya*, would go in search of food during this period. Over time, various superstitious beliefs also emerged, such as the notion that traveling during the month of Safar brings misfortune. In popular religious practice, on the last Wednesday night or day of this month, a two-rak'ah prayer is sometimes performed with the intention of seeking protection from calamities and disasters associated with the earth and the sky..²

3–4. Rabi' al-Awwal and Rabi' al-Aakhir. The word *Rabi'* in Arabic literally means “spring.” However, in ancient Arabic usage, the term *rabi'* was also employed to denote “autumn.” Since both of these months originally occurred during the autumn season, they came to be understood as “the first autumn” and “the second autumn,” respectively. Rabi' al-Awwal holds particular sanctity in Islamic history, as it is the month in which the Prophet Muhammad (peace be upon him) was born. During the month of Rabi' al-Awwal, Muslims in many regions, including all parts of Uzbekistan, have for centuries observed a special tradition expressing joy at the birth of the Prophet Muhammad (peace be upon him). This long-established custom, known as the recitation or observance of *Mawlid*, is intended to commemorate his birth and to celebrate these days in an atmosphere of reverence and happiness.³

Rabi' al-Thani (Rabi' al-Aakhir) may be regarded as a logical continuation of the preceding month.

5–6. Jumada al-Awwal and Jumada al-Akhirah. The names of these months are derived from the Arabic root *jamada*, which conveys the meanings “to freeze,” “to become solid,” or “to congeal.” Both months were so named because they originally coincided with the period of the year when water would freeze, that is, the winter season.

7. Rajab. The name *Rajab* is derived from the term *irjābūdir* and carries the meaning “to refrain from fighting and plundering.” Accordingly, Rajab is regarded as a sacred month in which warfare and acts of violence are traditionally prohibited⁴. The month of Rajab is regarded as a highly revered month in Islam. This is primarily because, on the twenty-seventh night of Rajab, the event of the *Isra* and *Mi'raj* of the Prophet Muhammad (peace be upon him) is believed to have occurred. In this context, it is essential to clearly understand the meanings of *Isra* and *Mi'raj*. The term *Isra* in Arabic means “to cause to travel by night” or “to undertake a nocturnal journey.” In Islamic doctrine, *Isra* refers to the event in which Allah Almighty took the Prophet Muhammad (peace be upon him) during a part of the night from *al-Masjid al-Haram* in Mecca to *al-Masjid al-Aqsa* in Jerusalem.⁵ The month of Rajab is regarded as a highly revered month in Islam. This is primarily because, on the twenty-seventh night of Rajab, the event of the *Isra* and *Mi'raj* of the Prophet Muhammad (peace be upon him) is believed to have occurred. In this context, it is essential to clearly understand the meanings of *Isra* and *Mi'raj*. The term *Isra* in Arabic means “to cause to travel by night” or “to undertake a nocturnal journey.” In Islamic doctrine, *Isra* refers to the event in which Allah Almighty took

¹ Абу Райхон Беруний. Қадимги халқлардан қолган ёдгорликлар. Т.:1968.Б 386

² O'n ikki oy sharofati.Toshkent,2022.-B.42

³ O'n ikki oy sharofati. Toshkent,2022.-B.46

⁴ Абу Райхон Беруний. Қадимги халқлардан қолган ёдгорликлар. Т.1968.-Б. 381

⁵ O'n ikki oy sharofati. Toshkent,2022.-B.93

the Prophet Muhammad (peace be upon him) during a part of the night from *al-Masjid al-Haram* in Mecca to *al-Masjid al-Aqsa* in Jerusalem.

8. Sha'ban. The name *Sha'ban* is derived from the Arabic root *tasha 'aba*, meaning “to branch out” or “to disperse.” During this month, Arabs would traditionally organize raids and military expeditions. It is also said to have been so named because it falls between the months of Rajab and Ramadan, effectively separating them. The night between the fourteenth and fifteenth days of *Sha'ban* is known as the *Night of Bara'at* (*Laylat al-Bara'ah*). In the Islamic world, numerous traditions hold that on this night repentance is accepted, sins are forgiven, and the sick are granted healing. On this occasion, Muslims engage in acts of worship such as reciting the Qur'an, reading collections of hadith, and offering supplications.

Within the Islamic calendar, *Sha'ban* occupies a distinctive position as one of the virtuous months in which supplication, devotion, acts of worship, and righteous deeds are regarded as more meritorious than at other times. Moreover, *Sha'ban* is marked by a significant historical event in Islamic history: the change of the direction of prayer (*qibla*). On the fifteenth day of *Sha'ban*, the *qibla* was changed from Jerusalem (*al-Quds al-Sharif*) to the Ka'bah in Mecca⁶.

At this point, it is also appropriate to refer to a hadith narrated by Ibn 'Umar (may Allah be pleased with him), in which it is stated: “*There are four nights during which supplications are not rejected.*” These are:

1. the first Friday night of the month of Rajab;
2. the fifteenth night of the month of *Sha'ban*;
3. the Night of Qadr (*Laylat al-Qadr*);
4. the nights of the two Islamic festivals.

9. Ramadan. The name *Ramadan* is derived from the word *ramada*, meaning “to burn” or “the scorching heat,” and it was so named because it originally coincided with the hottest period of the year. In Islam, the virtues of the month of Ramadan are innumerable. It is the month in which the Holy Qur'an was revealed, and many momentous events in Islamic history occurred during this period. For this reason, Ramadan has been established as a month devoted to righteous deeds and worship. The nightly prayers performed during Ramadan are known as *Tarawih*, and performing these prayers is considered a *sunnah* for all Muslims.

10. Shawwal. The word *Shawwal* is derived from *shala*, meaning “to raise,” “to lift,” “to carry,” or “to move.” During this month, among the Arabs, the call “*shawwili*”—meaning “rise up and move from your places of residence”—was commonly heard. According to the Hijri calendar, the festival of *Eid al-Fitr* is celebrated on the first day of the month of Shawwal.

11. Dhu al-Qa'dah. The term *Dhu al-Qa'dah* is derived from the word *qa'ada*, meaning “to sit” or “to remain at home.” In the Islamic calendar, *Dhu al-Qa'dah* is one of the four sacred months during which warfare is prohibited.

12. Dhu al-Hijjah. The name *Dhu al-Hijjah* originates from the word *hajj*, meaning “to perform the pilgrimage.” Since ancient times, people have traveled to the Ka'bah during this month to perform the Hajj pilgrimage. Fasting is observed on the ninth day of *Dhu al-Hijjah*, known as the Day of *'Arafah*. The festival of *Eid al-Adha* is also celebrated during this month.

The Hijri lunar year is eleven days shorter than the Gregorian year and therefore begins approximately eleven days earlier each year, causing its months to shift through different seasons over time.

The Gregorian calendar, by contrast, is based on the solar cycle, with an average year length of 365.25 days. A common year consists of 365 days, and an additional day is added every four years to form a leap year, thereby correcting the discrepancy. This calendar was introduced in 1582 by Pope Gregory XIII and has since become widely adopted across the world, being officially recognized by almost all countries.

The Gregorian calendar is closely aligned with the seasons, ensuring that spring, summer, autumn, and winter consistently occur during the same periods each year. This seasonal stability plays a crucial role in coordinating economic, political, and social activities.

Several key differences exist between the Islamic and Gregorian calendars:

- The Islamic calendar is lunar-based, whereas the Gregorian calendar is solar-based.

⁶ Абу Райхон Беруний. Қадимги халқлардан қолған ёдгорликтер. Т.:1968.-Б. 392

- The Islamic year consists of 354 or 355 days, while the Gregorian year consists of 365 or 366 days.
- The Gregorian calendar is synchronized with the seasons, whereas the Islamic calendar is not.
- The Islamic calendar is primarily used for religious observances, while the Gregorian calendar is used for secular and civil affairs.

Each calendar has its own distinctive features and domains of application. The Islamic calendar constitutes an integral part of religious life for Muslims, while the Gregorian calendar serves as the principal system of timekeeping in political, economic, and everyday life worldwide. Both calendars occupy an important place in human history and have evolved in response to the needs of their respective societies and eras.

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