

## PANCHANGA SRAVANAM

*“Sri kalyana gunavaham ripuharam dusswapna doshapaham  
Gangasnana visesha punya phaladam godana tulyam vrinam  
Ayurvridhida muttmam subhakaram santana sampatpradam  
Nanakarma susadhanam samuchitam panchanga  
makarnyatam.”*

This sloka gives the benefits of panchanga savanam (listening to panchanga). It says "Panchanga sravanam gives wealth, makes events enjoyable, destroys enemies, eliminates the bad effects of nightmares ~~bad dreams~~, gives the benefit of taking bath in the river Ganga, benefit of donating a cow, increases longevity, auspicious, gives the wealth of children, allows the performance of different acts(karmas)successfully and lastly very much desirable.

*Punya* approximates to meritorious deeds deserving rewards and the opposite is *papa* (sins) deserving punishment.

1. Introduction: The sloka above gives the merits of listening to Panchanga (Panchnga Sravanam). What is the greatness of Panchangm? First we should understand what Panchangm is. Then the reasons for making Panchsnga Sravana so meritorious could be understand. The usual terminology defines Panchanga as a calendar giving dates and month. Sometimes it is referred as almanac. If it is mere almanac or a calendar, then the sloka looks meaningless. We will examine the reasons for which Panchanga is great.

2. The door to the study of Veda is through the vedangas which are six in number and *Jyothisha* is one of them .Jyothisha in this context is astrology and astronomy. The other five *Vedangas* are Siksha,Kalpa, Nirukta, Vyakarana and *chandās*. The Vedaangas translate to limbs of the Veda. Just as a human being depends on limbs, so are the vedangas necessary for the study of Veda.

Astrology is dependent on time because the moment we want to analyze a situation, the previous moment becomes the past and the next moment becomes the future, obviously for everybody, these three states of time come to be experienced. This time is relative and depends on the

motion of the Sun. But “Kala” which roughly means time is such which is devoid of these states of past, present and future. This Kala has neither beginning nor end. Kala is defined to be the states through which the *Parabrahman* manifests. The three states are *Satwa*, *Rajas* and *Tamas*. So it is said to be associated with Parabrahman. Lord Vishnu and Lord Siva were shown to be beyond birth and life span unlike Brahma, Vinayaka and others. We find that Lord Vishnu has *Adi Sesha* as His seat and bed and Lord Siva has Vasuki around His neck as an ornament both *Adi Sesha* and *Vasuki* are serpents. *Kala* is symbolically represented by a serpent. It means that Lord Vishnu and Lord Siva have got totally integrated with Kala.

Astronomy is the science of planetary motion, heavenly bodies and galaxies. As per the Kepler’s law, “Every planet moves in an elliptic orbit with Sun at one of the focuses of the ellipse”. It is not Sun that moves but it is the earth that goes around the Sun. Since the orbit is an ellipse, Earth is closer to the Sun for some period and away from the Sun for some period. The planet Earth is rotating about its axis which is inclined at 23.5 degrees to the vertical as it moves in its orbit around the Sun. The Moon, which is called the satellite of the Earth moves around the Earth. Of Course! The entire solar system is moving in the galaxies. The planet Earth is closer to Sun for a period of approximately six months(half of a year) and away from the Sun for a period of six months (another half year), the year being the relative time taken by the Earth to go around the Sun once. This year is called the terrestrial year or the year on Earth which comprises of 12 months. The Moon of the Earth takes 29 days to go around the Earth, and the year is equal to 365.5 days. Thus the Moon takes approximately one month to go around the Earth. The heavy planets Saturn and Jupiter take approximately 30 terrestrial years and 12 terrestrial years respectively to complete one revolution round the Sun. The planets closer to Earth, Mars, Mercury and Venus take approximately a terrestrial year to go round the Sun. Seasons are formed depending on the distance of Earth to Sun. When Earth is closest to Sun, we have summer and when it is farthest it is winter. Depending on the seasons, the duration of day and night change, in winter the night is longer while in summer the day is longer.

Every year we witness eclipses. These are Solar and Lunar eclipses. When Sun, Moon and the Earth are all in a straight line these eclipses occur. When Earth comes between Sun and Moon, the eclipse is called the lunar eclipse and when the Moon comes between Sun and the Earth, the eclipse is called solar eclipse. Solar eclipses occur on new moon day and lunar eclipses occur on full moon day.

All this knowledge of Astronomy has been corroborated by the scientists, and in fact the same can be verified by observing the planets through a telescope. Surprisingly, this knowledge was available to the Vedic times.

Astrology uses this knowledge of astronomy for the purpose of the study of the effect of planets at a given moment of time. That moment of time could be the birth of an individual, birth of a nation or the time for undertaking any project. The projects could be many. It may be to start a business, a war, a journey, to celebrate a marriage, *upanayanam*, to lay foundation to a house or to enter into a new house. Obviously the astrological calculations are based on the terrestrial time and so the reference frame is the Earth. For an observer on Earth, it looks as though the Sun rises in the morning, travels through the day and sets in the evening or we may say that when the Sun rises it is the morning and when the Sun sets it is the evening. Similarly all the planets and the Moon seem to be moving. The only difference is that all the planets move in their orbits with Sun at a focus of the elliptic orbits which means that Sun is considered stationary with regard to the solar system even though the entire solar system moves. For astrological purposes the Moon, though a satellite of the Earth is considered a planet. All the planets, Saturn, Jupiter, Mars, Mercury and Venus have the same period as those observed in an observatory. The Sun, though a star is also taken as a planet for astrological purpose. Thus for astrology, whether it is Indian or Western, the Sun, the Moon, Mercury, Mars, Venus, Jupiter and Saturn are considered for their effect either on a human being or event for a specific time. Apart from these seven planets there are two more shadow planets called Rahu and Ketu in case of Indian astrology and two nodes in case of Western astrology that are taken into consideration for the prediction purpose. In Indian astrology, the Sun and the Moon are the principal players, Sun being held responsible for the *atma* (soul) of an individual or event and Moon is held responsible for mental attitude of an individual or event. This assumption is perfectly justified because life cannot exist without Sun light and mind, it was observed depended on the phases of Moon just as the tides are dependent on the Moon. Also the terrestrial time is measured in terms of the period taken by the Earth to go around the Sun which is a year containing 365.5 days and the period the Moon goes around the Earth which is a month containing approximately 29 days; the year approximating to 12 months. The concepts of year and month as a measure for terrestrial time is the basis on which Panchangam is made. The other planets were found to exercise influence on an event, be it a birth

of a child or any undertaking. The planets Jupiter(Guru),Venus(Sukra) and Moon(Chandra) are classified as natural benefit- giving planets and Sun(ravi),Mars(Kuja or Mangala),Saturn(Sani) are classified as natural malevolent planets. The nodes (Chaya grahas) Rahu and Ketu are malevolent in nature but effect the event as the Lord of a house in which they are found. Mercury (Budha) is neither a beneficial nor a malevolent planet, but acts according to its association with other planets, acting as a beneficiary in the company of benefit-giving planet and as a malevolent planet in the company of malevolent planet.

One revolution of the Earth around the Sun implies that it had made 360 degrees with its starting point. The total angle of 360 degrees is divided into 12 equal parts, each part being 30 degrees is called a house. Thus there are 12 houses of equal angular length of 30 degrees each.

They are 1. Mesha (Aries), 2. Rishabha(Taurus), 3.Mithuna(Gemini),4.Karkataka(Cancer),5.Simha(Leo),6,Kanya(Virgo), 7.Thula(Libra), 8.Vrischika(Scorpio), 9.Dhanus(Sagittarius), 10.Makara(Capricorn), 11.Kumbha(Aquarius), 12.Meena(Pisces). There are 27 Nakshatras(Stars) through which the Moon appears to transit during its movement around the Earth in 29 days For the purpose of Panchangam and hence astrology, these 27 are considered stars but when there are identified in the sky, they are clusters of stars. These 27 stars having 4 padas(parts )each are distributed over the 12 houses so that each house has 9 padas. They are

Mesha(Aries)	Aswini—4 padas, Bharani—4 padas and krittika-1 pada
Rishabha(Taurus)	Krittika—3 padas, Rohini—4 padasaand Mrigasira—2 padas
Mithuna(Gemini)	Mrigasira—2 padas,Arudra—4 padas and Punarvasu-3 Padas
Karkataka(Cancer)	Punarvasu-1 pada,Pushyami—4 padas and Aslesha—4 padas
Simha(Leo)	Maakha—4padas, Poorv phalguni—4 padas and Uttara phalguni-1 pada
Kanya(Virgo)	Uttaraphalguni-3 padas, Hasta-4 padas and Chitta-2 padas
Thula(Libra)	Chitta -2 padas,Swati-4 padas and Visakha-3 padas

Vrischika(Scorpio) Jyeshtha-4 padas	Visakha-1 pada, Anuradha-4 padas and
Dhanus(Sagittarius) Uttarashada-1 Pada	Moola-4 padas,Poorvashada-4 padas and
Makara(Capricorn) Dhanishta-2 pada	Uttarashada-3 padas,Sravanam-4 padas and
Kumbha(Aquarius) Poorvabhadra-3 padas	Dhanishta-2 padas,Satabhisha-4 padas and
Meena(Pisces) and Revathi-4 padas.	Poorvabhadra-1 pada,Uttarabhadra-4 padas

These nakshtras come under the sway of the nine planets(Grahas)- Sun, Moon, Mars, Mercury,Jupiter,Venus, Saturn and the two chaya grahas Rahu and Ketu grouped as given below

Nakshtras		
Graha(Planet)		
Aswini	Makha	Moola
Ketu		
Bharani	Poorvaphalguni	Poorvashada
Sukra(Venus)		
Krittika	Uttaraphalguni	Uttarashada
Ravi(Sun)		
Rohini	Hasta	Srvanaam
Chandra(Moon)		
Mrigasira	Chitta	Dhaanishta
Kuja(Mars)		
Arudra	Swati	Satabhisha
Rahu		
Punarvasu	Visakha	Poorvabhadra
Guru(Jupiter)		
Pushyami	Anuradha	Uttarabhadra
Sani(Saturn)		
Aslesha	Jyeshtha	Revathi
Budha(Mercury)		

Te seven days of a week take their names after the grahas.

Sunday - Sun	Tuesday - Mars	Thursday - Jupitr
Saturday - Saturn.		

Monday - Moon      Wednesday - Mercury      Friday - Venus  
 All the 12 houses together is called bha-chakra(Zodiac). The seven planets have ownership of these houses in the following way.

Houses	Lord
Mesha(Aries) and Vrischika(Scorpio)	Kuja(Mars)
Rishabha(Taurus) and Sukra(Venus)	Tula(Libra)
Mithuna(Gemini) and Budha(Mercury)	Kanya(Virgo)
Karkataka(Cancer) and Chandra(Moon)	
Simha(Leo) and Dhanus(Sagittarius)	Ravi(Sun)
Guru(Jupiter) and Makara(Capricorn)	Meena(Pisces)
Sani(Saturn)	Kumbha(Aquarius)

From the point of view of the planet Earth, measurement of time has been done on the basis of the period the Earth takes to go around the Sun once which was decided to be called a year and the period of the Moon going round the Earth as both go around the Sun was decided to be called a month. Each month is now divided into 30 days. All these divisions are arbitrary. In fact, from the notion of a day having 24 hours calculated from midnight to midnight as in the Gregorian calendar, the year will be short by 5.5 days because 12 months each of which is 30 days makes the year to have 360 days while from observation it takes roughly 365.5 days. So the Gregorian calendar has different number of days for different months, and a leap year once in 4 years which adds a day to meet this contingency.

The Hindu Panchangam measures the time in a different way. First it takes the day to be from Sun-rise to Sun-rise. But Sun rises at different times depending on the seasons and even in a particular season, the Sun-rise is different from a day to the other. So, the definition of time starts with a small interval called truti and goes on to a Ghati, Yamamu and then the day. There is yet another situation to be met and that is the difference of Sun-rise depending on the place.

Why do we need Panchangam?

As has been mentioned earlier, Panchangam is one of the six limbs of Veda and without the knowledge of what Panchangam contains, it is not possible to comprehend Vedic hymns. The ritual part of the Veda contains homa and yagna hymns and also the methodology of conducting the rituals. There are two kinds of rituals, the one that has to be performed by every holder as a matter of duty and the other for fulfillment of specific desires. The rituals of duty do not require any astrological considerations because they are meant to be attended to everyday. Their purpose is to pay back the debt to the parents, basic elements of nature which permit life to exist and to the great Rishis for their benevolence for handing down Vidya. The other rituals are result oriented such as propitiating God or demi-God for the sake of rains in time, plenty of food, having happiness and peace all around. The propitiation should not be understood as some supplication for a favor or out of fear that the contrary may happen if not performed. It is more an expression of gratitude for the concerned for doing their duty. These rituals could also be a part of the endeavor to attain moksha. In such undertakings the aspirant naturally expects benign results. The aspirant would like to start the undertaking at a specific time which is favorable. For example we look up on the weather reports, traffic conditions before we plan our holiday in order to get over possible inconveniences for the holiday. When we want to meet a person, we try to find a proper time for the meeting. Similarly, when an undertaking is planned, be it a pure mundane matter or otherwise, astrology gives the most suitable time on a particular day to initiate the undertaking through the analysis of various influences of planets. Panchangam is a means for astrology to determine the planetary influences. With the explosion of science and technology information in all matters is readily available. The weather reports, the G.P.S. have become necessary and people have to come to depend on these so much that it becomes impossible to imagine what happens if they are not there or what the people were doing when they were not there in the past. The sages of the past had the wisdom to create a method for forecasting events on the basis of the planetary effects on persons, events on the Earth! Weather forecast cannot be made by a layman but a scientist trained in that field alone can do that. Similarly in Jyotish(Astrology) an expert( a sage) can make predictions on the basis of planetary influences. Panchangam does most of the technical work leaving the predictive part to a sage while laying the ground for offering broad based predictions. In a way Panchanga is a ready reckoner for most of the astronomical data needed for astrology.

The Maahabhagavata Purana gives three systems that are followed in preparing a Panchang. They are Sauramana, Chaandramana and Barhaspatimana. Sauramana Panchang is calculated basing on Ravi's( Sun's) position and motion, Chandramana Panchang is calculated basing on Chandra's( Moon's) position and motion and Barhaspatimana Panchang is calculated basing on Guru's(Jupiter's) position and motion in the zodiac. One should understand that relative to the Planet Earth every other planet is taken to move through the twelve Houses(Signs) of the zodiac.

All the systems in the Hindu astrology take the fixed Bha-chakra or Zodiac which is called Sayana system while the western astrology take the moving Bha-chakra or Nirayana system. The correction between systems is called Ayanamsa which varies from year to year. Ayanamsa calculations take into consideration the spin of the Earth on its axis which is inclined by about 23 degree from the vertical as it moves in around its axis in a counter clock-wise direction while orbiting around Sun.

In all the three systems the year and its relation to the month is the same. It takes 12 months for Ravi(Sun) to go around the zodiac while it takes one month (29 days) for Chandra(Moon) to go round the zodiac which is the time taken by Chandra(Moon) to go around the Earth once. The Guru(Jupiter) takes 12 years to go round the zodiac. The 27 nakshatras(Stars) that are spread over the 12 houses(Signs) are traversed by Chandra (Moon) in 29 days. So the duration of time for each nakshatra to be traversed by Chandra takes some times more than a day and some times less than a day. Therefore the Panchagna gives the exact time taken by Chandra to traverse each nakshatra.. While the duration of year in Sauramana and Barhaspathimana approximates to 360 days of 24 hours duration, the Chandramana year approximates to 354 days. Even the Gregorian calender gives the duration of the year to be 365 days which again is an approximation and in order to correct the duration of the year, a leap year which comes in once in four years has an extra day is defined.. However the millennium year has again 365 days to match the correction of the duration of the year. Similarly the Souramana, Barhspathimanana and Chandramana years are also have correction factors in order to adjust the duration of the year to match to that of the motion of the planets. For the purpose of Panchanga, Ravi(Sun) and Chandra(Moon) are considered as planets, while Sun is a star and Moon is a satellite as per the modern astronomy. Actually the correction made to each month in Souramana makes the year equal to 364.5 days approximately which is incidentally the



time taken for the planet Earth to go round the Sun once. This is also the period of Gregorian year. In the Vedic system the years form a cycle of 60 each having a distinct name. This cycle gets repeated.

In Barhaspati system a year is the time the planet Guru( Jupiter) transits in a sign, It approximates to 361.5 days on an average. Each year will have a different duration.

Of the three systems , Barhaspatimaana is followed by a very few people in India, probably because one has to revert back to Ravi(Sun) and Chaandra(Moon) for determining the auspicious time during a day.

Souramana has a vast following in India both North and South. But even in this system, in order to determine auspicious time of the day and also to find the full moon day and the new moon day, it becomes necessary to know the positions of both Ravi(Sun) and Chandra(Moon) in the Bhe-chakra. What ever system s adopted, basically for day to day purposes the position of Ravi(Sun) and Chandra(Moon) in the Bhachakra is needed.

Whatever system is adopted whether it is Western Gregorian calender or Indian systems or for that matter any system adopted any where in the world, the duration of the year and the month have to be necessarily adjusted as per the motion of Earth around Ravi(Sun).In India Chandramana is followed invariably by a majority because of the convenience not only for day to day matters but for the purpose of Astrology.

As has been said the Souramana has a better approximation for the duration of a year compared to the other two. The duration of the Soura masa(Month) as given by our Rishis.

Month	Duration		
	Days	hours	minutes
Mesha Masa	30	21	36
Vrishabha Masa	30	36	22
Mithuna Masa	31	45	23
Karkataka Masa	32	38	49
Simha Masa	31	28	22
Kanya Masa	31	0	53

Tula Masa	30	26	8
Vrischika Masa	29	52	12
Dhanus Masa	28	29	24
Makara Masa	29	18	57
Kumbha Masa	29	26	59
Meena Masa	29	49	25

The mean Soura masa (Solar month) has the duration of 30.43 days. The Soura Year (Solar year) has the duration of 365 days 15 hours and 35 minutes which differs from the observed by a very small time. Mesha Masa is the time taken for Ravi (Sun) to transit the Mesha(Aries) Rasi and similarly the other months. Almost every year Ravi enters Makara (Capricorn) Rasi on 14th of January (Gregorian Calendar). When Ravi enters any Rasi(Sign),. It is called Sankramana. Thus when Ravi enters Makara Rasi(Capricorn sign). It is called Makara Sankramana. From this time on words, Sun changes the direction of motion and becomes North bound with respect Geo-centric system.

In astrology, Geo-centric system is adopted because the study of planetary motion is undertaken on Earth. From this point of view, Ravi(Sun) and Chandra(Moon) are taken to be planets.

There is yet one more way to define year and that is the time taken by Chandra to go around the 27 Nakshatras(Constellations) and this year will have 324 days of Gregorian calendar.

Whatever may be the type of year we consider, it becomes necessary to make a correction in order to align the duration with the actual duration as observed. Because of this fact, the Hindu astrology takes the Chandramana(Lunar method) of the year. The Chandramana year has 354 days of the Gregorian calendar.

The Chandramana has names for the years and the number of such is 60. This cycle of 60 years gets repeated with the result that the same name of a year will appear in every cycle. There does seem to be some reason for having this system for the astrological duration of the Dasa system of planets add up to 120 years equal to two cycles of Chandramana Years .The names of the 60n year cycle are:

• Prabhava	16.Chitrabhanu	31. Hevalambi
46. Paribhavi		
• Vibhava	17.Subhanu	32.Vilambi
47.Pramedicha		
• Sukla	18.Tarana	33.Vikari
48.Ananda		
• Pramoda	19.Parthiva	34.Sarvari
49.Rakshasa		
• Prajothpathi	20.Vyaya	35.Plava
50.Nala		
• Angirasa	21.Sarwajit	36 Subhakrit
51.Pingala		
• Srimukha	22.Sarwadhari	37.Sobhakrit
52.Kalayukta		
• Bhava	23.Virodhi	38.Krodhi
53.Siddhartha		
• Yuva	24.Vikriti	39.Viswavasus
54.Roudri		
• Dhata	25.Khara	40.Parabhava
55.Durmati		
• Eswara	26.Nandana	41.Plavanga
56.Dundubhi		
• Bahudhanya	27. Vijaya	42.Kilaka
57.Rudhirodgari		
• Pramathi	28. Jaya	43.Soumya
58.Raktakshi		
• Vikrama	29.Maanmadha	44. Sadharana
59.Krodhana		
• Vrisha	30.Durmukhi	45. Virodhikrit
60. Kshaya.		

These names have become important because of their mention in the Puranas and each name in the list seem to denote some result that is predominant in the entire year.

Just as the Souramana(Ravi) months, the Chandramana(Moon) has also got the same number 12 months. The Souraman months formed with the Sankramana while the Chandramana months formed on the basis of .Nakshtra on a full moon day. The months in Chandramana are given below as they are known:

- |            |               |              |
|------------|---------------|--------------|
| • Chaitra  | 5. Sravana    | 9. Margasira |
| • Vaisakha | 6. Bhadrapada | 10. Pushya   |
| • Jyeshtha | 7. Aswayuja   | 11. Magha    |
| • Ashadha, | 8. Kartika    | 12. Phalgun  |

These months are divided into two groups called Uttarayana and Dakshinayana meaning north bound and South bound . The division is on the basis of Ravi(Sun) Sankramana. Ravi makes the makara(Capricorn) sankramana on 14<sup>th</sup> January of every year and that is the starting point of the Uttarayana .Ravi is north bound from this time as per the Geo-centric principle and would be closer to the Earth for a period of 6 Soura (Solar) months called Uttarayana. When Ravi makes the Sankaranain into Karkataka(Cancer), roughly around 17<sup>th</sup> July of Gregorian calendar every year, Dakshinayana starts and extends for 6 Soura(Solar) months when Ravi is said to be South bound and therefore farther away from the Earth.

The Chandramana months are grouped into Ritus approximately equivalent to the seasons of the Gregorian calendar. They are:

Chaitra and Vaisakha	Vasanth Ritu	Spring
Jyeshtha and Ashadha	Grishma Ritu	Summer
Sravana and Bhadrapada	Varsha Ritu	Rainy
Aswayuja and Kartika	Sarad Ritu	
Margasira and Pushya	Hemantha Ritu	Winter
Magha and Phalguna	Sisir Ritu	Autum.

The Chandramana month is divided into two halves called Paksha. The Sukla Paksha(White half) is the half of the month when Chandra(Moon) grows each day while the Krishna Paksha(Black Half) is the half when the moon diminishes each day. Each Paksha has 15 Chandrasmasa days called Tithis.

Sukla Paksha	Krishna Paksha
1.Padyami or Pratipat	Padyami or Pratipat
2.Vidiya or Dwitiya	Vidiya or Dwitiya
3.Tadiya or Tritiya	Tadiya or Tritiya

4. Chaviti or Chatrrdhi	Chaviti or Chaturdhi
5.Panchami	Panchami
6.Shashti	Shashti
7. Saptami	Saptami
8. Ashtami	Ashtami
9. Navami	Navami
10. Dadsami	Dasami
11. Ekadasi	Ekadasi
12. Dwadasi	Dwadasi
13. Trayodasi	Trayodasi
14. Chaturdasi	Chaturdasi
15.Pournami (Full moon day) moon day)	Amavasya(New moon day)

While the names of all the tithis are the same in both Sukla Paksham and Krishna Paksham, Pournami which comes in the end of Sukla Paksham is different from Amavasya which comes at the end of Krishna Paksham. Pournami is a full moon day while Amavasya in a new moon day. On a full moon day, Ravi (Sun) casts all the rays on Chandra(Moon) and on the new moon day Ravi(Sun) does not cast the rays on Chandra(Moon). In astrological terminology, Ravi is opposing Chandra on a full moon day and Ravi conjoins Chandra on a new moon day. The tithis are equivalent to dates of the Gregorian calendar but with a difference. The mea lunart month is 29days and 12 hours approximately and so the duration of all the tithis adds up to 29 and ½ days. Besides the tithis do not all have the same duration as that of a day. Some of them have duration less than 24 hours, some of them have more than 24 hours and some of them have 24 hours. Unlike the starting and ending of day at mid night in Gregorian system the tithis have no fixed time to start even in the case of same tithi in the same Paksham. Another important thing to be remembered is that the day as per the Hindu calendar starts with Sun-rise and ends with the next Sun-rise. From this definition of the day, it can be

seen that the duration of the day is not the same in all the seasons. When the calculation of time is based on the motion of Ravi and Chandra, the definitions really do not have any contradictions. So in Hindu system the day and the tithi have different meaning.

The names of the months are derived on the basis of the Nakshatram on a Pournami day (Full Moon day).

Month day	Nakshatram around full moon	
1.Chaitra	Chitta	
2. Vysakha	Visakha	
3, Jyesta	Jyesta	
4.Ashadha Uttarashadha	Poorvashadha	or
5.Sravana	Sravana	
6.Bhadrapada Uttarabhadra	Poorvabhadra	or
7.Aswayuja	Aswini	
8. Kartika	Krittika	
9.Margasira	Mrigasira	
10.Pushya	Pushya	
11. Magha	Makha	
12.Phalguna Phalguni.	Poorva Phalguni or Uttara	

The Chandramana year has 354 days of Gregorian system but the year, as per observed motion of Sun is around 365 days. Therefore a correction is needed in order to see that the observed and the theoretical period coincide periodically. This is done by introducing an adhikamasa (Additional month) and a kshinamasa( Lost month). It is observed that a sankramana takes place usually in a lunar month. It means that during a

lunar month . the Sun moves from one Rasi(Sign) to the next. For example when the lunar month Chaitra is running, Sun should have a sankramana in Meena Rasi(Pisces). Because of variations in the duration of lunar months,it so happens that Sun does not have a sankramana during a lunar month. Then such a month is called Adhikamasa(Additional month) and what follows next is called the nijamasa. Thus in that year there would be 13 months, 12 of which having sankramana and one without sankramana. This adhikamasa comes 8 or 9 lunar months after the lapse of 30 lunar months. In other word adhikamasa comes once in three lunar years.

Some take the Chandramana month to start with sukla Padyami and end with Amavasya while some others take the month to start with Krishna(Bahula) Padyami and end with Pournami. There is no reason to dispute whatever way the month is taken. However the month starting with sukla Padyami has Chandra in the increasing ( Increasing in Kala ) mode.

The Souramana, though has 30.5 days of Gregorian system on an average, do not have equal number of days for each solar month, considering the solar month to be the duration between two consecutive sankramanas. Some months have less than 30 days also. So It is possible to have two sankramanas during a lunar month Such a possibility occurs once in 19 lunar years or 141 lunar years. Such a type of lunar month is called Kshayamasa or lost month. The kshayamasa will be either Kartika, Martgasira or Pushya of lunar months .Another specialty is that the year having the Kshayamasa will be preceded by a year with Adhikamasa and also will be succeeded by another year with Adhikamasa.

The sankramana in any sign is important from the point of vedic rituals. Those times are considered very sacred and a bath in a river or sea is prescribed .The Makara Sankramana which takes place on 14<sup>th</sup> January every year is of special important because Uttarayana starts on that day, and depending on the time of the sankramana on that day the prediction of events in the following year particularly related to the health of people and cattle, fertility of the lands and production of food grains are made.

Now the five angas (Pancganga) or five limbs will be clear. They are Tithi, Vara, Nakshatya, Karana and Yoga. These limbs play an important role in fixing the time for any undertaking with the constraints of Varjyam or Tyajyam. For Vedic rituals aimed at the welfare of the entire organism, there is no necessity to think of a time or day because the giver and receiver are the same Brahman. However, the purpose of the ritual will not

be got unless the ritual is successfully completed. It is therefore opined by the Rishis that those rituals that are performed as part of the duty on the individual every day such as the homa for repayment of debt to forefathers, the Guru etc., need no special time. But rituals started for the purpose of benefiting the organism both moving and stationary, a proper time and day is necessary to be fixed because there should be no hurdles for completion of such a ritual. For example, when a journey is under taken, people would be interested to know the road conditions, traffic conditions and also the weather. Today the information is available because the development of science made it possible. Even then some unforeseen conditions may cause hurdles because the information provided was still a forecast. On a personal level, it is necessary to know the convenient time in case of meeting between people or business concerns. Panchanga is meant for such a purpose both at personal level and also at the community level.

**Tithi:** Tithi is dependent on the position of Ravi (Sun) and Chandra (moon) in the Bha-chakra or Zodiac. This tithi occupies 12 degrees in Bha-chakra. In order to determine the tithi on a particular day and time, we take the longitude of Chandra and the longitude of Ravi, subtract the longitude of Ravi from that of Chandra and divide by 12. The quotient gives the tithis that have passed and the remainder gives the part of that tithi that is past in the current tithi. For example let the longitude of Chandra be 85 degrees and the longitude of Ravi be 40 degrees. Then the difference in longitude is  $85 - 40 = 45$  degrees. When 45 is divided by 12, there is a quotient of 3 and a remainder of 9. The number 3 gives the tithis that have passed (Padyami, Vidiya and Tritiya are the three tithis that have passed) and the fourth tithi which is Chaviti is running currently of which  $9/12$  or  $3/4^{\text{th}}$  part of Chaviti elapsed leaving  $1/4$  of Chaviti.. If the difference in longitudes is less than 180 degrees, then it is Sukla Paksha and if the difference is more than 180 degrees then it is Krishna Paksha. In the above example since the difference of longitudes is 45 degrees which is less than 180 degrees, the tithi is Sukla Chavithi. Tithi need not be occupying a single Rasi(Sign) in Bha-chaakra or zodiac but may occupy two consecutive Rasas but the length of the space put together from both the Rasas or in one Rasi will be 12 degrees.

From the way tithi is defined, Amavasya is that tithi when the longitudes of Ravi and Chandra are the same and pournami is the tithi when the difference of longitudes of Chandra and Ravi is 180 degrees. At the time of Amavasya, Chandra and Ravi will be in the same longitude and



this is a phenomenon called combustion. This combustion is said to take place when Ravi is at 8 degrees from a plane to 8 degrees away from the planet. When combustion takes place, the planet is said to lose its power and consequently its effect is very much reduced. On Amavasya day Chandra is **combust** and so the planet cannot offer its influence. Chandra is responsible for the mind and on Amavasya day, in the absence of Chandra's influence the mind is said to be dull. That is the reason for Veda Patasalas to have a holiday on Amavasya. On Pournami day, the rays of Ravi will be on Chandra directly and so the body and the mind are said to have good coordination and vigour.

The nomenclature of tithi has to be known because the choice of tithi depends on the type of tithi.

1.Sudha Tithi: A tithi that is present both at the Sun-rise and Sun-set of a day is called a sudha tithi.

2.Sakhanda Tithi: A tithi that does not have both the Sun-rise and Sun-set is a Sakhanda tithi.

3.Adhika Tityhi: A tithi that is present on the Sun-rise of two consecutive days is an Adhika Tithi.

4.Kshaya Tithi: A tithi that starts after the Sun-rise of a day and ends before the Sun-rise of the next day is called Kshaya Tithi.

5.Tithi Dwaya: A tithi at the Sun-rise followed by a Kkshaya Tithi is called Tithji Dwaya. In such a case the tithi at the Sun-rise is counted twice.

6.Sraddha Tithi: For the purpose of Sraddha, the anniversary ritual performed for the departed, the tithi at the time of death must be the tithi at noon on the day the Sraddha is performed.

**Vara:** Vara is the day of a week.

Ravi Vara (Sunday) representing Ravi

Soma Vara(Monday) representing Chandra

Mangala Vara(Tuesday) representing Kuja(Mars)

Budha Vara (Wednesday) representing Budha(Mercury)

Guru Vara(Thursday) representing Guru(Jupiter)

Sukra Vara(Friday) representing Sukra(Venus)

Sani Vara(Saturday) representing Sani(Saturn)

**Nakshatram:** To find the Nakshatram for a particular time on a particular day, the position of Chandra(Moon) is necessary. If the longitude of Chandra for that moment on a particular day is 85 degrees, then Chandra is in Mithuna(Gemini) Rasi(Sign) because, the first 30 degrees indicate Mesha(Aries)Rasi, the next 30 degrees indicate the Vrishabha(Taurus) Rasi and the next 25 degrees falls in Mithuna(Gemini) Rasi. Chandra is in Mithuna Rasi at 25 degrees. The Mithuna Rasi contains 2 padas of Mrigasira, 4 padas of Arudra and 3 padas of Punarvasu. Therefore Mrigasira occupies the first 6 degrees and 40 minutes, Arudra occupies the next 13 degrees and 20 minutes and the balance of 10 degrees is occupied by Punarvasu. Since Chandra is at 25 degrees in Mithuna, Chandra is in Punarvasu-2 pada. So for that moment on the day when Chandra is at 85 degrees longitude the Nakshatram is Punarvasu-2<sup>nd</sup> Pada. Thus the Nakshatram for a particular moment of a particular day is the Nakshatram in which Chandra is placed at that moment. The span of the Nakshatram is 13 degrees and 20 minutes whether it is one Rasi or spread to two Rasas.

The nakshatras are said to be governed by the planets. This knowledge is necessary to determine the dasa and antardasa of individuals while casting the horoscopes. Also this knowledge is necessary for performing Japa for a planet who is supposed to be not beneficiary for a particular person.

Nakshatra	Lord	Period in individual's life
Aswini Makha and Moola	Ketu	7 Years
Bharani, Poorva Phalguni and Poorvashada	Sukra	20 Years
Krittika,Uttara Phalguni and Uttaradshada	Ravi	6 Years

Rohini,Hasta and Sravanam Years	Chandra	10
Mrigasira, Chitta and Dhanishta 7 Years	Kuja	
Arudra,Swati and Satabhisham 18 Years	Rahu	
Punarvasu, Visakha and Poorvabhadra 16 Years	Guru	
Pushyami,Anuradha and Uttarabhadra 19 Years	Sani	
Aslesha,Jyeshta and Revathi 17 years.	Budha	

For the purpose of Japa for propitiating each planet, the number that have to be recited is as many thousands as the years the planet rules the life of an individual. For example to propitiate Ketu, the Ketu mantra has to be recited 7000 times and so on.

There is one more nakshatrm defined called *abhijit nakshatram*. The is formed with 3<sup>rd</sup> and 4<sup>th</sup> padas of Uttarashadha and 1<sup>st</sup> and 2<sup>nd</sup> padas of Sravanam. This nakshatram does not correspond to any constellation in the sky while all the other nakshatrams are identified with constellations in the sky.

**Karanam:** Karana is half the tithi. It occupies 6 degrees in the Bhachakra or Zodiac. Karanas are 11 in number. Of these, four Karanas are fixed and the 7 Karanas go in a cycle. The 7 Karanas which form a cycle appears 8 times during the period starting from Sukla Padyami to Amavasya.

Tithi (Karana)	1 <sup>st</sup> half of tithi (Karana)	2 <sup>nd</sup> half of tithi
SUKLA1 Padyami	<b>Kimstunga</b>	Bava
2. Vidiya.	Balava	Kauvala
3. Tadiya	Taitula	Gara

4. Chaviti	Vanija	Bhadra(Vishti)
5, Panchami	Bava	Balava
6, Shashti	Kauvala	Taitula
7 .Saptami	Gara	Vanija
8. Ashtami	Bhadra(Vishti)	Bava
9 .Navami	Balava	Kauvala
10 .Dasami	Taitula	Gara
11. Ekadasi	Vanija	Bhadra(Vishti)
12. Dwadasi	Bava	Balava
13. Trayodasi	Kauvala	Taitula
14.Chaturdasi	Gara	Vanija
15.Pournami	Bhadra (Vishti)	Bava
Krihsna 16. Padyami	Balava	Kauvala
17. Vidiya	Taitula	Gara
18.Tadiya	Vanija	Bhadra(Vishti)
19.Chaviti	Bava	Balaava
20.Panchami	Kauvala	Taitula
21.Shashti	Gara	Vanija
22,Saptami	Bhadra(Vishti)	Bava
23.Ashtami	Balava	Kauvala
24.Navami	Taitula	Gara
25.Dasami	Vanija	Bhadra(Vishti)
26 Ekadasi	Bava	Balava

27.Dwadasi	Kauvala	Taitula
28.Trayodasi	Gara	Vanija
29.Chaturdasi	Bhadra(Vishti)	<b>Sakuni</b>
30.Amavasya	<b>Chatushpada</b>	<b>Nagava</b>

**Yoga** Yogas are 27 in number they occupy 13 degrees and 20 minutes in the Bha-chakra or the Zodiac. They are

1.Vishkambha	10.Ganda	19.Parigha
2.Preeti	11.Vridhhi	20.Siva
3.Ayushman	12.Dhruva	21.Siddha
4.Sowbhagya	13.Vyagatha	22.Sadhya
5.Sobhana	14.Harshana	23.Subha
6.Atiganda	15.Vajra	24.Sukla
7.Sukarman	16.Suddhi	25.Brahma
8.Dhruti	17.Vyathipata	26.Aindra
9.Soola	18.Varayan	27.Vydhruiti.

Of these 27 Yogas, 9 Yogas are not favourable. They are: 1.Vishkumbha 2.Atiganda, 3.Soola, 4.Ganda, 5.Vyagatha, 6. Vajra 7.Vyathipata, 8.Parigha and 9.Vydhruiti. Yoga is also dependent on the position of Ravi and Chandra at any moment on any particular day. To determine the Yoga for a particular time on a particular day, the longitude of Ravi and the longitude of Chandra are added and divided by 13 degrees and 20 minutes. The quotient gives the number of Yogas that have passed and the remainder indicates that part of the present Yoga that had elapsed. For example if the longitude of Chandra is 85 degrees and the longitude of Ravi is 40 degrees, then the total is 125 degrees which when divided by 13 degrees and 20 minutes gives a quotient of 9 and a remainder  $\frac{3}{8}$ . So for that moment 9 Yogas have passed and the present is the 10<sup>th</sup> Yoga which is Ganda and  $\frac{3}{8}$ <sup>th</sup> of Ganda Yoga has elapsed.

Obviously the five angas are dependent on the position of Ravi and Chandra in the Bha-chakra or the Zodiac except the Vara, which again is taken after the planets and starting with Ravi and Chandra. Vedas say that Ravi is *atmakaraka* and Chandra is *monokaraka*. The existence of life encased in a body is said to be dependent on Ravi and Chandra, Ravi giving the life-force and Chandra the mind. In the absence of these two planets there is no existence of life in a body. The Vedas, therefore refer these two planets Ravi and Chandra as most important for the material existence and hence all the events in the material world shall be governed by these two planets.

Today the astronomical observatories around the world are in a position to supply the positions of planets, their orbits for every second for every place in the world. There is no way to determine the age of Vedas except saying that they are the origin of knowledge. Panchanga, which is the one of the limbs of Veda without which the study of Veda is said to be not possible, must be old enough if not as old as Veda. To think that the five angas -Tithi,Vara, Nakshatram, Karana and Yoga were calculated at that ancient time when there was no way of observing the planets and their motion through a telescope, or when there was no theory connecting the planets to the life is simply mind boggling. The theory of astrology of today is attributed to the great sages such as Parasara, Jaimini. Parasara was the father of Veda Vyasa and Jaimini was a disciple of Vedavyasa. Besides the epics mention the position of planets. The theory developed in the ancient times is able to stand the test of time with regard to the orbits, position of planets and other astronomical data; and also being verified with modern technology and found that the error is almost negligible. The ancient theory was able to give the timings of Sun-rise and Sun-set for every day moon-rise and moon-set for every day. They were able to predict the eclipses, the number of solar eclipses and the lunar eclipses possible in a year.

Life of a human being is not the physical life only spanning from birth to death but goes beyond death and before birth. This physical life, however little it is compared with the total life is very important because it is set with a duty. The physical life has to be sustained in order to have happiness in this life and also to create a way for happiness beyond life. Vedas give various ways—Yantra, Tantra ,Homa ,Japa, P uja being some of the ways, of Tapas in order to gain Satchidanada, the perfect and unlimited happiness.

There are some very important events in physical life a human being starting from birth such as namakarana ,vidyarambham, vivaham. In fact from birth to death 16 samskaras are prescribed of which namakarana, vidyarambham and vivaha are the samskaras linked with the social life as purported to have been regulated by the Smriti or Manusmriti. Namakarana is essential because the jiva would be known by this appellation in the physical life. Vidyarambham is important because the jiva has to be guided properly through the physical life to understand life of a jiva and also conduct the day to day matters of physical life in such a fashion that they strictly conform to the Sruti and Smriti. Marriage is important because it is made sacrosanct and is meant for life as per smriti. Marriage is looked as a fusion of two minds into one while the bodies are different is strictly organized based on dharma. Apart from these samskaras, there are other mundane events such of construction of a house for which foundation laying and house warming are designed to make the inhabitants happy. These have to be initiated at a proper moment of time on a proper day favorable for achieving the maximum benefit.

Then there are other rituals prescribed by Vedas to be attended to by all the human beings for the purpose of common good and also for having a congenial environment to live in. While the selection of a time and day may not be necessary for events aimed at the common good, the time and day have to be carefully selected for the ritual to be successfully completed.

For all the events mentioned above selection of time and day are based on the individual involved, nature of result expected. Since astrology is developed as a study of planetary influences on individuals and events, and Ravi and Chandra are the important planets (from the astrological point of view- or Geo-centric point of view), the time and day are selected on the principle of maximizing the benefits and minimizing the evil/obstacles. For every event, a muhurtam is selected on the basis of planetary influences to satisfy the aspirations.

**Muhurtam:** A muhurtam is a period of time equal to two Ghadias. Each Ghadiya is equal to 24 minutes of Gregorian system; a muhurtam is equal to 48 minutes,

This muhurtam falls in one of the 12 Rasis (Signs) of the Bha-chakra or the Zodiac. The Rasi in which the muhurtam falls is called **Lagna**.

Lagna depends on the position of Ravi.

**Lagna;** Mesha (Aries) Lagna rises when Ravi rises at day break in Mesha Rasi. Vrishabha(Taurus) Lagna rises when Ravi rises at day break in Vrishabha Rasi., and so on .Over the day all the 12 lagnas are covered. The duration of each Lagna is not the same. Some Lagnas are more than 2 hours duration while some Lagnas have less than 2 hours of duration. These are given below:

Lagna	Duration
Mesha(Aries)	1 hour and 47 minutes.
Vrishabha(Taurus)	2 hours and 2 minutes
Mithuna(Gemini)	2 hours and 12 minutes
Karkataka(Cancer)	2 hours and 11 minutes
Simha(Leo)	2 hours and 6 minutes
Kanya(Virgo)	2 hours and 3 minutes
Thula(Libra)	2 hours and 7 minutes
Vrischika(Scorpio)	2 hours and 12 minutes
Dhanus(Sagittarius)	2 hours and 8 minutes
Makara(Capricorn)	1 hour and 54 minutes
Kumbha(Aquarius)	1 hour and 42 minutes
Meena(Pisces)	1 hour and 39 minutes.

If the Lagna for a moment on a particular day is Mithuna when Sun-rise is in Mesha Lagna, then, then that Lagna is the 3<sup>rd</sup> Lagna on that day. Depending on the time of Sun-rise and consequent position of Ravi in Mesha Lagna, the Mithuna Lagna starts after the balance of Mesha lagna +Vrishabha Lagna(2h 02 m) have elapsed on that day. Sun-rise in a lagna is not the same on every day. Sun rises every day in Meha Lagna for the whole month of Solar Mesha masa (From 14 April to 13<sup>th</sup> May) but not at the same degree. The day starts (from Sun-rise) with the Lagna in which



Sun is transiting. As the day advances the lagna for a moment is determined on the basis of lagna at Sun-rise and the elapsed lagnas( according to their duration for that place) to that moment.

The duration of Lagna period of various Rasis is not the same for all the places in the world. They change from place to place and the above periods are only approximate.

While fixing the muhurta, it is advised to reject Lagna Tyajya time. The word Tyajya means rejection. The period to be rejected is different for different Lagnas.

Lagna Tyajya: For Mesha, Vrishabha, Kanya and Dhanus Lagnas, the Lagna Tyajya is the first 1/3<sup>rd</sup> of the duration of the Lagnas. For Mithuna, Simha, Thula and Kumbha Lagnas the Lagna Tyajya is the middle 1/3<sup>rd</sup> of the duration of the Lagnas. For Karkataka, Vrischika, Makara and Meena Lagnas, the Lagna Tyajya is the last 1/3<sup>rs</sup> of the duration of Lagnas.

**Rasi:** In the context of deciding the moment on a day to be selected for any undertaking or the Rasi at the time of birth of a child has a definite meaning. The Rasi in which Chandra transits for the desired moment or *at the birth a child* is called the Rasi. Two important Rasis are important for fixing a muhurtam. One is Lagna Rasi which is dependent on the position of Ravi and the other is Rasi, which is the Rasi transited by Chandra.

Every birth is signified by Janma Lagna and Jaanma Rasi, the Janma Lagna basing on the position of Ravi at Sun-rise on that day and the Janma Rasi being the position of Chandra at that moment. The Nakshatram is the Nakshatram in which Chandra is transiting at the time of birth.

There are some important lagnas associated with Sun-rise and Sun-set. They are

1. Pradosha: this is the muhurta which is 2 Ghadiyas(48 minutes) on either side of Sun-set every day. This is very important particularly on Chaturdasi falling on a Saturday, Krishna Chaturdai in every month. The pradosha on chaturdasi falling on Saturday is to propitiate the planet Sani through abhishekam to Sani. The pradosha on Krishna Chaturdasi is to propitiate Lord Siva with abhishekam as it is masa sivaratri.

2 .Arunodaya: This muhurta is 4 ghadiyas(96 minutes) before Sun-rise. This is the time meant for getting up from sleep every day.

3. Brahma Muhurtam: The muhurta is 2 and ½ Ghadiyas (60) minutes before Sun-rise. This is the muhurtam when Sandhyavandam involving pranayamam and gayatri japa in case of dwijas, surya namaskarams and arghya to Ravi for everybody is prscribed.. This muhurtam is said to be auspicious for undertaking journey from home.

4. Godhuli Lagna: This lagna is ½ Ghadiya on either side of Sun-set on every day. This lagna is said to be good for prayer and travel

5. Abhijit Lagna: aThis is the 4<sup>th</sup> lagna from Sun-rise every day. This muhurtam is around noon for every place and is considered good for performing marriage when a suitable lagna is not available and the marriage can not be postponed. It is the practice in some tribes' notably in Lambadas to celebrate the marriages in this Lagna.

**Mudhami:** Mudhami is of two types- Sukra mudhami and Guru Mudhami. Sukra mudhami is that period when Sukra is combustd , that is when Sukra and Ravi have the same longitude. In astrological terminology, Sukra and Ravi are in the same Rasi and the one is at a distance of 8 degrees on either side to the other then mudhami takes place. Since these two planets have almost the same speed and they are always close to each other, Sukra mudhami is possible more than once in a year. Similarly Guru mudhami occurs when Guru is combust, that is when Guru and Ravi are in the same Rasi and the distance of Ravi is 8 degrees on either side of Guru, Since Guru transits a Rasi in one year. The Guru Mudhami lasts only one month approximately.

Mudhami is the time, whether it is Guru Mudhami or Sukra mudhami, auspicious events like marraiage, Upananyanan, Griharambham and Griha Pravesam are not celebrated. Guru is said to be the planet of expansion and prosperity, while Sukra is said to be the planet of beauty, art, music and conjugal bliss. When these planets are combust they lose the power to bestow their blessings.

**Varjyam:** Just as every Lagna Rasi has a apart that is to be rejected for the purpose of starting an anundertaking, every Nakshatram has a part which is said to be rejected or avoided for starting of an undertaking. Obviously, this is linked with the transit of Chandra who is said to be

responsible for mental and intellectual activities. For any project, Chandra's grace is felt essential. Varjyam has a duration of 4 Ghadiyas which is equal to 96 minutes when the duration of the day is 24 hours. Depending on the duration of the day, the Varjyam has a proportionate duration.

**Subha Ghadiyalu( Amrita Ghadiyalu):** Every Nakshatram has a part which is said to be auspicious for any event whose duration is 4 Ghadiyas or 96 minutes if the duration of the day is 24 hours. The duration Subha Ghadiyalu changes proportionately with the duration of the day.

The following is the starting times of Varjyam and Subha Ghadiyalu for each of the 27 Nakshatrams.

Nakshatram time of Subha Ghadiyalu	Strating time of Varjyam	Starting
1.Aswini	20 hours	16.8 hours
2.Bharani	9.6 hours	19.2 hours
3.Krittika	12 hours	21.6 hours
4.Rohini	16 hours	20.8 hours
5.Mrigasira	5.6 hours	15.2 hours
6.Arudra	8.4 hours	14 hours
7.Punarvasu	12 hours	21.6 hours
8.Pushyami	8 hours	17.6 hours
9.Aslesha	12.8 hours	22.4 hours
10.Makha	12 hours	21.6 hours
11. Poorva Phalguni	8 hours	17.6 hours
12.Uttara Phalguni	7.2 hours	16.8 hours
13.Hasta	8.4 hours	18 hours
14. Chitta	8 hours	17.6 hours

15.Swathi	5.6 hours	15.2 hours
16.Visakha	5.6 hours	15.2 hours
17.Anuradha	4 hours	13.6 hours
18.Jyeshtha	5.6 hours	15.2 hours
19. Moola	8 hours;22.4 hours	17.6 hours
20.Poorvashadha	9.6 hours	19.2 hours
21. Uttarashadha	8 hours	17.6 hours
22. Sravanam	4 hours	13.6 hours
23. Dhanishta	4 hours	13.6 hours
24. Satabhisham	7.2 hours	16.8 hours
25.Poorvabhadra	6.4hours	16 hours
26. Uttarabhadra	9.6 hours	19.2 hours
27. Revathi	12 hours	21.6 hours

**Pushkaramsa:** Not satisfied with all the attributes for a fruitful time for any event that is to be undertaken the sages had fine-tuned the muhurtam to a narrow duration of about 4 minutes of time called Pushkaramsa. This tiny period occurs in every Lagna Rasi but not at the same degree, It is that period of time in a Lagna that is good in every respect and to be favorable to yield desired result.

Lagna Rasi Pushkaramsa	Degree of
Mesha,Simha and Dhanu(Agni tatwa) degrees	21
Vrishabha,Kanya and Makara(Bhu tatwa) 14 degrees	
Mithuna,Thula and Kumbha(Vayu tatwa) degrees	24

Karkataka,Vrischika and Meena(Jala tatwa)  
7 degrees.

All the information that has been discussed so far should give insight to the involvement of the five limbs called Panchnchanga. In order to understand Veda mantras the knowledge of astronomy, the meaning of the terminology used was found essential. Also the ritual part of the Veda requires the appropriate time at which the ritual should be started in order to be able to successfully complete the ritual and also to gain fruitful result out of it. The Vedic rituals consist of Yajna , Homa Tarpana which are undertaken for the good of the society and also for such other mundane purposes like good rains, good crops, general health and peace among the people so that the human life in general gets happiness. Indirectly each individual desires artha(Wealth of every kind- in the form of Dhana, Dhanya, Pasu,Santana, Vidya etc.,) for which the Veda(That defines Dharma) prescribes ways of attainment of artha strictly under Dharma in the form of rituals ,puja, titha yatra in particular. For these rituals also the Panchanga provides all the necessary information.

Of the four purusharthas, Dharma, Artha, Kama and Moksha, Kama is one purushartha which entangles the human being to the life a being with body. Kama essentially means desires and these desires include sexual pleasures also. Veda indirectly and Smriti directly try to regulate the desires and so they were brought under the sway of Dharma. In this scheme marriage between two individuals of opposite sex is contemplated for

1. regulating sex life,,
- 2 .procreation,
3. providing a base for social life.( Social life involves production of food, providing education, providing health care, care of elderly people, care of otherwise uncared citizens like orphans, handicapped, underprivileged persons, cattle, and above all security to all from wild animals, external and internal threat of every kind) .

Thus for a successful marriage which is 'for life' attachment and which is regulated by Sruti and Smriti, the resources available for the human being shall have to be employed in order to fix a suitable time called muhurtam.. The human life or for that matter any form of life is the

consequence of Karma and so the selection of muhurtam is strictly based on the influences of the planets upon the individuals concerned. Again this is an assumption which was tested time and again by the sages and a theory of astrology was developed. The major players are Ravi (the atma karaka) and Chandra (the manah karaka). While selecting the life- partner care is taken to select a partner who is like minded. For this purpose the Rasis of the two individuals are examined and if the Lords of the rasis were friends then they are taken to be like-minded. Then the muhurtam is fixed for solemnizing the marriage based on the favorable planetary influences on the Lagna, Rasi and Pushkaramsa.

There are other types of muhurtams which are avoided by people in parts of South India. They are Rahukalam, Gulikakalam, Yamagandam and Durmuhurtam. They all have 1 ½ hours duration except Durmuhurtam. The starting time of these are given below with the assumption that the Sun-rise is at 6:00 a.m. Depending on the time of Sun-rise the starting time changes proportionately.

Day	Rahukalam	Gulikakalam	Yamagandam
Durmuhurtam			
Sunday	4:30 p.m	3:00 p.m, 12:00 noon	4:24 p.m
Monday	7:00 a.m.	1:30 p.m. 10:30 a.m.	12:24 ;2:48 p.m..
Tuesday	3:00 p.m	12:00 noon 9:00 a.m.	8:24 ;10:48 a.m.
Wednesday	12:00 noon	10:30 a.m. 7:30 a.m.	11:36 a.m.
Thursday	1:30 p.m.	9:00 a.m. 6:00 p.m.	10:00 a.m.;2:48 p.m.
Friday	10:30 a.m.	7:30 a.m. 3:00 p.m.	8:24 a.m.
Saturday	9:00 a.m.	6:00 a.m 1:30 p.m	7:26 a.m.

**Grahanas(Eclipses):** There are two types of Grahanas(Eclipses)- Chandra Grahanam and Surya Grahanam . Chandra Grahanam takes place on a full moon day when Ravi, Earth and Chandra are aligned in a straight line and Earth comes between Surya and Chandra. Surya Grahanam takes place on a new moon day when Ravi,Chandra and Earth

are aligned in a straight line and Chandra comes between Ravi and Earth. Astrologically, Chandra Grahnam takes place when Ravi and Chandra are 180 degrees with each other and Chandra and Ketu or Chandra and Rahu are conjoined in the same Rasi. In the former case it is called Ketugrastha Chandra Grahnam and in the latter case it is called Rahugrastha Chandra Grahnam. Similarly, when Ravi, Chandra and Rahu are conjoined in a Rasi, then it is Rahugrastha Surya Grahnam and when Ravi, Chandra and Ketu are conjoined in the same Rasi, then it is Ketugrastha Surya Grahnam. All the Grahans(Eclipses) are not visible in all the places in the world because of the alignment of the planets as viewed at different places is different.

Grahans are important because Mantra Deeksha ( When a Guru initiates a mantra to the aspirant along with the method and other principles to be practiced, mantra Deeksha is said to have been given) given in the time of Grahana Kala ( Time of Eclipse) is said to be effective to make the aspirant concentrate on the Mantra; and the recitation of mantra in the Grahana Kala makes the aspirant to gain maximum benefit.

Today the Panchangam also gives the annual predictions for a country based on the time at which the new year commences about the general conditions, law and order, internal and external threat, market fluctuations, rain fall and food production. A chart called Varsha Lagna chart is made to give details of the functioning of Government and its various wings

For individuals, basing on Rasi and Nakshatra, the predictions for the whole year are made. Also the Kandaya Phala, income and expenditure, and honor and dishonor are today's most sought after part of the Panchangam.

The subha muhurtas for every type of activity, the matching of bride and bridegroom. The appropriate time for sowing are all calculated for users.

The Panchangam is a compendium of knowledge consisting of motion of planets, their influence on Earth and the human beings; it gives the appropriate time for initiating events that are beneficial in this life and also beyond. No wonder, Panchangam is considered important to get access to the study of Vedas. The sloka given in the beginning of the article has just said the same.

