# **Indian national calendar**

The **Indian national calendar**, sometimes called the **Saka calendar**, is a <u>solar calendar</u> that is used alongside the <u>Gregorian calendar</u> by <u>The Gazette of India</u>, in news broadcasts by <u>All India Radio</u>, and in calendars and official communications issued by the <u>Government of India</u>. Shaka Samvat is generally 78 years behind of Gregorian Calendar, except during January to March, when it is behind by 79 years.

Originally through historical Indian influence, the Saka calendar is also used in <u>Java</u> and <u>Bali</u> among <u>Indonesian Hindus</u>. <u>Nyepi</u>, the "Day of Silence", is a celebration of the Saka new year in Bali. Nepal's <u>Nepal Sambat</u> evolved from the Saka calendar. The Saka calendar was also used in several areas in the modern-day Philippines as written in the Laguna Copperplate Inscription. In



Mohar of Gorkha (later Nepal's) king <u>Prithvi Narayan Shah</u>, dated <u>Saka</u> era 1685 (AD 1763).

India, <u>Yugabda</u> is also used with corresponding months of Saka/<u>Nepal Sambat</u>. Yugabda is based on Kaliyuga Sankhya preserved by Indian <u>Astrology</u>. The <u>Kali Yuga</u> began 5,123 years ago and has 426,877 years left as of 2022 <u>CE</u>. [2][3][4] *Kali Yuga* will end in the year 428,899 CE.

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## Calendar structure

The calendar months follow the signs of the <u>tropical zodiac</u> rather than the <u>sidereal zodiac</u> normally used with the Hindu and Buddhist calendars.

#	Name (Sanskrit)	Length	Start date (Gregorian)	Tropical zodiac	Tropical zodiac (Sanskrit)
1	Chaitra	30/31	March 22/21	Aries	Meșha
2	Vaisākha	31	April 21	Taurus	Vṛiṣabha
3	Jyēshtha	31	May 22	Gemini	Mithuna
4	Āshādha	31	June 22	Cancer	Karkata/Karka
5	Shrāvana	31	July 23	Leo	Simha
6	Bhādra	31	August 23	Virgo	Kanyā
7	Āshwin	30	September 22	Libra	Tulā
8	Kārtika	30	October 22	Scorpio	Vŗiśchika
9	Mārgaśīrşa	30	November 21	Sagittarius	Dhanur
10	Pausha	30	December 21	Capricorn	Makara
11	Māgha	30	January 20	Aquarius	Kumbha
12	Phālguna	30	February 19	Pisces	Mīna

Chaitra<sup>[5]</sup> is the first month of the calendar and begins on the <u>March equinox</u>, similar to <u>Farvardin</u>, the first month of the <u>Iranian Solar Hijri calendar</u>. Chaitra has 30 days and starts on March 22, except in <u>leap years</u>, when it has 31 days and starts on March 21.<sup>[6]</sup> The months in the first half of the year all have 31 days, to take into account the slower movement of the sun across the <u>ecliptic</u> at this time.

The names of the months are derived from the older <u>Hindu lunisolar calendar</u>, so variations in spellings exist, and there is a possible source of confusion as to what calendar a date belongs to.

The names of the weekdays are derived from the <u>seven classical planets</u> (see <u>Navagraha</u>). The first day of the week is Ravivara (Sunday). The official calendar reckoned by the government of India has Sunday as the first and Saturday as the last day of the week. 1

# Days of the Saka calendar $^{[7]}$

Day number	Name	Classical planet	Image	Western equivalent	Gregorian
1	Ravivara <sup>[nb 1]</sup>	<u>Ravi</u>		<u>Sun</u>	Sunday
2	Somvara	<u>Soma</u>		Moon	Monday
3	Mangalavara	<u>Mangala</u>		<u>Mars</u>	Tuesday
4	Budhavara	<u>Budha</u>		Mercury	Wednesday
5	Brahaspativara <sup>[nb 2]</sup>	<u>Bṛhaspati</u>		<u>Jupiter</u>	Thursday
6	Shukravara	Shukra		Venus	Friday
7	Shanivara	<u>Shani</u>		<u>Saturn</u>	Saturday

Years are counted in the <u>Saka era</u>, which starts its <u>year 0</u> in the year <u>78</u> of the <u>Christian Era/Common Era</u>. To determine leap years, add 78 to the Saka year – if the result is a leap year in the Gregorian calendar, then the Saka year is a leap year as well.

## History

#### Vikram Period

The <u>Kushana</u> king <u>Kanishka</u> is believed to have created the calendar that came to be known as the Saka Calendar.

### **Adoption**

Senior Indian <u>Astrophysicist Meghnad Saha</u> was the head of the <u>Calendar Reform Committee</u> under the aegis of the <u>Council of Scientific and Industrial Research</u>. Other members of the Committee were: A. C. Banerjee, K. L. Daftari, J. S. Karandikar, Gorakh Prasad, R. V. Vaidya and N. C. Lahiri. It was Saha's effort, which led to the formation of the Committee. The task before the Committee was to prepare an accurate calendar based on scientific study, which could be adopted uniformly throughout India. The Committee had to undertake a detailed study of thirty different calendars prevalent in different parts of the country. The task was further complicated by the integration of those calendars with religion and local sentiments. India's first prime minister, <u>Jawaharlal Nehru</u>, in his preface to the Report of the Committee, published in 1955, wrote: "They (different calendars) represent past political divisions in the country ... . Now that we have attained Independence, it is obviously desirable that there should be a certain uniformity in the calendar for our civic, social, and other purposes, and this should be done on a scientific approach to this problem."

[8] Usage started officially at 1 Chaitra 1879, Saka Era, or 22 March 1957.

India has adopted pie Ephemeris Time in the Indian Ephemeris from 1960 onwards 'm pursuance of the resolution passed1 by the International Astronomical Union in 1955 to adopt the Ephemeris Time in all national ephemendes, m order to have uniformity with other nations in indicating the position of the planets in the Epheirteris A statement is laid on the table giving technical reasonsThe Greenwich Mean Time, lately called Universal Time, had so long been the basic measure of time in terms of which the positions of the Sun, Moon and planets were calculated and shown in the Ephemera It has been observed for some years past that the rotation of the Earth, by which the Universal Time and in fact all mean solar times are determined, is not uniform, it has got a gradual retardation as well as fluctuations for various reasons, as a result of which the Universal Time does not increase uniformly 'As a uniformly increasing time-scale is the independent argument necessary in dynamical astronomy, it has been decided in accordance with a resolution of the International Astronomical Union held at Dublin in 1955 that the positions of the sun, moon and planets would be given in all the national ephemendes with effect from the issue of 1960, not in terms of the Universal Time but of Ephemeries Time defined by resolution of 1952 meeting of the International Astronomical Union This has been done in all the national ephemendes from the 1960 issue, and India have also adopted the same Due to the existence of the fluctuation factor in the rotation of the Earth and consequently in the expression of Ephemera Time, it is not possible to give a definite value of Ephemeris Time in Advance, it is possible only to estimate an approximate value by extrapolation The difference between the Ephemeris Time and the Greenwich Mean Time is now very small, the estimated value of the difference for 1960 is 35\*0 seconds of time, so that at Oh-Om-Os G M.T the Ephemeris Time's Oh-Om-35s [9]

#### See also

- Astronomical basis of the Hindu calendar
- Bengali calendar, a related Indic calendar
- Hindu calendar
- History of calendars
- Indian New Year's days
- Kollam era, the Malayalam calendar
- List of calendars

- Solar Hijri calendar
- Ritu (Indian season)
- Shaka era
- Tamil calendar
- Vikram Samvat
- Bisuddhasiddhanta Panjika

#### **Notes**

- 1. Also known as Adivara.
- 2. Also known as Guruvara.

### References

- 1. "Gg Holiday Calendar" (https://www.india.gov.in/calendar). Govt. of India Official website.
- Godwin, Joscelyn (2011). <u>Atlantis and the Cycles of Time: Prophecies, Traditions, and Occult Revelations</u> (https://books.google.com/books?id=H14oDwAAQBAJ). <u>Inner Traditions</u>. pp. 300–301. ISBN 9781594778575.
- 3. Merriam-Webster (1999). "Merriam-Webster's Encyclopedia of World Religions" (https://archive.org/details/isbn\_9780877790440). In Doniger, Wendy; Hawley, John Stratton (eds.). Merriam-Webster. Merriam-Webster, Incorporated. pp. 445 (Hinduism) (https://archive.org/details/isbn\_9780877790440/page/445/mode/1up), 1159 (Yuga) (https://archive.org/details/isbn\_9780877790440/page/1159/mode/1up). ISBN 0877790442."
  - \* HINDUISM: Myths of time and eternity: ... Each yuga is preceded by an intermediate "dawn" and "dusk." The Krita yuga lasts 4,000 god-years, with a dawn and dusk of 400 godyears each, or a total of 4,800 god-years; Treta a total of 3,600 god-years; Dvapara 2,400 god-years; and Kali (the current yuga) 1,200 god-years. A mahayuga thus lasts 12,000 godyears ... Since each god-year lasts 360 human years, a mahayuga is 4,320,000 years long in human time. Two thousand mahayugas form one kalpa (eon) [and pralaya], which is itself but one day in the life of Brahma, whose full life lasts 100 years; the present is the midpoint of his life. Each kalpa is followed by an equally long period of abeyance (pralaya), in which the universe is asleep. Seemingly the universe will come to an end at the end of Brahma's life, but Brahmas too are innumerable, and a new universe is reborn with each new Brahma. \* YUGA: Each yuga is progressively shorter than the preceding one, corresponding to a decline in the moral and physical state of humanity. Four such yugas (called ... after throws of an Indian game of dice) make up a mahayuga ("great yuga") ... The first yuga (Krita) was an age of perfection, lasting 1,728,000 years. The fourth and most degenerate yuga (Kali) began in 3102 BCE and will last 432,000 years. At the close of the Kali yuga, the world will be destroyed by fire and flood, to be re-created as the cycle resumes. In a partially competing vision of time, Vishnu's 10th and final AVATAR, KALKI, is described as bringing the present cosmic cycle to a close by destroying the evil forces that rule the Kali yuga and ushering in an immediate return to the idyllic Krita yuga."

- 4. Gupta, S. V. (2010). "Ch. 1.2.4 Time Measurements" (https://books.google.com/books?id=pH iKycrLmEQC&pg=PA7). In Hull, Robert; Osgood, Richard M. Jr.; Parisi, Jurgen; Warlimont, Hans (eds.). Units of Measurement: Past, Present and Future. International System of Units. Springer Series in Materials Science: 122. Springer. pp. 6–8. ISBN 9783642007378. "Paraphrased: Deva day equals solar year. Deva lifespan (36,000 solar years) equals 100 360-day years, each 12 months. Mahayuga equals 12,000 Deva (divine) years (4,320,000 solar years), and is divided into 10 charnas consisting of four Yugas: Satya Yuga (4 charnas of 1,728,000 solar years), Treta Yuga (3 charnas of 1,296,000 solar years), Dvapara Yuga (2 charnas of 864,000 solar years), and Kali Yuga (1 charna of 432,000 solar years). Manvantara equals 71 Mahayugas (306,720,000 solar years). Kalpa (day of Brahma) equals an Adi Sandhya, 14 Manvantaras, and 14 Sandhya Kalas, where 1st Manvantara preceded by Adi Sandhya and each Manvantara followed by Sandhya Kala, each Sandhya lasting same duration as Satya yuga (1,728,000 solar years), during which the entire earth is submerged in water. Day of Brahma equals 1,000 Mahayugas, the same length for a night of Brahma (Bhagavad-gita 8.17). Brahma lifespan (311.04 trillion solar years) equals 100 360day years, each 12 months. Parardha is 50 Brahma years and we are in the 2nd half of his life. After 100 years of Brahma, the universe starts with a new Brahma. We are currently in the 28th Kali yuga of the first day of the 51st year of the second Parardha in the reign of the 7th (Vaivasvata) Manu. This is the 51st year of the present Brahma and so about 155 trillion years have elapsed. The current Kali Yuga (Iron Age) began at midnight on 17/18 February 3102 BC in the proleptic Julian calendar."
- 5. "National Identity Elements National Calendar Know India: National Portal of India" (http s://knowindia.gov.in/national-identity-elements/national-calendar.php#:~:text=The%20nation al%20calendar%20based%20on,broadcast%20by%20All%20India%20Radio.). knowindia.gov.in. Retrieved 2020-06-14.
- 6. Bromberg, Irv. <u>"The Lengths of the Seasons" (http://individual.utoronto.ca/kalendis/seasons.htm)</u>. University of Toronto, Canada. Retrieved 6 July 2013.
- 7. Quint, The (22 March 2019). "Happy 'Saka' New Year 1941: Story Behind India's National Calendar" (https://www.thequint.com/news/india/indian-national-calendar-saka-calendar-ne w-year-22-march-1941). *TheQuint*. Retrieved 12 August 2020.
- 8. "Meghnad Saha, A Pioneer in Astrophysics" (https://web.archive.org/web/20150223073932/http://www.vigyanprasar.gov.in/scientists/saha/sahanew.htm). Vigyan Prasar Science Portal. Archived from the original (http://www.vigyanprasar.gov.in/scientists/saha/sahanew.htm) on 23 February 2015.
- 9. https://eparlib.nic.in/bitstream/123456789/1916/1/lsd 02 08 10-09-1959.pdf page 36

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- Saha, M. N. (Chairman) (1955) Report of the Calendar Reform Committee (https://dspace.gi pe.ac.in/xmlui/bitstream/handle/10973/39692/GIPE-043972.pdf) New Delhi: Council of Scientific and Industrial Research
- Richards, Edward Graham (1998). <u>Mapping Time: The Calendar and Its History</u> (https://books.google.com/books?id=GqXDQgAACAAJ) (illustrated, reprint, revised ed.). Oxford University Press. pp. 184–185. ISBN 978-0-19-286205-1.

## **External links**

- Calendars and their History (by L.E. Doggett) (http://eclipse.gsfc.nasa.gov/SEhelp/calendars.html)
- Indian Calendars (by Leow Choon Lian, pdf, 1.22mb) (https://web.archive.org/web/2018041 7203122/http://www.math.nus.edu.sg/aslaksen/projects/lcl.pdf)

- Indian National Calendar (https://knowindia.india.gov.in/national-identity-elements/national-calendar.php)
- India Meteorological Department/ Positional Astronomy Centre: current and past issues of the Rashtriya Panchang and The Indian Astronomical Ephemeris (http://packolkata.gov.in/?lan=en)

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This page was last edited on 30 December 2022, at 04:09 (UTC).

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