

EXPLANATION OF MUSLIMS PRAYER TIMING

Every Muslim above the age of puberty is commanded to perform prescribed five times daily prayers (salaat) within the prescribed time, (*waqt*) Al-Isrâ 17:78; Hûd 11:114; TâHâ 20:130, which are determined using the position of the sun.

The time of the first Dawn-prayer **Fajr** begins when the morning light appears and lasts just before the sunrise. The second Mid-day prayer **Dhuhr** begins when sun appears the highest in the sky and begins to decline **Zawal**, this is the approximate halfway between sunrise and sunset, the **Dhuhr** lasts when the beginning of the third Afternoon-prayer **Asr** begins when the shadow of an object reaches certain length-ratio in the afternoon. The 'Asr lasts prior to local sunset which the beginning of the fourth After-sunset prayer **Magrib** which begins when the sun is fully set and lasts until the beginning of the fifth and final Night-prayer **'Isha** when the western sky begins to darken. The 'Isha lasts until beginning of first Dawn-prayer **Fajr**.

Nowadays hardly any Muslim observes the sky or sun to determine the prayers timing, entirely all urbanised as well Muslims living in rural areas rely on pre-determine prayer tables prepared with the help of computer programs simply requiring the coordination (latitude and longitude) of a location. The times computed by these programs are considered accurate to ± 2 minutes in most cases, relative to various acceptable criteria.

The two important prayers, dawn **Fajr** and night **'Isha**, require the measuring of certain amount (illumination) twilight (*Shafaqe*) in the sky. The twilight is caused by the scattering of sunlight by the upper layers of the Earth's atmosphere when the Sun's angle is below the horizon. Nowadays, according to many experience observers, this phenomena (i.e. nautical twilight) is difficult to identify, quantify, and may fluctuates through the seasons, latitudes and atmospheric conditions, furthermore, lately the environmental and artificial light pollution is a major problem. According to U.S. Naval Observatory when the centre of the Sun is geometrically approximately 18° (astronomical twilight -, at sea level), at this point, the sun does not contribute any illumination to the sky, and twilight is so weak that it hardly noticeable. Under clear sky, at 18° or higher generally the sky is completely dark conversely the 18° or less, (i.e. 15°) there is some amount of light in the sky. This is why the leading Islamic organizations endorse the beginning and end of night ('Isha) prayer at 18° or higher.

In summer, at latitudes higher than 48.5° (extreme northern regions), the sun does not go 18° below the horizon and at the latitudes higher than 51.5° , the sun does not go 15° below horizon, for example Manchester England and Edmonton Canada, in summer, the sun hardly goes beyond 13.5° below the horizon thus full darkness does not occur, in such cases several alternative methods are suggested by the leading scholars such as start of 'Isha time 90 minute after the sunset and beginning of Fajr 90 minutes before the sunrise or other acceptable methods.

1. Fajr Dawn-Prayer

Fajr begins at *subh saadiq* - true dawn or *morning twilight* when the morning light appears across the full width of the sky. All Islamic scholars agree on this point.

Signs: At pre-dawn, some whiteness appears at the edge of the eastern horizon like a column, this is called (subh kaadhib - false dawn). This whiteness fades after some time and then comes another whiteness (*lateral whiteness; second dawn*) spreads towards the right

and left (*full width*) through the edge of the eastern sky. This is called *subh saadiq* (also known as *true or second or morning twilight*) at this very time the Fajr begins.

Globally the beginning time of Fajr is pre-determined by the leading Islamic organizations such as Egyptian General Authority of Survey 19.5°, Umm Al-Qura of Saudi Arabia 19°, University Of Islamic Sciences, Karachi and Muslim World League 18° and several Islamic organizations in the west uses 15°. The higher number (19.5°) corresponds to early Fajr and the lower number corresponds to late Fajr (15°). It seems that 19.5°- 18° fixed by the reputable Islamic organizations are more concerned with the importance of the end of 'Isha time where such time is also coincides with the ending of the dawn-to-sunset Islamic fasting period (*Sahur – sehri – imsak*) especially during the month of Ramdhan. The fasting commences at Subah Sadiq (true dawn) this is also the commencing time for Fajr Salat.

The experts differ as far as the pre-determination of *subh saadiq* - true dawn. The majority opinion is about 18° but there is a minority opinion that calls for 15°. Also several recent studies worth noting, reveal that the phenomenon of subh-Sadiq could vary in degrees at different latitudes and different seasons throughout the year, the new study suggests that, it is incorrect to calculate Fajr assuming any fixed degree (whether 18° or 15°) or any fixed minutes (like 90 minutes or 75 minutes). A possible explanation is given that because the sun apparently travels along specific latitude on a specific date between the tropic of cancer and tropic of Capricorn, Muslims in various locations around the globe have made observations about Subh-Sadiq and the results are anywhere between 9° to 18°. A prayer table, for the city of Montreal, prepared by Dr. Khalid Shaukat of moonsighting.com revealed that the time for subh-sadiq fluctuates slightly throughout the year, occurring as low as 14.54° in summer and as high as 17.20° in winter.

Based on conflicting estimation, it is our view that, fixing late Fajr time such as 15° could be problematic for those who intended to fast during the day and conversely saying Fajr salaah too early (e.g. 19.5° or 18°) could be equally unsafe. Therefore 18° is a good approximate for sahur (imsak) – extreme limit of pre-dawn meal if one is fasting during the day and 15° is a good approximate for start of Fajr. Those prayer tables use 18° for Fajr, it is recommended to wait 10 to 20 minutes before starting Fajr salaah. Equally, complete sahur (imsak) (pre-dawn meal) 10 to 20 minutes before Fajr time when using 15° table. The delay between the end of 'Isha (imsak or sahur) and beginning of Fajr (approximately 10 minutes) is also supported by a hadith by Zayd ibn Thabit⁽³⁾. This delay is only a recommendation as a precaution if one is sure of the time of Subah sadiq occurs, one can stop eating and perform Fajr salat thereafter. The prayer table published by 'Aisha Charity, for the city of Montreal Canada, uses 18° for Imsak of end of Sahur and uses 15° for beginning of Fajr. Fajr ends when the sun begins to rise.⁽¹⁺²⁾

2. Dhuhr (Zhur - Mid-Day Prayer)

Dhuhr begins at **Zawal**, when the sun crosses the meridian (*when the sun reaches its highest point - nearest zenith*) and begins to decline. As performing prayer is not desirable according to most leading jurists⁽¹⁾ when the sun is at its highest. We recommend that you stop performing salaah just prior to ten minutes from the time shown in this table, which adds 6 minutes to the local midpoint as a margin of safety. Dhuhr ends when 'Asr salaah begins

3. 'Asr (Afternoon-Prayer)

The beginning time of 'Asr having two acceptable juristic opinions

- (1) When the shadow of an object becomes its length (plus the length of its shadow at the mid-point, shadow ratio: 1
- (2) When the shadow of an object becomes twice its length plus the addition to the shadow at the mid-point, shadow ratio: 2

'Asr ends as the sun begins to set, but to say the 'Asr prayer is undesirable (*makrooh*) when sun has gone down much and the sunlight has become weak and pale. ⁽²⁾

4. Maghrib (After-sunset Prayer)

Maghrib begins when sun completely set beneath the horizon, delaying Maghrib 3 to 5 minute from the local sunset time is preferred for safety margin - This prayer calendar adds 5 minute to the local sunset time. Maghrib lasts until 'Isha (till fading of twilight or complete darkness).

5. 'Isha (Night-Prayer)

The beginning of 'Isha time begins when Shafaq (twilight) is set in. All Islamic scholars agree on this point. Two different interpretations are expressed in describing the word shafaq in the books of hadith. These are commonly referred to as **Shafaq Ahmar** and **Shafaq Abyadh**. Both these phenomena occur one after the other and represent two distinct levels of illumination in the western sky. **Shafaq Ahmar** occurs before **Shafaq Abyadh**.

1. **Shafaq Ahmar**: under clear-sky, when disappearance (sun's red afterglow) of redness in the western sky. (*Shafaq Ahmar – roughly correspondence to Nautical twilight*)

It is believed that this method was accepted by Syedna Ibn Abbas, Umar bin khatab, Ali Talib, Ibadah Bin Thamit, Moosa Ashari and Ibn Umar (*Radiallahu Anhum*) including Imam Malik, Imam Shafi'i, and Imam Ahmad and Sahibayn -Imam Mohammed and Imam Abu Yusuf (*Rahmatullah Alaihi*) well respected students of Imam Abu Hanifah. This phenomena (*i.e. disappearance of redness roughly correspondence to nautical twilight between 12°and 15°*) is difficult to identify, quantify, and may fluctuates through the seasons, latitudes and atmospheric conditions, furthermore, lately the artificial light pollution is a major problem.

2. **Shafaq Abyadh**: under clear sky, when western sky begins to darkens into one colour and when almost darkness occurs or there is no trace of light left in the sky (*Shafaq Abyad - roughly correspondence to Astronomical twilight*).

It is believed that this method was accepted by Syedna Abu Bakr, Muadh Bin Jabal, Ubay Ibn Kab, Abdullah Bin Zubair, Anas, Abu Hurairah, and Aisha (*Radiallahu Anhum*) also leading jurist Imam Abu Hanifah (*Rahmatullah Alaihi*).

It is generally estimated when sun approaches 17.5° to 18° below the horizon.

Generally there are no significant time differences between two phenomena (10 to 15 minutes) in most cases. As a matter of convenience most Islamic prayer tables use 'Isha timing when complete darkness (shafaq Ahmar) occurs. The difference in time could be significant in summer and could be as much as 45 to 120 minutes in northern regions.

It is worth noting that the Islamic scholars of Hanafi school of jurisprudence strictly fix 'Isha after Shafaq Ahmar, but in certain circumstances, it is permitted, (based on rulings of the Sahibayn) to offer 'Isha after Shafaq Ahmar where the circumstances in which the 'Isha is so late e.g. in some northern regions especially in summer months and if Muslims likely to encounter considerable hardship. No Hanafi scholar however is likely to permit 'Isha any earlier than Shafaq Ahmar except in extreme northern regions.

Globally the beginning of Isha time (*based on Shafaq Ahmar complete darkness*) is fixed by leading Islamic organizations, such as, Umm Al-Qura of Saudi Arabia - 90 minutes after sunset which approximate 20° throughout the year, University of Islamic Sciences, Karachi 18° , Egyptian General Authority of Survey 17.5° , and Muslim World League 17° and several Islamic groups in the west 15° . The higher degree correspondences (i.e. 18°) to slightly late 'Isha and lower number (i.e. 14°) correspondences to slightly early Isha. The prayer tables published by 'Aisha Charity uses 17.5° for 'Isha *Shafaq Ahmar throughout the year*.

The experts also differ as far as pre-determination of Shafaq Ahmar when western sky begins to darkens into one color. The majority opinion is around 18° but there is a minority opinion that calls for 15° . Also several recent studies worth noting, reveal that the phenomenon of Shafaq Ahmar could vary in degrees at different latitudes and different seasons throughout the year, the new study suggest that, it is incorrect to calculate 'Isha assuming any fixed degree (whether 18° or 15°) or any fixed minutes (like 90 minutes or 75 minutes). Some Muslims in various locations around the globe have made observations of Shafaq Ahmar and the results vary anywhere between 9° to 18° . A prayer table, for city of Montreal, prepared by Dr. Khalid Shaukat of moonsighting.com revealed that the time for Shafaq Ahmar fluctuate considerably throughout the year, occurring as low as 10.92° in summer and as high as 16.08° in winter.

We have compared the table prepared by Dr. Khalid Shaukat of moonsighting.com to our limited study (less than 30 observations) throughout summer at least for 2 years for City of Montreal, we conclude that there is considerable differences about 4° to 7° representing 50 to 60 minutes time difference in summer. It is our view that further study may be needed to accept such conclusion.

The prayers tables published by 'Aisha Charity also shows early 'Isha timing (Shafaq Ahmar) using 14° in summer only from May 15 to August 15 based on our limited study conducted (only in summer – outside the city of Montreal Canada under clear sky and minimum artificial light), It was observed that the disappearance of redness (Shafaq Ahmar) varies from 12.5° to 13.8° . Our well respected elder and an experienced observer Hakimullah Gauri – Canada - views that 15° is a safe estimate for **Shafaq Ahmar** but for Shafaq Ahmar can not be less than 17.5° .

'Isha prayer lasts till (Fajr) just before subh saadiq -true dawn as long as the dawn has not yet risen – (*evening twilight*).

Important notes: Hadith references:

- (1) It is forbidden to perform salaah or funeral prayer when sun begins to rise until it is fully up; when sun is at its height until it passes the meridian (*zawal*); and when sun begins to set until it is completely set. [*Muslim-1040*]
- (2) 'There is no prayer after performing Fajr until sun (sufficiently) rises; and there is no prayer after performing 'Asr until sun completely sets.' [*Muslim-1041, agreed upon*]
some exceptions are possible - it is permissible to offer *qadâ* (makeup for missed prayers) or sajdah *tilâwah*.
- (3) hadith of Zayd ibn Thabit Bukhari and Muslim (the extent of reciting 50 verses), [Nawawi, *Majmu` 6.406*; Ibn Qudama, *Mughni 3.2127*; Ibn al-Humam, *Fath al-Qadir 2.374-375*; Ibn Abidin, *Radd al-Muhtar*; Buhuti, *Kashshaf al-Qina` 2.331*]

References:

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