

Vedic Calendar Discussion

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Text 338891: 31-Dec-93 Amsu (das) HKS (NE-BBT Armenian)
Subject: Conversion rules

Is it possible to convert the dates from solar to lunar calendar and vice versa? For instance if I have a certain date in the regular solar calendar and I want to know to which date it corresponds in our Vaisnava lunar calendar, then what am I supposed to do?

Text 342168: 11-Jan-94 Markandeya Rsi (das) HKS (Karlstad - S)
Comment on: Text 338891 by Amsu (das) HKS (NE-BBT Armenian)
Subject: Conversion rules

(I dont know if someone have already answered your question.)

If you have a solar date in one year then look in a Vaisnava calendar for that date and year and note down the masa (month), paksa (waning or waxing Moon), and tithi (lunar day).

Then look in a Vaisnava calendar for the other year (which you want to check) and find the same masa, paksa and tithi. There you have the solar date.

The other way around is the other way around so to say.

There are also ways to do this without having access to a full Vaisnava calendar but since there are some special rules that sometimes apply, it is better to read in a full calendar.

Text 342258: 11-Jan-94 Markandeya Rsi (das) HKS (Karlstad - S)
Comment on: Text 342191 by Amsu (das) HKS (NE-BBT Armenian)
Subject: Conversion rules

By full Vaisnava calendar I simply meant Vaisnava calendar.

Actually I did a simplification in my last text which was not so proper.

But first let me define the term tithi. If you see the angle between the Sun and the Moon as going from 0 to 180 degrees from new Moon to full Moon, and then again from 0 to 180 degrees from full Moon back to new Moon, then the prevailing tithi for a certain point in time is determined by dividing that angle by 12 degrees and then taking the integer part of that value and adding 1. Then you get an integer value between 1 and 15. This is tithi number 1 to 15, or pratipat, dvitiya, tritiya, caturti, etc. up to amavasya (new Moon) or purnima (full Moon) depending on if we are speaking about the waxing or waning Moon.

So do this for your specific point in time which you want to analyze.

Then look in the Vaisnava calendar on that solar date and read the masa or month (and the paksa, i.e. waning or waxing Moon).

(The tithi given in the calendar for that date is not necessarily the tithi for your specific point in time, because the calendar gives only the tithi present at the time of Sunrise on that date. So from the calendar you take only the other information as I just mentioned.)

Then to find out what solar date this corresponds to in another year you just find the same masa, paksa and tithi. Just as I explained in my first text.

You gave the example of December 31, 1966. First of all we must know which time we are interested in. You did not give that in your example, so let us take 3:00 AM in New York for example. By looking in an ephemeris we find out that from full Moon there is an angular difference of 46 degrees and around 53 minutes of arc. Divide that angle by 12 degrees and you get 3.91, now take the integer part (3) and add 1 to that and you get 4. This means the fourth tithi or caturti prevailed at that point in time. The tithi had elapsed 91%.

Now look in a Vaisnava calendar on December 31, 1966 and you find that the masa or month is Narayana and the paksa (or half month) is krsna paksa or waning Moon (which you could already see in the ephemeris).

(The tithi at the time of Sunrise is also mentioned there in the calendar but that is not necessarily the tithi you are interested in, and you can also see that it says pancami (the fifth tithi) whereas we got caturti for our specific point in time, i.e. 3 o'clock AM. So in this case they were different. This is where I in my previous text did an improper simplification.)

Then for any other year you can easily find this specific lunar date by looking in a Vaisnava calendar for that year and thus you get the solar date.

When you do this then you should not do the calculation which we did above. You just take the tithi as it is written in the calendar, because the day on which you observe a specific tithi is simply determined according to which tithi prevails at the time of Sunrise. And that is what the calendar shows.

There are also some other rules and factors (like nakshatra) governing these things. And they are mentioned in the appendix of the Vaisnava Calendar that I send out every year. There it is said:

Double or no tithi.

When studying the calendar one might find that sometimes a tithi is jumped over, and sometimes one tithi comes on two consecutive days. There is nothing wrong with this. For each day the calendar just shows which tithi (Moon phase) prevails at the time of Sunrise.

The birthday of a person is determined by the tithi prevailing when the person was born. The day whose Sunrise occurs during that particular tithi in any year thereafter should be celebrated as the birthday.

If the tithi prevails on two adjacent Sunrises, that Sunrise which occurs with the same nakshatra as at birth will be selected as the proper day for celebration. If neither Sunrise occurs with the same nakshatra as at birth, then the latter of the two days should be chosen as the day of celebration.

If there is no day whose Sunrise occurs during that particular tithi then the day within which the tithi falls should be chosen as the day of celebration.

So if the appearance day of a person should be celebrated on for example dvitiya tithi in a certain month and there are two dvitiya tithis listed after each other in the calendar, then (if not considering the case when the nakshatra which prevailed at birth is present) the second dvitiya should be chosen as the day of celebration. If there is no dvitiya listed at all in the calendar then the appearance day should be celebrated on the day where it says pratipat since the dvitiya phase of the Moon will happen during that day.

Text 342705: 12-Jan-94 Shyamasundara.Dasa@com-link.org
Subject: Vaisnava calendar

Hare Krsna!

The problem that exists between the Vaisnava calendar and the Christian calendar is that the Vaisnava calendar is luni-solar, whereas the Christian calendar is strictly solar.

What does this mean? Well, the solar year is 365.25 days long whereas the lunar year is about 10 to 11 days shorter. This means that after 3 years the lunar calendar will be 1 solar month out of phase with the solar calendar. The Moslems follow a strictly lunar calendar thus their months have no relation to the seasons which is a solar event. In the course of 36 years the Moslem month of Ramadan will go through each of the Christian months and then come to its starting point again.

The Vaisnava Calendar is luni-solar in that the lunar months are always calibrated to correspond with the solar months and fall in the same season every year (not taking into account precessional differences). To achieve this a leap month is added about every third year (there are certain astronomical rules involved so it may not be every third year). That is why you will notice that a big festival like Gaura Purnima will fall on one date this year, then next year about 10 days earlier, and the next year 10 days earlier still then all of a sudden it shoots back up about 30 days and continues the cycle.

In Amsus original question he wanted to know if there were any conversion rules that could be simply applied to convert a Christian date into a Vaisnava date and vice versa. I am assuming that he was wondering if there were any simple and straightforward rules for doing this. The answer is NO. [How many of you understood Markandeyas answer and can now convert your date of birth into the date on the Vaisnava calendar for any given year?] For Markandeya, Bhanu Swami or me it is very straightforward because we are used to thinking in terms of Vedic lunar months, tithis etc. But I even know of some ISKCON astrologers who cant figure it out so it may be that lay people may find it difficult also.

May I suggest that if someone would like to really understand how to do this that he request Markandeya Rsi Prabhu for a copy of the report to the GBC that he prepared on behalf of the Vaisnava Calendar committee. In that report will be a lot of information pertaining to the question Amsu asked.

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Shyamasundara Dasa

PS: According to Hari Bhakti Vilasa (Bhanu Swamis translation), if an appearance day falls on ekadasi, i.e. if you were born on ekadasi, then you celebrate on the following date. Disciples of Satsvarupa should take note of this. Also in calculating your own birth tithi it is the tithi prevalent at the time of birth that is important not the tithi at Sunrise. Thus Jayapataka Swamis actual birth tithi is dvadasi not ekadasi. Why the time of Sunrise is always mentioned is because the Vedic day begins at Sunrise. The Christian day begins at midnight and the Jewish and Moslem day begins at Sunset.

Text 343224: 13-Jan-94 jagadish@aol.com
Subject: Calendar

Heres a question on the calendar that either Shyamasundara or Markandeya can answer. The month of Damodara and the month of Karttika are used interchangeably as if they were the same. The actual fact is that the month of Damodara goes from full Moon to full Moon and the month of Karttika goes from new Moon to new Moon with the full Moon approximately in the nakshatra of Krttika. So whats the history of the divergence of these two systems? Hindu calendars generally use the nakshatra system, whereas we use the system based on the names of Vishnu.

How can I get a copy of the Vedic calendar program? Its easy to figure out what tithi a person was born on, but to determine the month is a little difficult considering that an extra month is added every 2.5 years.

Jagadish

Text 343226: 13-Jan-94 Shyamasundara.Dasa@com-link.org
Subject: damodara-karttika part 1 of 2

Hare Krsna!

The standard Vedic calendar starts the month with the first tithi after the new Moon, that is the instant after the exact conjunction of the Sun and Moon. This system is called mukhya candra. For example the new year according to the Siddhantas (i.e. classical astronomical texts such as Surya-siddhanta, Siddhanta-siromani, Vasista-siddhanta, etc.) begins with the sukla pratipat of Caitra masa. Meaning the first lunar day after the new Moon after the Sun has entered into Mesa (Aries). It is called Caitra masa because often the Moon would be in Citra nakshatra on the full Moon of that month. Anyway it is the

Vedic standard to consider the month (and the year) to begin on a sukla pratipat, first tithi after the new Moon.

However it is also acceptable to have months based on the full Moon, thus the month and year would start on krsna pratipat, the first tithi after the full Moon. If you were to examine the chronological systems in vogue in India you will find that almost every state has its own system with various differing rules. There will also be variations within the regions.

For example in 1989 according to the National Indian calendar the New Year began on Mar 22 (which no one observes). In Bengal, Assam and Tamil Nadu the New Year started on April 14 while in Punjab and Orissa it started April 13. And in Kerala it started on Aug 17! Other states followed some of these or independent systems. (I wonder why they say that Divali is the Hindu New Year? Must be in Gujarat or parts of UP and Rajasthan. [I found out that it is.]

It should be noted that while the rest of India observes candra masa, Kerala and Tamil Nadu observe saura masa, lunar and solar months respectively. By this I mean that a candra masa is measured from a new or full Moon, whereas a saura masa is measure from sankranti to sankranti, solar ingress from sign to sign, but still measured in lunar days.

If this were not interesting enough having months and years beginning at different times, they also follow different epochs or eras. We are familiar with the Christian Era, which is now being secularized as the Common Era, CE or BCE, as opposed to AD or BC. In India there is a large welter of eras that are used, for example: 1989 AD is equivalent to Vikram Samvat 2046, Saka era 1911, Bengali San 1396, Kollam era 1165, Hejira 1410, Buddha Nirvana 2533 (this is wrong however), Mahavira Nirvana 2516, Kali Yuga 5090, and Yudhisthira Saka 5126. There is also Saptarsi Saka which is some years different from that of Yudhisthira Saka (I would have to look it up), plus Brhaspati Samvatsara (60 year cycle) which was #17, Subhana in N India and #3, sukla in S India and last but not least 1989 was 5 Idavatsara in the Vedanga Jyotisa year system beginning on Feb 7. I have not exhausted all the eras current in India. There are many such as Gupta Saka, Vallabhi Saka, and Mallava Gana Saka which are no longer current but of interest only to historians, epigraphists, antiquarians and the like (and me of course).

The point of all this is that in India there is a lot of leeway about calendars and different communities have different calendars. Smartas calculate ekadasi differently from Vaisnavas.

Anyway, our calendar is gauna candra, calculated from the krsna pratipat of Phalgunasa masa, i.e. the first day of the waning Moon (the first tithi after the full Moon) of the month of Phalgunasa. In other words Lord Caitanya's

birthday is the last day of the year for us. It is because Lord Caitanya was born on a full Moon day that the Gaudiyas follow gauna candra masa. However the standard to measure by is always the mukhya candra masa of the Vedic calendar. And, our calendar is tied to that. Did you ever wonder why it is, that when we have a leap month it falls in the middle of a regular month and the regular month gets split in two? That is because the deciding factor that determines whether or not a year will have a leap month is based on the new Moon months of the Vedic calendar.

The Vedic month begins with the sukla pratipat of the new Moon after the Sun's ingress into a sign. Usually there is only one new Moon for each sign that the Sun is in. But occasionally the new Moon will occur right after the Sun enters a sign and another takes place just before it leaves. Thus you will have two new Moons in the same sign. Even rarer (in a weird cycle of 151 years, then 19, then back to 151 years [I think it is 151, it is in that area]) when you have one solar month with no new Moon and two solar months with two new Moons. This really causes a big mess and confusion. The last time this happened was in 1983 and it was a big cause of concern all over India.

Anyway, all these points are covered in the special report to the GBC entitled Everything You Wanted To Know About The Vaisnava Calendar But Were Afraid To Ask. (Just kidding.) Get it from Markandeya Rsi Prabhu.

TO BE CONTINUED

Text 343454: 14-Jan-94 Shyamasundara.Dasa@com-link.org
Subject: calendar part 2 of 2 parts

Regarding the Vaisnava Calendar Program. Here is a brief history of the program. In 1982 at Mayapura, JPS cornered me and said that as the leading astrologer in ISKCON it was my duty to write a computer program that calculated the Vaisnava Calendar. (He said this because he knew that I had written astrology software in 1979-80). Doing the Vaisnava Calendar was the last thing on my mind. I was only into astrology and didn't want to do it at all as it would take me away from my astrology studies. JPS can be very persuasive and after several days of persuasion I reluctantly agreed to do it with the following proviso. That I would only do it if he got Bhanu Swami to translate necessary texts from Bengali and Sanskrit. This would make my job straightforward, I would just convert the translated rules into algorithms.

I didn't do anything on the program until the fall of 1983 when I was residing in New Vrndavana. I wrote the program in 1983-4 on an old Osborne Executive, a C/PM machine, using interpretive BASIC. That was completed 10 years ago this month. It was a very good program considering that the computer I wrote it on

had no hard drive, had two 90k floppies, and 64k of RAM that was somehow banked into 128k! But lets face it, the severe computer limitations made it primitive. I still had to input a lot of information and it would take 6 hours to calculate a 1 year calendar. To input that information you had to know a lot about calendars. [It now takes about 10-20 minutes to calculate 1 year depending on your CPU. And even a fool can input the data now.]

The GBC followed this calendar for a few years until a controversy arose based on the fact that the dates it calculated were often quite different from the Bengali panjikas. It was decided to follow the Navadvipa Panjika again.

I released the rights to the calendar program to the BBT. I gave a copy of it to Harikesa Swami who turned it over to the stalwart computer wizards of Northern Europe. These mavens took my program and transformed it from a caterpillar into a butterfly. But there were minor problems. The programmers didn't know anything about what the software was supposed to do thus some bugs were introduced. Finally, Markandeya Rsi was put in as head computer wizard under my direction (I flew to Stockholm in 1988). We corrected many of the mistakes introduced by previous wizards and mavens. Markandeya must be credited for making the VCAL program much more powerful and user friendly by taking advantage of the immense power of the IBM PCs. It should be noted that Harikesa Swami was a driving force in getting the program together and making it acceptable to ISKCON.

In 1989 the GBC, on HKSs suggestion created the Vaisnava Calendar committee consisting of HKS, JPS, Bhanu Swami, Atmatattva, and me. It was decided to send Markandeya Rsi Prabhu on a fact-finding mission about calendars in India. I put together a list of questions, and people to see, depending on Markandeyas good intelligence to do the needful as the situation developed. I think that anyone who reads the report that he finally put together in 1990 cannot but be impressed by the very thorough research that he did. It certainly impressed the GBC who made it ISKCON law that all ISKCON temples follow the calendar calculated by the program originally developed by me.

What should be clear from this narrative is that the calendar program came into being by the cooperation and hard work of several devotees. We owe a lot to HH Jayapataka Swami whose idea it was in the first place. To HH Bhanu Swami who went to great lengths to track down all the relevant information in obscure corners of Bengal and then translated it from Bengali and Sanskrit into English. To HH Harikesa Swami who insisted that ISKCON had to have its own calendar based on scientific principles and not be dependant on some other inaccurate calculations. He invested a lot of money and manpower into realizing this program. And to programmers headed by Sriman Markandeya Rsi Prabhu who not only took the trouble to learn about calendars and astronomy but also took a primitive program and made it very powerful.

As to Jagadish's question about getting a copy of the calendar program? At this time the Vaisnava Calendar Committee is not releasing the program. The reasons are manifold. We are still looking for bugs. These bugs may not be software related but translation problems as in the example of Bhishma Pancaka discussed some time ago on COM. It actually turned out to be Bhima Pancaka after more research was done. There is also fine-tuning going on and occasional additions are being made. For example I would like to have Gita Jayanti added. I also want to add the appearance days of the Alvars. Though the Alvars are in the Sri Vaisnava line still they are important to us as Srila Prabhupada very much liked the Mukunda Mala stotra of Kulasekhara Alvar. Besides the Alvars are incarnations of Visnu parsada and thus important to all Vaisnavas.

There is also some question of how long the program will remain accurate. I have not done any tests to determine for what epoch the calculation of the Sun and Moon stay within acceptable limits of error. For these reasons we have not released the program. Believe me many people have asked me for a copy of it, especially from the Sridhar camp.

WARNING

You should all be warned that some years ago a beta-test version was sent out to a few devotees for testing. They were explicitly warned not to make copies of it because there might be bugs in the program (there were) and we didn't want inaccurate copies floating around. My name and password were on each copy. Some of the devotees who got the program thought that they were above the rules and distributed the program to one and all. This beta-test program has several mistakes in it and its printout is distinguished by the absence of paran times for breaking fast and by having my name on the user interface. The Vaisnava Calendar Committee takes no responsibility for karma incurred by following this calendar program.

An error in the calculation of an ephemeris is as sinful as the murder of a Brahmana. Varaha Mihira

ys Shyamasundara Dasa