

Calculation for Crescent

A Reliable and Permissible Method in Accordance with the Objectives of Shari'ah

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هُوَ الَّذِي جَعَلَ الشَّمْسَ ضِيَاءً وَالْقَمَرَ نُورًا وَقَدَرَهُ مَنَازِلَ لِتَعْلَمُوا عَدَدَ السِّنِّينَ وَالْحِسَابَ مَا خَلَقَ اللَّهُ ذَلِكَ إِلَّا بِالْحَقِّ يُفَصِّلُ الْآيَاتِ لِقَوْمٍ يَعْلَمُونَ {يونس 5}

It is He Who made the Sun a shining radiance and the Moon a light and measured out phases for it so that you might know the number of years and calculate time. Allah did not create all this without a true purpose. He explains His signs for those who understand. (Yunus 10:5)

الشَّمْسُ وَالْقَمَرُ بِحُسْبَانٍ {الرحمن 5}

The Sun and the Moon follow courses (exactly) computed. (Al-Rahman 55:5)

Allah *subhanahu wa ta'ala* created the Sun and Moon and both of them move according to precise and pre-defined patterns. Knowledge of these patterns help people calculate time, days and years. This pattern is not only for Ramadan, but it is for all time periods throughout the year. Allah *subhanahu wa ta'ala* tells us that we should pray our daily Salat and begin and end our fasts based on the movement of the sun.

أَقِمِ الصَّلَاةَ لِذُلُوكِ الشَّمْسِ إِلَى غَسَقِ اللَّيْلِ وَقُرْآنَ الْفَجْرِ إِنَّ قُرْآنَ الْفَجْرِ كَانَ مَشْهُودًا {الإسراء 78}

Perform regular prayers in the period from the time the sun is past its zenith till the darkness of the night, and recite (the Qur'an) at dawn –dawn recitation is always witnessed. (Al-Isra' 17:78)

....وَكُلُوا وَاشْرَبُوا حَتَّى يَتَبَيَّنَ لَكُمُ الْخَيْطُ الْأَبْيَضُ مِنَ الْخَيْطِ الْأَسْوَدِ مِنَ الْفَجْرِ ثُمَّ أَتِمُّوا الصِّيَامَ إِلَى اللَّيْلِ (البقرة 187)

.... and eat and drink, until the white thread of dawn appear to you distinct from its black thread; then complete your fast Till the night appears.... (Al-Baqarah 2:187)

Allah also told us that the Crescent Moons (of various months) are for people to observe times and especially the time of Hajj:

يَسْأَلُونَكَ عَنِ الْأَهْلِ قُلْ هِيَ مَوَاقِيتُ لِلنَّاسِ وَالْحَجِّ (البقرة 189)

They ask thee concerning the New Moons. Say: They are but signs to mark fixed periods of time in (the affairs of) men, and for Pilgrimage. (Al-Baqarah 2:187)

The Prophet –peace be upon him- in explaining these rules told us how to observe the movements of the sun to establish the timings of daily Salat and the beginning and ending of the daily fasts. Similarly he told us how to begin and end the month of Ramadan. For centuries Muslims observed the movement of the sun according to the instructions of the Prophet –peace be upon him. They observed the movement of the sun by their naked eyes every day for their five daily prayers. When clocks were invented, Muslims changed this method and started using calculated movements of the sun. They

established the timings of daily Salat and developed perpetual Salat timetables that can be used throughout the year. Now, instead of physically watching movements of the sun, Muslims follow a timetable that is based on the calculations of the movements of the sun.

Timetables sometime differ on the basis of the Fiqh of prayer times. Some Muslims have determined that Fajr should start when the sun is 18 degree below the horizon; others have determined that Fajr time should start when the sun is 15 degree below the horizon. Some calculate Maghrib time when the sun disk descends the horizon and others calculate *Maghrib* time when the red twilight disappears. Similar are the differences in the beginning and ending times of fasts. However, Muslims have accepted that it is permissible to calculate *Salat* times and to prepare timetables for *Salat* for the convenience of people.

Similar is the case of the use of crescent for determining the Islamic dates. The Prophet –peace be upon him- told us that we should see the Crescent to begin and end the month of Ramadan. He said,

سَمِعْتُ أَبَا هُرَيْرَةَ رَضِيَ اللَّهُ عَنْهُ يَقُولُ قَالَ النَّبِيُّ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ أَوْ قَالَ قَالَ أَبُو الْقَاسِمِ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ صُومُوا لِرُؤُوسِهِ وَأَفْطِرُوا لِرُؤُوسِهِ فَإِنْ غَبِيَ عَلَيْكُمْ فَأَكْمِلُوا عِدَّةَ شَعْبَانَ ثَلَاثِينَ (البخارى 1776)

“Fast with sighting it (Moon) and break the fast with sighting it. Complete 30 days of Sha’aban if it is cloudy.” (Al-Bukhari 1776)

He –peace be upon him- also said,
عَنْ نَافِعٍ عَنْ عَبْدِ اللَّهِ بْنِ عُمَرَ رَضِيَ اللَّهُ عَنْهُمَا أَنَّ رَسُولَ اللَّهِ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ ذَكَرَ رَمَضَانَ فَقَالَ لَا تَصُومُوا حَتَّى تَرَوْا الْهَيْلَالَ وَلَا تُفْطِرُوا حَتَّى تَرَوْهُ فَإِنْ غَمَّ عَلَيْكُمْ فَأَقْدِرُوا لَهُ (البخارى 1773)

“Do not fast until you see the Crescent and do not break the fast until you see it. Estimate about it in case it is cloudy.” (Al-Bukhari 1773)

The objective was that everyone should begin and end Ramadan with full confidence that the month has begun and Muslims should be together in observing their fasts and celebrating their Eid. Why did the Prophet –peace be upon him- emphasize the observance of *Hilal*? He himself answered that in another authentic Hadith:

حَدَّثَنَا سَعِيدُ بْنُ عَمْرٍو أَنَّهُ سَمِعَ ابْنَ عُمَرَ رَضِيَ اللَّهُ عَنْهُمَا عَنِ النَّبِيِّ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ أَنَّهُ قَالَ إِنَّا أُمَّةٌ أُمِّيَّةٌ لَا نَكْتُبُ وَلَا نَحْسِبُ الشَّهْرَ هَكَذَا وَهَكَذَا يَعْنِي مَرَّةً تِسْعَةً وَعِشْرِينَ وَمَرَّةً ثَلَاثِينَ (البخارى 1780)

“We are an unlettered people; we do not know how to write and how to calculate. The month is thus and thus, meaning either 29 days or 30 days.” (Al-Bukhari 1780)

The Prophet –peace be upon him- was fully aware of the condition of his people at the time when he gave them these instructions. He did not impose a burden upon them beyond their capacity. He wished them to begin and end their time of fasting and Eid with ease and convenience.

Muslims in general continued sighting the Crescent to begin and end their month of Ramadan and celebrate *Eids*. We also have on record the statements of some early scholars and jurists who learned the science of astronomy; they indicated that the calculation of the Crescent can be used for Ramadan. Imam Taqiuddin al-Subki a great Shafi'i jurist even said that calculation were more reliable than the sighting by naked eyes.

When Muslims had more advanced knowledge of astronomical sciences more voices were raised to rely on the calculations of the Crescent instead of its physical sighting. Most jurists did not accept calculations because they were not sure whether the calculations were correct or could be trusted. With the development of astronomical sciences in the last one hundred years more and more voices are being raised by jurists in support of calculations. One of the famous Muhaddith Shaikh Ahmad Muhammad Shakir wrote a long article emphasizing that calculation is the most appropriate method of determining the lunar months and it is permissible.

The objective of the Shari'ah is that Muslims begin and end the month of Ramadan with assurance and be united in the observance of these blessed times. The objective of the *Shari'ah* does not seem to engage Muslims in Moon sightings or remain uncertain about their times of *'Ibadah* until the last minute. The astronomical sciences are highly advanced today and more reliable methods are available to know the beginning of the lunar months. On the basis of the principles of the Shari'ah just as the timetable for Salat and Siyam are prepared, it is possible to prepare the calendars for the lunar months and for the beginning and end of Ramadan. This knowledge is now easily available and can be used.

It is ironic that instead of taking advantage of this knowledge and making things easy the *Hilal* issue has become a very controversial and divisive matter among Muslims all over the world. In Muslim countries the official bodies make the decision. Some people differ but they have no choice except to follow the official decision. Countries where Muslim minorities live there is more division. In Western Europe and North America Moon sighting has become much more divisive.

We thank Dr. Zulfiqar Ali Shah, a member of the Fiqh Council of North America who exerted his efforts to collect the basic evidence from the Qur'an and Sunnah, linguistic usages and juristic discussions on this subject. He has given us the arguments of both sides: those who emphasize the actual sighting of the crescent and those who allow the use of calculations. It is clear that our blessed *Shari'ah* is flexible in this matter and it is permissible for us to adopt a method that meets the objectives of the rules and also makes things easy for Muslims.

عن أبي هريرة عن النبي صلى الله عليه وسلم قال : إن الدين يسر ولن يشاد الدين أحد إلا غلبه فسددوا وقاربوا وأبشروا واستعينوا بالغدوة والروحة وشيء من الدلجة. (رواه البخاري ، كتاب الإيمان 39)

The Prophet- peace be upon him - said, "Religion is easy and whoever overburdens himself in his religion will not be able to continue in that way. So you should be straight, facilitate understanding and receive the good tidings that you will be rewarded; and gain strength by worshipping in the mornings, the evening and part of the night."

(Al-Bukhari, Book of Faith, Hadith 39)

We pray to Allah to keep us on the right path and help us to keep our minds open for ideas that are consistent with new knowledge without contradicting the basic principles of our deen. *Amin.*