

Devanagari

Devanagari (/ˌdeɪvəˈnɑːɡəri/ *DAY-və-NAH-gə-ee*; देवनागरी, IAST: *Devanāgarī*, Sanskrit pronunciation: [d̪eːʋəˈn̪aːɡeːɾiː]), also called **Nagari** (*Nāgarī*, नागरी),^[9] is a left-to-right **abugida** (alphasyllabary),^[10] based on the ancient *Brāhmī* script,^[1] used in the **Indian subcontinent**. It was developed in ancient India from the 1st to the 4th century CE^[1] and was in regular use by the 7th century CE.^{[9][11]} The Devanagari script, composed of 47 primary characters including 14 vowels and 33 consonants, is the fourth most widely adopted writing system in the world,^[12] being used for over 120 languages.^[13]

The orthography of this script reflects the pronunciation of the language.^[13] Unlike the Latin alphabet, the script has no concept of letter case.^[14] It is written from left to right, has a strong preference for symmetrical rounded shapes within squared outlines, and is recognisable by a horizontal line, known as a *shirorekha*, that runs along the top of full letters.^[10] In a cursory look, the Devanagari script appears different from other Indic scripts such as Bengali-Assamese, Odia or Gurmukhi, but a closer examination reveals they are very similar except for angles and structural emphasis.^[10]

Among the languages using it – as either their only script or one of their scripts – are Marathi, Pāli, Sanskrit (the ancient Nagari script for Sanskrit had two additional consonantal characters),^[15] Hindi,^[16] Nepali, Sherpa, Prakrit, Apabhramsha, Awadhi, Bhojpuri, Brj Bhasha,^[17] Chhattisgarhi, Haryanvi, Magahi, Nagpuri, Rajasthani, Bhili, Dogri, Maithili, Kashmiri, Konkani, Sindhi, Bodo, Nepalbhasha, Mundari and Santali.^[13] The Devanagari script is closely related to the Nandinagari script commonly found in numerous ancient manuscripts of South India,^{[18][19]} and it is distantly related to a number of southeast Asian scripts.^[13]

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Etymology

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 <div>Devanagari script (vowels top, consonants bottom) in <u>Chandas font</u></div>	
Script type	Abugida
Time period	<div>Early form: 1st century CE^[1] Modern form: 7th century CE to present^{[2][3]}</div>
Direction	left-to-right
Region	<div> India 120+ languages use Devnagari Script</div> <div> Fiji as script for Fiji Hindi</div> <div> South Africa as protected language (script)^[4]</div> <div> Nepal</div>
Languages	<div>Apabhr̥msha, Awadhi, Bhili, Bhojpuri, Bodo, Braj Bhasha, Chhattisgarhi, Dogri, Gujarati, Haryanvi, Hindi, Hindustani, Kashmiri, Konkani, Magahi, Maithili, Marathi, Marwari, Mundari, Newari, Nepali, Pāḷi, Pahari, Prakrit, Rajasthani, Sadri, Sanskrit, Santali, Saraiki, Sherpa and Sindhi, Surjapuri, and many more</div>
Related scripts	
Parent systems	<div><div>Proto-Sinaitic^[a]</div><div><div>▪ Phoenician alphabet</div><div>▪ Aramaic alphabet^{[5][6]}</div><div>▪ Brāhmī</div><div>▪ Gupta</div><div>▪ Siddham^{[7][8]}</div><div>▪ Nāgarī</div><div>▪ Devanagari</div></div></div>

Devanagari is a compound of "*deva*" देव and "*nāgarī*" नागरी.^[9] *Deva* means "heavenly or divine" and is also one of the terms for a deity in Hinduism.^[20] *Nagari* comes from नगरम् (*nagaram*), which means abode or city. Hence, *Devanagari* denotes *from the abode of divinity or deities*.

Nāgarī is the Sanskrit feminine of *Nāgara* "relating or belonging to a town or city, urban". It is a phrasing with *lipi* ("script") as *nāgarī lipi* "script relating to a city", or "spoken in city".^[21]

The use of the name *devanāgarī* emerged from the older term *nāgarī*.^[22] According to Fischer, Nagari emerged in the northwest Indian subcontinent around 633 CE, was fully developed by the 11th-century, and was one of the major scripts used for the Sanskrit literature.^[22]

History

Devanagari is part of the Brahmic family of scripts of India, Nepal, Tibet, and Southeast Asia.^{[23][22]} It is a descendant of the 3rd century BCE Brahmi script, which evolved into the Nagari script which in turn gave birth to Devanagari and Nandinagari. Both were used to write Sanskrit, until the latter was merged into the former. The resulting script is widely adopted across India to write Sanskrit, Marathi, Hindi and its dialects, and Konkani.

Some of the earliest epigraphical evidence attesting to the developing Sanskrit Nagari script in ancient India is from the 1st to 4th century CE inscriptions discovered in Gujarat.^[1] Variants of script called *Nāgarī*, recognisably close to Devanagari, are first attested from the 1st century CE Rudradaman inscriptions in Sanskrit, while the modern standardised form of Devanagari was in use by about 1000 CE.^{[11][24]} Medieval inscriptions suggest widespread diffusion of the Nagari-related scripts, with biscripts presenting local script along with the adoption of Nagari scripts. For example, the mid 8th-century Pattadakal pillar in Karnataka has text in both Siddha Matrika script, and an early Telugu-Kannada script; while, the Kangra Jawalamukhi inscription in Himachal Pradesh is written in both Sharada and Devanagari scripts.^[25]

The Nagari script was in regular use by the 7th century CE, and it was fully developed by about the end of first millennium.^{[9][11]} The use of Sanskrit in Nagari script in medieval India is attested by numerous pillar and cave temple inscriptions, including the 11th-century Udayagiri inscriptions in Madhya Pradesh,^[26] and an inscribed brick found in Uttar Pradesh, dated to be from 1217 CE, which is now held at the British Museum.^[27] The script's proto- and related versions have been discovered in ancient relics outside of India, such as in Sri Lanka, Myanmar and Indonesia; while in East Asia, *Siddha Matrika* script considered as the closest precursor to Nagari was in use by Buddhists.^{[15][28]} Nagari has been the *primus inter pares* of the Indic scripts.^[15] It has long been used traditionally by religiously educated people in South Asia to record and transmit information, existing throughout the land in parallel with a wide variety of local scripts (such as Modi, Kaithi, and Mahajani) used for administration, commerce, and other daily uses.

Sharada remained in parallel use in Kashmir. An early version of Devanagari is visible in the Kutila inscription of Bareilly dated to Vikram Samvat 1049 (i.e. 992 CE), which demonstrates the emergence of the horizontal bar to group letters belonging to a word.^[2] One of the oldest surviving Sanskrit texts from the early post-Maurya period consists of 1,413 Nagari pages of a commentary by Patanjali, with a composition date of about 150 BCE, the surviving copy transcribed about 14th century CE.^[29]

Evolution from Brahmi to Gupta, and to Devanagari^[30]

	<i>k-</i>	<i>kh-</i>	<i>g-</i>	<i>gh-</i>	<i>ṛ-</i>	<i>c-</i>	<i>ch-</i>	<i>j-</i>	<i>jh-</i>	<i>ñ-</i>	<i>ṭ-</i>	<i>ṭh-</i>	<i>ḍ-</i>	<i>ḍh-</i>	<i>ṇ-</i>	<i>t-</i>	<i>th-</i>	<i>d-</i>	<i>dh-</i>	<i>n-</i>	<i>p-</i>	<i>ph-</i>	<i>b-</i>	<i>bh-</i>	<i>m-</i>	<i>y-</i>	<i>r-</i>	<i>l-</i>	<i>v-</i>	<i>ś-</i>	<i>ṣ-</i>
<u>Brahmi</u>	𑀓	𑀣	𑀧	𑀭	𑀮	𑀲	𑀻	𑀼	𑀽	𑀾	𑀿	𑁀	𑁁	𑁂	𑁃	𑁄	𑁅	𑁆	𑁇	𑁈	𑁉	𑁊	𑁋	𑁌	𑁍	𑁎	𑁏	𑁐	𑁑	𑁒	𑁓
<u>Gupta</u>	𑂔	𑂕	𑂖	𑂗	𑂘	𑂙	𑂚	𑂛	𑂜	𑂝	𑂞	𑂟	𑂠	𑂡	𑂢	𑂣	𑂤	𑂥	𑂦	𑂧	𑂨	𑂩	𑂪	𑂫	𑂬	𑂭	𑂮	𑂯	𑂰	𑂱	𑂲
<u>Devanagari</u>	क	ख	ग	घ	ङ	च	छ	ज	झ	ञ	ट	ठ	ड	ढ	ण	त	थ	द	ध	न	प	फ	ब	भ	म	य	र	ल	व	श	ष

East Asia

Under the rule of Songtsen Gampo of the Tibetan Empire, Thonmi Sambhota was sent to Nepal to open marriage negotiations with a Nepali princess and to find a writing system suitable for the Tibetan language. Thus he invented the Tibetan script, based on the Nagari used in Kashmir. He added 6 new characters for sounds that did not exist in Sanskrit.^[31]

Other scripts closely related to Nagari such as Siddham Matrka were in use in Indonesia, Vietnam, Japan and other parts of East Asia by between 7th to 10th century.^{[32][33]}

Most of the southeast Asian scripts have roots in the Dravidian scripts, except for a few found in south-central regions of Java and isolated parts of southeast Asia that resemble Devanagari or its prototype. The Kawi script in particular is similar to the Devanagari in many respects though the morphology of the script has local changes. The earliest inscriptions in the Devanagari-like scripts are from around the 10th-century, with many more between 11th and 14th century.^{[34][35]} Some of the old-Devanagari inscriptions are found in Hindu temples of Java, such as the Prambanan temple.^[36] The Ligor and the Kalasan inscriptions of central Java, dated to the 8th-century, are also in the Nagari script of North India. According to the epigraphist and Asian Studies scholar Lawrence Briggs, these may be related to the 9th-century copper plate inscription of Devapaladeva (Bengal) which is also in early Devanagari script.^[37] The term Kawi in Kawi script is a loan word from *Kavya* (poetry). According to anthropologists and Asian Studies scholars John Norman Miksic and Goh Geok Yian, the 8th-century version of early Nagari or Devanagari script was adopted in Java, Bali (Indonesia), and Khmer (Cambodia) around 8th or 9th-century, as evidenced by the many inscriptions of this period.^[38]

Letters

The letter order of Devanagari, like nearly all Brahmic scripts, is based on phonetic principles that consider both the manner and place of articulation of the consonants and vowels they represent. This arrangement is usually referred to as the *varṇamālā* "garland of letters".^[39] The format of Devanagari for Sanskrit serves as the prototype for its application, with minor variations or additions, to other languages.^[40]

Sister systems	Nandinagari
	Kaithi
	Gujarati
	Modī
ISO 15924	
ISO 15924	Deva, 315 , Devanagari (Nagari)
Unicode	
Unicode alias	Devanagari
Unicode range	U+0900–U+097F (https://www.unicode.org/charts/PDF/U0900.pdf) Devanagari, U+A8E0–U+A8FF (https://www.unicode.org/chart s/PDF/UA8E0.pdf) Devanagari Extended, U+1CD0–U+1CFF (http s://www.unicode.org/chart s/PDF/U1CD0.pdf) Vedic Extensions
[a] The Semitic origin of the Brahmic scripts is not universally agreed upon.	

𑀓𑀣𑀧𑀭𑀮𑀲𑀻𑀼𑀽𑀾𑀿𑀾𑁀𑁁𑁂𑁃𑁄𑁅𑁆𑁇𑁈𑁉𑁊𑁋𑁌𑁍𑁎𑁏𑁐𑁑𑁒𑁓𑁔𑁕𑁖𑁗𑁘𑁙𑁚𑁛𑁜𑁝𑁞𑁟𑁠𑁡𑁢𑁣𑁤𑁥𑁦𑁧𑁨𑁩𑁪𑁫𑁬𑁭𑁮𑁯𑁰𑁱𑁲𑁳𑁴𑁵𑁶𑁷𑁸𑁹𑁺𑁻𑁼𑁽𑁾𑁿𑂀𑂁𑂂𑂃𑂄𑂅𑂆𑂇𑂈𑂉𑂊𑂋𑂌𑂍𑂎𑂏𑂐𑂑𑂒𑂓𑂔𑂕𑂖𑂗𑂘𑂙𑂚𑂛𑂜𑂝𑂞𑂟𑂠𑂡𑂢𑂣𑂤𑂥𑂦𑂧𑂨𑂩𑂪𑂫𑂬𑂭𑂮𑂯𑂰𑂱𑂲𑂳𑂴𑂵𑂶𑂷𑂸𑂺𑂹𑂻𑂼𑂽𑂾𑂿𑃀𑃁𑃂𑃃𑃄𑃅𑃆𑃇𑃈𑃉𑃊𑃋𑃌𑃍𑃎𑃏𑃐𑃑𑃒𑃓𑃔𑃕𑃖𑃗𑃘𑃙𑃚𑃛𑃜𑃝𑃞𑃟𑃠𑃡𑃢𑃣𑃤𑃥𑃦𑃧𑃨𑃩𑃪𑃫𑃬𑃭𑃮𑃯𑃰𑃱𑃲𑃳𑃴𑃵𑃶𑃷𑃸𑃹𑃺𑃻𑃼𑃽𑃾𑃿𑄀𑄁𑄂𑄃𑄄𑄅𑄆𑄇𑄈𑄉𑄊𑄋𑄌𑄍𑄎𑄏𑄐𑄑𑄒𑄓𑄔𑄕𑄖𑄗𑄘𑄙𑄚𑄛𑄜𑄝𑄞𑄟𑄠𑄡𑄢𑄣𑄤𑄥𑄦𑄧𑄨𑄩𑄪𑄫𑄬𑄭𑄮𑄯𑄰𑄱𑄲𑄳𑄴𑄵𑄶𑄷𑄸𑄹𑄺𑄻𑄼𑄽𑄾𑄿𑅀𑅁𑅂𑅃𑅄𑅅𑅆𑅇𑅈𑅉𑅊𑅋𑅌𑅍𑅎𑅏𑅐𑅑𑅒𑅓𑅔𑅕𑅖𑅗𑅘𑅙𑅚𑅛𑅜𑅝𑅞𑅟𑅠𑅡𑅢𑅣𑅤𑅥𑅦𑅧𑅨𑅩𑅪𑅫𑅬𑅭𑅮𑅯𑅰𑅱𑅲𑅳𑅴𑅵𑅶𑅷𑅸𑅹𑅺𑅻𑅼𑅽𑅾𑅿𑆀𑆁𑆂𑆃𑆄𑆅𑆆𑆇𑆈𑆉𑆊𑆋𑆌𑆍𑆎𑆏𑆐𑆑𑆒𑆓𑆔𑆕𑆖𑆗𑆘𑆙𑆚𑆛𑆜𑆝𑆞𑆟𑆠𑆡𑆢𑆣𑆤𑆥𑆦𑆧𑆨𑆩𑆪𑆫𑆬𑆭𑆮𑆯𑆰𑆱𑆲𑆳𑆴𑆵𑆶𑆷𑆸𑆹𑆺𑆻𑆼𑆽𑆾𑆿𑇀𑇁𑇂𑇃𑇄𑇅𑇆𑇇𑇈𑇉𑇊𑇋𑇌𑇍𑇎𑇏𑇐𑇑𑇒𑇓𑇔𑇕𑇖𑇗𑇘𑇙𑇚𑇛𑇜𑇝𑇞𑇟𑇠𑇡𑇢𑇣𑇤𑇥𑇦𑇧𑇨𑇩𑇪𑇫𑇬𑇭𑇮𑇯𑇰𑇱𑇲𑇳𑇴𑇵𑇶𑇷𑇸𑇹𑇺𑇻𑇼𑇽𑇾𑇿𑈀𑈁𑈂𑈃𑈄𑈅𑈆𑈇𑈈𑈉𑈊𑈋𑈌𑈍𑈎𑈏𑈐𑈑𑈒𑈓𑈔𑈕𑈖𑈗𑈘𑈙𑈚𑈛𑈜𑈝𑈞𑈟𑈠𑈡𑈢𑈣𑈤𑈥𑈦𑈧𑈨𑈩𑈪𑈫𑈬𑈭𑈮𑈯𑈰𑈱𑈲𑈳𑈴𑈶𑈵𑈷𑈸𑈹𑈺𑈻𑈼𑈽𑈾𑈿𑉀𑉁𑉂𑉃𑉄𑉅𑉆𑉇𑉈𑉉𑉊𑉋𑉌𑉍𑉎𑉏𑉐𑉑𑉒𑉓𑉔𑉕𑉖𑉗𑉘𑉙𑉚𑉛𑉜𑉝𑉞𑉟𑉠𑉡𑉢𑉣𑉤𑉥𑉦𑉧𑉨𑉩𑉪𑉫𑉬𑉭𑉮𑉯𑉰𑉱𑉲𑉳𑉴𑉵𑉶𑉷𑉸𑉹𑉺𑉻𑉼𑉽𑉾𑉿𑊀𑊁𑊂𑊃𑊄𑊅𑊆𑊇𑊈𑊉𑊊𑊋𑊌𑊍𑊎𑊏𑊐𑊑𑊒𑊓𑊔𑊕𑊖𑊗𑊘𑊙𑊚𑊛𑊜𑊝𑊞𑊟𑊠𑊡𑊢𑊣𑊤𑊥𑊦𑊧𑊨𑊩𑊪𑊫𑊬𑊭𑊮𑊯𑊰𑊱𑊲𑊳𑊴𑊵𑊶𑊷𑊸𑊹𑊺𑊻𑊼𑊽𑊾𑊿𑋀𑋁𑋂𑋃𑋄𑋅𑋆𑋇𑋈𑋉𑋊𑋋𑋌𑋍𑋎𑋏𑋐𑋑𑋒𑋓𑋔𑋕𑋖𑋗𑋘𑋙𑋚𑋛𑋜𑋝𑋞𑋟𑋠𑋡𑋢𑋣𑋤𑋥𑋦𑋧𑋨𑋩𑋪𑋫𑋬𑋭𑋮𑋯𑋰𑋱𑋲𑋳𑋴𑋵𑋶𑋷𑋸𑋹𑋺𑋻𑋼𑋽𑋾𑋿𑌀𑌁𑌂𑌃𑌄𑌅𑌆𑌇𑌈𑌉𑌊𑌋𑌌𑌍𑌎𑌏𑌐𑌑𑌒𑌓𑌔𑌕𑌖𑌗𑌘𑌙𑌚𑌛𑌜𑌝𑌞𑌟𑌠𑌡𑌢𑌣𑌤𑌥𑌦𑌧𑌨𑌩𑌪𑌫𑌬𑌭𑌮𑌯𑌰𑌱𑌲𑌳𑌴𑌵𑌶𑌷𑌸𑌹𑌺𑌻𑌼𑌽𑌾𑌿𑍀𑍁𑍂𑍃𑍄𑍅𑍆𑍇𑍈𑍉𑍊𑍋𑍌𑍍𑍎𑍏𑍐𑍑𑍒𑍓𑍔𑍕𑍖𑍗𑍘𑍙𑍚𑍛𑍜𑍝𑍞𑍟𑍠𑍡𑍢𑍣𑍤𑍥𑍦𑍧𑍨𑍩𑍪𑍫𑍬𑍭𑍮𑍯𑍰𑍱𑍲𑍳𑍴𑍵𑍶𑍷𑍸𑍹𑍺𑍻𑍼𑍽𑍾𑍿𑎀𑎁𑎂𑎃𑎄𑎅𑎆𑎇𑎈𑎉𑎊𑎋𑎌𑎍𑎎𑎏𑎐𑎑𑎒𑎓𑎔𑎕𑎖𑎗𑎘𑎙𑎚𑎛𑎜𑎝𑎞𑎟𑎠𑎡𑎢𑎣𑎤𑎥𑎦𑎧𑎨𑎩𑎪𑎫𑎬𑎭𑎮𑎯𑎰𑎱𑎲𑎳𑎴𑎵𑎶𑎷𑎸𑎹𑎺𑎻𑎼𑎽𑎾𑎿𑏀𑏁𑏂𑏃𑏄𑏅𑏆𑏇𑏈𑏉𑏊𑏋𑏌𑏍𑏎𑏏𑏐𑏑𑏒𑏓𑏔𑏕𑏖𑏗𑏘𑏙𑏚𑏛𑏜𑏝𑏞𑏟𑏠𑏡𑏢𑏣𑏤𑏥𑏦𑏧𑏨𑏩𑏪𑏫𑏬𑏭𑏮𑏯𑏰𑏱𑏲𑏳𑏴𑏵𑏶𑏷𑏸𑏹𑏺𑏻𑏼𑏽𑏾𑏿𑐀𑐁𑐂𑐃𑐄𑐅𑐆𑐇𑐈𑐉𑐊𑐋𑐌𑐍𑐎𑐏𑐐𑐑𑐒𑐓𑐔𑐕𑐖𑐗𑐘𑐙𑐚𑐛𑐜𑐝𑐞𑐟𑐠𑐡𑐢𑐣𑐤𑐥𑐦𑐧𑐨𑐩𑐪𑐫𑐬𑐭𑐮𑐯𑐰𑐱𑐲𑐳𑐴𑐵𑐶𑐷𑐸𑐹𑐺𑐻𑐼𑐽𑐾𑐿𑑀𑑁𑑂𑑃𑑄𑑅𑑆𑑇𑑈𑑉𑑊𑑋𑑌𑑍𑑎𑑏𑑐𑑑𑑒𑑓𑑔𑑕𑑖𑑗𑑘𑑙𑑚𑑛𑑜𑑝𑑞𑑟𑑠𑑡𑑢𑑣𑑤𑑥𑑦𑑧𑑨𑑩𑑪𑑫𑑬𑑭𑑮𑑯𑑰𑑱𑑲𑑳𑑴𑑵𑑶𑑷𑑸𑑹𑑺𑑻𑑼𑑽𑑾𑑿𑒀𑒁𑒂𑒃𑒄𑒅𑒆𑒇𑒈𑒉𑒊𑒋𑒌𑒍𑒎𑒏𑒐𑒑𑒒𑒓𑒔𑒕𑒖𑒗𑒘𑒙𑒚𑒛𑒜𑒝𑒞𑒟𑒠𑒡𑒢𑒣𑒤𑒥𑒦𑒧𑒨𑒩𑒪𑒫𑒬𑒭𑒮𑒯𑒰𑒱𑒲𑒳𑒴𑒵𑒶𑒷𑒸𑒻𑒻𑒼𑒽𑒾𑒿𑓀𑓁𑓃𑓂𑓄𑓅𑓆𑓇𑓈𑓉𑓊𑓋𑓌𑓍𑓎𑓏𑓐𑓑𑓒𑓓𑓔𑓕𑓖𑓗𑓘𑓙𑓚𑓛𑓜𑓝𑓞𑓟𑓠𑓡𑓢𑓣𑓤𑓥𑓦𑓧𑓨𑓩𑓪𑓫𑓬𑓭𑓮𑓯𑓰𑓱𑓲𑓳𑓴𑓵𑓶𑓷𑓸𑓹𑓺𑓻𑓼𑓽𑓾𑓿𑔀𑔁𑔂𑔃𑔄𑔅𑔆𑔇𑔈𑔉𑔊𑔋𑔌𑔍𑔎𑔏𑔐𑔑𑔒𑔓𑔔𑔕𑔖𑔗𑔘𑔙𑔚𑔛𑔜𑔝𑔞𑔟𑔠𑔡𑔢𑔣𑔤𑔥𑔦𑔧𑔨𑔩𑔪𑔫𑔬𑔭𑔮𑔯𑔰𑔱𑔲𑔳𑔴𑔵𑔶𑔷𑔸𑔹𑔺𑔻𑔼𑔽𑔾𑔿𑕀𑕁𑕂𑕃𑕄𑕅𑕆𑕇𑕈𑕉𑕊𑕋𑕌𑕍𑕎𑕏𑕐𑕑𑕒𑕓𑕔𑕕𑕖𑕗𑕘𑕙𑕚𑕛𑕜𑕝𑕞𑕟𑕠𑕡𑕢𑕣𑕤𑕥𑕦𑕧𑕨𑕩𑕪𑕫𑕬𑕭𑕮𑕯𑕰𑕱𑕲𑕳𑕴𑕵𑕶𑕷𑕸𑕹𑕺𑕻𑕼𑕽𑕾𑕿𑖀𑖁𑖂𑖃𑖄𑖅𑖆𑖇𑖈𑖉𑖊𑖋𑖌𑖍𑖎𑖏𑖐𑖑𑖒𑖓𑖔𑖕𑖖𑖗𑖘𑖙𑖚𑖛𑖜𑖝𑖞𑖟𑖠𑖡𑖢𑖣𑖤𑖥𑖦𑖧𑖨𑖩𑖪𑖫𑖬𑖭𑖮𑖯𑖰𑖱𑖲𑖳𑖴𑖵𑖶𑖷𑖸𑖹𑖺𑖻𑖼𑖽𑖾𑗀𑖿𑗁𑗂𑗃𑗄𑗅𑗆𑗇𑗈𑗉𑗊𑗋𑗌𑗍𑗎𑗏𑗐𑗑𑗒𑗓𑗔𑗕𑗖𑗗𑗘𑗙𑗚𑗛𑗜𑗝𑗞𑗟𑗠𑗡𑗢𑗣𑗤𑗥𑗦𑗧𑗨𑗩𑗪𑗫𑗬𑗭𑗮𑗯𑗰𑗱𑗲𑗳𑗴𑗵𑗶𑗷𑗸𑗹𑗺𑗻𑗼𑗽𑗾𑗿𑘀𑘁𑘂𑘃𑘄𑘅𑘆𑘇𑘈𑘉𑘊𑘋𑘌𑘍𑘎𑘏𑘐𑘑𑘒𑘓𑘔𑘕𑘖𑘗𑘘𑘙𑘚𑘛𑘜𑘝𑘞𑘟𑘠𑘡𑘢𑘣𑘤𑘥𑘦𑘧𑘨𑘩𑘪𑘫𑘬𑘭𑘮𑘯𑘰𑘱𑘲𑘳𑘴𑘵𑘶𑘷𑘸𑘹𑘺𑘻𑘼𑘽𑘾𑘿𑙀𑙁𑙂𑙃𑙄𑙅𑙆𑙇𑙈𑙉𑙊𑙋𑙌𑙍𑙎𑙏𑙐𑙑𑙒𑙓𑙔𑙕𑙖𑙗𑙘𑙙𑙚𑙛𑙜𑙝𑙞𑙟𑙠𑙡𑙢𑙣𑙤𑙥𑙦𑙧𑙨𑙩𑙪𑙫𑙬𑙭𑙮𑙯𑙰𑙱𑙲𑙳𑙴𑙵𑙶𑙷𑙸𑙹𑙺𑙻𑙼𑙽𑙾𑙿𑚀𑚁𑚂𑚃𑚄𑚅𑚆𑚇𑚈𑚉𑚊𑚋𑚌𑚍𑚎𑚏𑚐𑚑𑚒𑚓𑚔𑚕𑚖𑚗𑚘𑚙𑚚𑚛𑚜𑚝𑚞𑚟𑚠𑚡𑚢𑚣𑚤𑚥𑚦𑚧𑚨𑚩𑚪𑚫𑚬𑚭𑚮𑚯𑚰𑚱𑚲𑚳𑚴𑚵𑚷𑚶𑚸𑚹𑚺𑚻𑚼𑚽𑚾𑚿𑛀𑛁𑛂𑛃𑛄𑛅𑛆𑛇𑛈𑛉𑛊𑛋𑛌𑛍𑛎𑛏𑛐𑛑𑛒𑛓𑛔𑛕𑛖𑛗𑛘𑛙𑛚𑛛𑛜𑛝𑛞𑛟𑛠𑛡𑛢𑛣𑛤𑛥𑛦𑛧𑛨𑛩𑛪𑛫𑛬𑛭𑛮𑛯𑛰𑛱𑛲𑛳𑛴𑛵𑛶𑛷𑛸𑛹𑛺𑛻𑛼𑛽𑛾𑛿𑜀𑜁𑜂𑜃𑜄𑜅𑜆𑜇𑜈𑜉𑜊𑜋𑜌𑜍𑜎𑜏𑜐𑜑𑜒𑜓𑜔𑜕𑜖𑜗𑜘𑜙𑜚𑜛𑜜𑜝𑜞𑜟𑜠𑜡𑜢𑜣𑜤𑜥𑜦𑜧𑜨𑜩𑜪𑜫𑜬𑜭𑜮𑜯𑜰𑜱𑜲𑜳𑜴𑜵𑜶𑜷𑜸𑜹𑜺𑜻𑜼𑜽𑜾𑜿𑝀𑝁𑝂𑝃𑝄𑝅𑝆𑝇𑝈𑝉𑝊𑝋𑝌𑝍𑝎𑝏𑝐𑝑𑝒𑝓𑝔𑝕𑝖𑝗𑝘𑝙𑝚𑝛𑝜𑝝𑝞𑝟𑝠𑝡𑝢𑝣𑝤𑝥𑝦𑝧𑝨𑝩𑝪𑝫𑝬𑝭𑝮𑝯𑝰𑝱𑝲𑝳𑝴𑝵𑝶𑝷𑝸𑝹𑝺𑝻𑝼𑝽𑝾𑝿𑞀𑞁𑞂𑞃𑞄𑞅𑞆𑞇𑞈𑞉𑞊𑞋𑞌𑞍𑞎𑞏𑞐𑞑𑞒𑞓𑞔𑞕𑞖𑞗𑞘𑞙𑞚𑞛𑞜𑞝𑞞𑞟𑞠𑞡𑞢𑞣𑞤𑞥𑞦𑞧𑞨𑞩𑞪𑞫𑞬𑞭𑞮𑞯𑞰𑞱𑞲𑞳𑞴𑞵𑞶𑞷𑞸𑞹𑞺𑞻𑞼𑞽𑞾𑞿𑟀𑟁𑟂𑟃𑟄𑟅𑟆𑟇𑟈𑟉𑟊𑟋𑟌𑟍𑟎𑟏𑟐𑟑𑟒𑟓𑟔𑟕𑟖𑟗𑟘𑟙𑟚𑟛𑟜𑟝𑟞𑟟𑟠𑟡𑟢𑟣𑟤𑟥𑟦𑟧𑟨𑟩𑟪𑟫𑟬𑟭𑟮𑟯𑟰𑟱𑟲𑟳𑟴𑟵𑟶𑟷𑟸𑟹𑟺𑟻𑟼𑟽𑟾𑟿𑠀𑠁𑠂𑠃𑠄𑠅𑠆𑠇𑠈𑠉𑠊𑠋𑠌𑠍𑠎𑠏𑠐𑠑𑠒𑠓𑠔𑠕𑠖𑠗𑠘𑠙𑠚𑠛𑠜𑠝𑠞𑠟𑠠𑠡𑠢𑠣𑠤𑠥𑠦𑠧𑠨𑠩𑠪𑠫𑠬𑠭𑠮𑠯𑠰𑠱𑠲𑠳𑠴𑠵𑠶𑠷𑠸𑠺𑠹𑠻𑠼𑠽𑠾𑠿𑡀𑡁𑡂𑡃𑡄𑡅𑡆𑡇𑡈𑡉𑡊𑡋𑡌𑡍𑡎𑡏𑡐𑡑𑡒𑡓𑡔𑡕𑡖𑡗𑡘𑡙𑡚𑡛𑡜𑡝𑡞𑡟𑡠𑡡𑡢𑡣𑡤𑡥𑡦𑡧𑡨𑡩𑡪𑡫𑡬𑡭𑡮𑡯𑡰𑡱𑡲𑡳𑡴𑡵𑡶𑡷𑡸𑡹𑡺𑡻𑡼𑡽𑡾𑡿

Vowels

The vowels and their arrangement are:[41]

	Independent form	IAST	ISO	As diacritic with प		Independent form	IAST	ISO	As diacritic with प
<i>kaṇṭhya</i> (Guttural)	अ	a		प		आ	ā		पा
<i>tālavya</i> (Palatal)	इ	i		पि		ई	ī		पी
<i>oṣṭhya</i> (Labial)	उ	u		पु		ऊ	ū		पू
<i>mūrdhanya</i> (Retroflex)	ऋ	r̥	r̄	पृ		ॠ ⁴	r̄̇	r̄̄	पृ
<i>dantya</i> (Dental)	ॠ ⁴	l̥	l̄	प्ल		ॡ ^{4, 5}	l̄̇	l̄̄	प्ल
<i>kaṇṭhātālavya</i> (Palatoguttural)	ए	e	ē	पे		ऐ	ai		पै
<i>kaṇṭhoṣṭhya</i> (Labio-guttural)	ओ	o	ō	पो		औ	au		पौ
	अं ¹	aṁ	aṁ	पं		अः ¹	aḥ		पः
	अँ / ऐँ ⁷		ê	पँ		ऑ ⁷		ô	पॉ

1. Arranged with the vowels are two consonantal diacritics, the final nasal *anusvāra* ं *m* and the final fricative *visarga* ः *h* (called अं *aṁ* and अः *aḥ*). Masica (1991:146) notes of the *anusvāra* in Sanskrit that "there is some controversy as to whether it represents a homorganic nasal stop [...], a nasalised vowel, a nasalised semivowel, or all these according to context". The *visarga* represents post-vocalic voiceless glottal fricative [h], in Sanskrit an allophone of s, or less commonly r, usually in word-final position. Some traditions of recitation add an echo of the vowel after the breath:[42] इः [iḥi]. Masica (1991:146) considers the *visarga* along with letters ङ *ṅa* and ञ *ṇa* for the "largely predictable" velar and palatal nasals to be examples of "phonetic overkill in the system".

2. Another diacritic is the *candrabindulanunāsika* ँँ. Salomon (2003:76–77) describes it as a "more emphatic form" of the *anusvāra*, "sometimes [...] used to mark a true [vowel] nasalization". In a New Indo-Aryan language such as Hindi the distinction is formal: the *candrabindu* indicates vowel nasalisation^[43] while the *anusvār* indicates a homorganic nasal preceding another consonant.^[44] e.g. हँसी [h̃əs̪i] "laughter", गंगा [gəŋgə] "the Ganges". When an *akshara* has a vowel diacritic above the top line, that leaves no room for the *candra* ("moon") stroke *candrabindu*, which is dispensed with in favour of the lone dot:^[45] हूँ [h̃u] "am", but हैं [h̃ɛ] "are". Some writers and typesetters dispense with the "moon" stroke altogether, using only the dot in all situations.^[46]

3. The *avagraha* ऽ अऽ (usually transliterated with an apostrophe) is a Sanskrit punctuation mark for the elision of a vowel in sandhi: एकोऽयम् *eko'yam* (← एकस् *ekas* + अयम् *ayam*) "this one". An original long vowel

lost to coalescence is sometimes marked with a double *avagraha*: सदाऽऽत्मा *sadā'tmā* (← सदा *sadā* + आत्मा *ātmā*) "always, the self".^[47] In Hindi, Snell (2000:77) states that its "main function is to show that a vowel is sustained in a cry or a shout": आईऽऽऽऽ! *āī!*. In Madhyadeshi Languages like Bhojpuri, Awadhi, Maithili, etc. which have "quite a number of verbal forms [that] end in that inherent vowel",^[48] the *avagraha* is used to mark the non-elision of word-final inherent a, which otherwise is a modern orthographic convention: बइठऽ *baiṭha* "sit" versus बइठ *baiṭh*

4. The syllabic vowels ऀ (ऋ), ँ (ॠ) and ऌ (ॡ) are specific to Sanskrit and not included in the *varṇamālā* of other languages. The sound represented by *r̥* has also been lost in the modern languages, and its pronunciation now ranges from [rɪ] (Hindi) to [ru] (Marathi).

5. *ī̇* is not an actual phoneme of Sanskrit, but rather a graphic convention included among the vowels in order to maintain the symmetry of short–long pairs of letters.^[49]

6. There are non-regular formations of रु *ru* and रू *rū*.

7. There are two more vowels in Marathi as well as Konkani, अँ and औँ, that respectively represent [æ], similar to the RP English pronunciation of <a> in 'act', and [ɒ], similar to the RP pronunciation of <o> in 'cot'. These vowels are sometimes used in Hindi too, as in डॉलर *dōlar*, "dollar".^[49] IAST transliteration is not defined. In ISO 15919, the transliteration is ê and ô, respectively.



Examples of Devanagari manuscripts created between 13th- and 19th-centuries

Consonants

The table below shows the consonant letters (in combination with inherent vowel a) and their arrangement. To the right of the Devanagari letter it shows the Latin script transliteration using International Alphabet of Sanskrit Transliteration,^[50] and the phonetic value (IPA) in Hindi.^{[51][52]}

Phonetics →	sparśa (Plosive)								anunāsika (Nasal)		antastha (Approximant)		ūṣman/saṃgharṣī (Fricative)			
Voicing →	aghoṣa				saghoṣa								aghoṣa		saghoṣa	
Aspiration →	alpaprāṇa		mahāprāṇa		alpaprāṇa		mahāprāṇa		alpaprāṇa				mahāprāṇa			
kaṇṭhya (Guttural)	क	ka [k]	ख	kha [kʰ]	ग	ga [g]	घ	gha [gʱ]	ङ	ṅa [ŋ]					ह	ha [ɦ]
tālavya (Palatal)	च	ca [tʃ]	छ	cha [tʃʰ]	ज	ja [dʒ]	झ	jha [dʒʱ]~[dʒʰ]	ञ	ña [ɟ]	य	ya [j]	श	śa [ʃ]		
mūrdhanya (Retroflex)	ट	ṭa [ʈ]	ठ	ṭha [ʈʰ]	ड	ḍa [ɖ]	ढ	ḍha [ɖʱ]	ण	ṇa [ɳ]	र	ra [r]	ष	ṣa [ʂ]		
dantya (Dental)	त	ta [t̪]	थ	tha [t̪ʰ]	द	da [d̪]	ध	dha [d̪ʱ]	न	na [n]	ल	la [l]	स	sa [s]		
oṣṭhya (Labial)	प	pa [p]	फ	pha [pʰ]	ब	ba [b]	भ	bha [bʱ]	म	ma [m]	व	va [ʋ]				

- Additionally, there is ऌ /a/ (IPA: [ɪ] or [ʏ]), the intervocalic lateral flap allophone of the voiced retroflex stop in Vedic Sanskrit, which is a phoneme in languages such as Marathi, Konkani, Garhwali, and Rajasthan.^[53]
- Beyond the Sanskritic set, new shapes have rarely been formulated. Masica (1991:146) offers the following, "In any case, according to some, all possible sounds had already been described and provided for in this system, as Sanskrit was the original and perfect language. Hence it was difficult to provide for or even to conceive *other* sounds, unknown to the phoneticians of Sanskrit". Where foreign borrowings and internal developments did inevitably accrue and arise in New Indo-Aryan languages, they have been ignored in writing, or dealt through means such as diacritics and ligatures (ignored in recitation).
 - The most prolific diacritic has been the subscript dot (*nuqtā*) ्. Hindi uses it for the Persian, Arabic and English sounds क़ qa /q/, ख़ xa /x/, ग़ ga /ɣ/, ज़ za /z/, झ़ zha /ʒ/, and फ़ fa /f/, and for the allophonic developments ड़ ṛa /ɽ/ and ढ़ ṛha /ɽʰ/. (Although ळ ḷa /lʱə/ could also exist, it is not used in Hindi.)
 - Sindhi's and Saraiki's implosives are accommodated with a line attached below: ग़ [ɽə], ज़ [ʒə], ड़ [ɖə], ब़ [bə].
 - Aspirated sonorants may be represented as conjuncts/ligatures with ह ha: म्ह mha, न्ह nha, प्ह pha, व्ह vha, ल्ह lha, ळ्ह ḷha, र्ह rha.
 - Masica (1991:147) notes Marwari as using र for ḍa [ɖə] (while ढ represents [ɖə]).

For a list of the 297 (33×9) possible Sanskrit consonant-(short) vowel syllables see Āryabhaṭa numeration.

Vowel diacritics



Vowel diacritics on क

Table: Consonants with vowel diacritics. Vowels in their independent form on the left and in their corresponding dependent form (vowel sign) combined with the consonant 'k' on the right. 'ka' is without any added vowel sign, where the vowel 'a' is inherent. ISO 15919^[54] transliteration is on the top two rows.

ISO	a		ā		æ		ṛ		i		ī		u		ū		e		ē		ai		o		ō		au		ṛ	
	a	ka	ā	kā	æ	kæ	ṛ	kṛ	i	ki	ī	kī	u	ku	ū	kū	e	ke	ē	kē	ai	kai	o	ko	ō	kō	au	kau	ṛ	
Devanagari	अ	क	आ	का	अै	कै	ऑ	कौ	इ	कि	ई	की	उ	कु	ऊ	कू	ऐ	के	ए	के	ऐ	कै	ओ	को	औ	को	औ	कौ	ऋ	

A vowel combines with a consonant in their diacritic form. For example, the vowel आ (ā) combines with the consonant क् (k) to form the syllabic letter का (kā), with haland removed and added vowel sign which is indicated by diacritics. The vowel अ (a) combines with the consonant क् (k) to form क (ka) with haland removed. But, the diacritic series of क, ख, ग, घ ... (ka, kha, ga, gha) is without any added vowel sign, as the vowel अ (a) is inherent.

Conjunct consonants

As mentioned, successive consonants lacking a vowel in between them may physically join together as a conjunct consonant or ligature. When Devanagari is used for writing languages other than Sanskrit, conjuncts are used mostly with Sanskrit words and loan words. Native words typically use the basic consonant and native speakers know to suppress the vowel when it is conventional to do so. For example, the native Hindi word *karnā* is written करना (ka-ra-nā).^[55] The government of these clusters ranges from widely to narrowly applicable rules, with special exceptions within. While standardised for the most part, there are certain variations in clustering, of which the Unicode used on this page is just one scheme. The following are a number of rules:

- 24 out of the 36 consonants contain a vertical right stroke (ख kha, घ gha, ण ṇa etc.). As first or middle fragments/members of a cluster, they lose that stroke. e.g. त + व = त्व tva, ण + ढ = णढ ṇḍha, स + थ = स्थ stha. In Unicode, as in Hindi, these consonants without their vertical stems are called half forms.^[56] श ś(a) appears as a different, simple ribbon-shaped fragment preceding व va, न na, च ca, ल la, and र ra, causing these second members to be shifted down and reduced in size. Thus श्व śva, श्न śna, श्च śca श्ल śla, and श्र śra.
- र r(a) as a first member takes the form of a curved upward dash above the final character or its ā-diacritic. e.g. र्व rva, र्वा rvā, र्ष rṣa, र्षा rṣā. As a final member with ट ṭa, ठ ṭha, ड ḍa, ढ ḍha, ड़ ṛa, छ cha, it is two lines together below the character pointed downwards. Thus ट्र tra, ठ्र ṭhra, ड्र ḍra

dra, द्र *dhra*, ड्र *ra*, छ्र *chra*. Elsewhere as a final member it is a diagonal stroke extending leftwards and down. e.g. क्र ग्र भ्र ब्र. त *ta* is shifted up to make the conjunct त्र *ta*.

- As first members, remaining characters lacking vertical strokes such as द *d(a)* and ह *h(a)* may have their second member, reduced in size and lacking its horizontal stroke, placed underneath. क *k(a)*, छ *ch(a)*, and फ *ph(a)* shorten their right hooks and join them directly to the following member.
- The conjuncts for *kṣ* and *jñ* are not clearly derived from the letters making up their components. The conjunct for *kṣ* is क्ष (क् + ष) and for *jñ* it is ज्ञ (ज् + ञ).

Accent marks

The pitch accent of Vedic Sanskrit is written with various symbols depending on shakha. In the Rigveda, *anudātta* is written with a bar below the line (◡), *svarita* with a stroke above the line (◌̣) while *udātta* is unmarked.

Punctuation

The end of a sentence or half-verse may be marked with the "।" symbol (called a *danḍa*, meaning "bar", or called a *pūrṇa virām*, meaning "full stop/pause"). The end of a full verse may be marked with a double-*danḍa*, a "।।" symbol. A comma (called an *alpa virām*, meaning "short stop/pause") is used to denote a natural pause in speech.^{[57][58]} Punctuation marks of Western origin, such as the colon, semi-colon, exclamation mark, dash, and question mark are in use in Devanagari script since at least the 1900s, matching their use in European languages.^[59]

Old forms

The following letter variants are also in use, particularly in older texts.^[62]

Letter variants	
standard	ancient
अ	𑀅
इ	𑀆
ण	𑀇
ल	𑀈

Numerals

Devanagari digits									
०	१	२	३	४	५	६	७	८	९
0	1	2	3	4	5	6	7	8	9

Fonts

A variety of Unicode fonts are in use for Devanagari. These include Akshar,^[63] Annapurna,^[64] Arial,^[65] CDAC-Gist Surekh,^[66] CDAC-Gist Yogesh,^[67] Chandas,^[68] Gargi,^[69] Gurumaa,^[70] Jaipur,^[71] Jana,^[72] Kalimati,^[73] Kanjirowa,^[74] Lohit Devanagari, Mangal,^[75] Kokila,^[76] Raghu,^[77] Sanskrit2003,^[78] Santipur OT,^[79] Siddhanta, and Thyaka.^[80]

The form of Devanagari fonts vary with function. According to Harvard College for Sanskrit studies:^[79]

Uttara [companion to Chandas] is the best in terms of ligatures but, because it is designed for Vedic as well, requires so much vertical space that it is not well suited for the "user interface font" (though an excellent choice for the "original field" font). Santipur OT is a beautiful font reflecting a very early [medieval era] typesetting style for Devanagari. Sanskrit 2003^[81] is a good all-around font and has more ligatures than most fonts, though students will probably find the spacing of the CDAC-Gist Surekh^[66] font makes for quicker comprehension and reading.

The Google Fonts project has a number of Unicode fonts for Devanagari in a variety of typefaces in serif, sans-serif, display and handwriting categories.

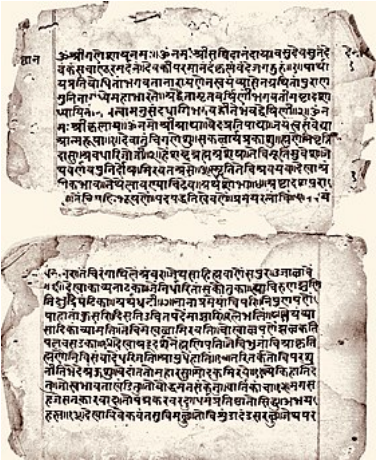
Transliteration

There are several methods of Romanisation or transliteration from Devanagari to the Roman script.^[82]

Hunterian system

The Hunterian system is the "national system of romanisation in India" and the one officially adopted by the Government of India.^{[83][84][85]}

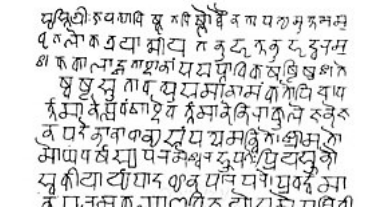
ISO 15919



The Jñanesvari is a commentary on the Bhagavad Gita, dated to 1290 CE. It is in written in Marathi using Devanagari script.



A few palm leaves from the Buddhist Sanskrit text Shisyalekha composed in the 5th century by Candragomin. Shisyalekha was written in Devanagari script by a Nepalese scribe in 1084 CE (above). The manuscript is in the Cambridge University library.^[60]



A mid 10th-century college land grant in Devanagari inscription (Sanskrit) discovered on a buried, damaged stone in north Karnataka. Parts of the inscription are in Canarese script.^[61]

A standard transliteration convention was codified in the ISO 15919 standard of 2001. It uses diacritics to map the much larger set of Brahmic graphemes to the Latin script. The Devanagari-specific portion is nearly identical to the academic standard for Sanskrit, [IAST](#).^[86]

IAST

The [International Alphabet of Sanskrit Transliteration](#) (IAST) is the academic standard for the romanisation of Sanskrit. IAST is the de facto standard used in printed publications, like books, magazines, and electronic texts with Unicode fonts. It is based on a standard established by the *Congress of Orientalists* at [Athens](#) in 1912. The ISO 15919 standard of 2001 codified the transliteration convention to include an expanded standard for sister scripts of Devanagari.^[86]

The [National Library at Kolkata romanisation](#), intended for the romanisation of all Indic scripts, is an extension of IAST.

Harvard-Kyoto

Compared to IAST, [Harvard-Kyoto](#) looks much simpler. It does not contain all the diacritic marks that IAST contains. It was designed to simplify the task of putting large amount of Sanskrit textual material into machine readable form, and the inventors stated that it reduces the effort needed in transliteration of Sanskrit texts on the keyboard.^[87] This makes typing in Harvard-Kyoto much easier than IAST. Harvard-Kyoto uses [capital letters](#) that can be difficult to read in the middle of words.

ITRANS

[ITRANS](#) is a lossless transliteration scheme of Devanagari into [ASCII](#) that is widely used on [Usenet](#). It is an extension of the [Harvard-Kyoto](#) scheme. In ITRANS, the word *devanāgarī* is written "devanaagarii" or "devanAgarI". ITRANS is associated with an application of the same name that enables typesetting in [Indic scripts](#). The user inputs in Roman letters and the ITRANS pre-processor translates the Roman letters into Devanagari (or other Indic languages). The latest version of [ITRANS](#) is version 5.30 released in July, 2001. It is similar to Velthuis system and was created by Avinash Chopde to help print various Indic scripts with personal computers.^[87]

Velthuis

The disadvantage of the above [ASCII](#) schemes is case-sensitivity, implying that transliterated names may not be capitalised. This difficulty is avoided with the system developed in 1996 by Frans Velthuis for [TeX](#), loosely based on IAST, in which case is irrelevant.

ALA-LC Romanisation

ALA-LC^[88] romanisation is a transliteration scheme approved by the Library of Congress and the American Library Association, and widely used in North American libraries. Transliteration tables are based on languages, so there is a table for Hindi,^[89] one for Sanskrit and Prakrit,^[90] etc.

WX

WX is a Roman transliteration scheme for Indian languages, widely used among the [natural language processing](#) community in India. It originated at [IIT Kanpur](#) for computational processing of Indian languages. The salient features of this transliteration scheme are as follows.

- Every consonant and every vowel has a single mapping into Roman. Hence it is a [prefix code](#), advantageous from computation point of view.
- Lower-case letters are used for unaspirated consonants and short vowels, while capital letters are used for aspirated consonants and long vowels. While the retroflex stops are mapped to 't, T, d, D, N', the dentals are mapped to 'w, W, x, X, n'. Hence the name 'WX', a reminder of this idiosyncratic mapping.

Encodings

ISCII

[ISCII](#) is an 8-bit encoding. The lower 128 codepoints are plain [ASCII](#), the upper 128 codepoints are ISCII-specific.

It has been designed for representing not only Devanagari but also various other [Indic scripts](#) as well as a Latin-based script with diacritic marks used for transliteration of the Indic scripts.

ISCII has largely been superseded by Unicode, which has, however, attempted to preserve the ISCII layout for its Indic language blocks.

Unicode

The Unicode Standard defines three blocks for Devanagari: Devanagari (U+0900–U+097F), Devanagari Extended (U+A8E0–U+A8FF), and Vedic Extensions (U+1CD0–U+1CFF).

Bengali	ক + ি	→	কি
Devanagari	क + ि	→	कि
Gujarati	ક + િ	→	કિ
Gurmukhi	ਕ + ਿ	→	ਕਿ
Kannada	ಕ + ೆ	→	ಕಿ
Malayalam	ക + ി	→	കി
Oriya	କ + ି	→	କି
Tamil	க + ி	→	கி
Telugu	క + ి	→	కి

Indic scripts share common features, and along with Devanagari, all major Indic scripts have been historically used to preserve Vedic and post-Vedic Sanskrit texts.

Devanagari ^[1]																
Official Unicode Consortium code chart (https://www.unicode.org/charts/PDF/U0900.pdf) (PDF)																
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
U+090x	ै	ँ	ं	ः	ओ	अ	आ	इ	ई	उ	ऊ	ऋ	ॠ	एँ	ऐ	ए
U+091x	ऐ	ऑ	ओ	औ	क	ख	ग	घ	ङ	च	छ	ज	झ	ञ	ट	
U+092x	ठ	ड	ढ	ण	त	थ	द	ध	न	न	प	फ	ब	भ	म	य
U+093x	र	ॠ	ल	ळ	ॡ	व	श	ष	स	ह	ं	ी	ः	॒	ा	ि
U+094x	ी	ु	ॄ	ृ	॥	॥	॥	॥	॥	॥	॥	॥	॥	॥	॥	॥
U+095x	ॐ															
U+096x	ॠ	ॡ	ॢ	ॣ	।	॥	॥	॥	॥	॥	॥	॥	॥	॥	॥	॥
U+097x	॥	॥	॥	॥	॥	॥	॥	॥	॥	॥	॥	॥	॥	॥	॥	॥

Notes

1.^ As of Unicode version 13.0

Devanagari Extended ^[1]																
Official Unicode Consortium code chart (https://www.unicode.org/charts/PDF/UA8E0.pdf) (PDF)																
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
U+A8Ex	ॠ	ॡ	ॢ	ॣ	।	॥	॥	॥	॥	॥	॥	॥	॥	॥	॥	॥
U+A8Fx	॥	॥	॥	॥	॥	॥	॥	॥	॥	॥	॥	॥	॥	॥	॥	॥

Notes

1.^ As of Unicode version 13.0

Vedic Extensions ^{[1][2]}																
Official Unicode Consortium code chart (https://www.unicode.org/charts/PDF/U1CD0.pdf) (PDF)																
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
U+1CDx	ॠ	ॡ	ॢ	ॣ	।	॥	॥	॥	॥	॥	॥	॥	॥	॥	॥	॥
U+1CEx	ॠ	ॡ	ॢ	ॣ	।	॥	॥	॥	॥	॥	॥	॥	॥	॥	॥	॥
U+1CFx	ॠ	ॡ	ॢ	ॣ	।	॥	॥	॥	॥	॥	॥	॥	॥	॥	॥	॥

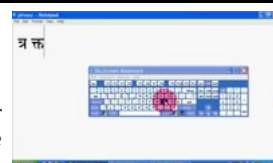
Notes

1.^ As of Unicode version 13.0
2.^ Grey areas indicate non-assigned code points

Devanagari keyboard layouts

InScript layout

InScript is the standard keyboard layout for Devanagari as standardized by the Government of India. It is inbuilt in all modern major operating systems. Microsoft Windows supports the InScript layout (using the Mangal font), which can be used to input unicode Devanagari characters. InScript is also available in some touchscreen mobile phones.



[Play media](#)



Devanagari INSCRIPT bilingual keyboard layout

Typewriter

This layout was used on manual typewriters when computers were not available or were uncommon. For backward compatibility some typing tools like Indic IME still provide this layout.

Phonetic

Such tools work on phonetic transliteration. The user writes in Roman and the IME automatically converts it into Devanagari. Some popular phonetic typing tools are Akruṭi, Baraha IME and Google IME.

The Mac OS X operating system includes two different keyboard layouts for Devanagari: one is much like INSCRIPT/KDE Linux, the other is a phonetic layout called "Devanagari QWERTY".

Any one of Unicode fonts input system is fine for Indic language Wikipedia and other wikiprojects, including Hindi, Bhojpuri, Marathi, Nepali Wikipedia. Some people use inscript. Majority uses either Google phonetic transliteration or input facility Universal Language Selector provided on Wikipedia. On Indic language wikiprojects Phonetic facility provided initially was java-based later supported by Narayam extension for phonetic input facility. Currently Indic language Wiki projects are supported by Universal Language Selector (ULS), that offers both phonetic keyboard (Aksharantaran, Marathi: अक्षरंतरण, Hindi: लिप्यंतरण, बोलनागरी) and InScript keyboard (Marathi: मराठी लिपी).

The Ubuntu Linux operating system supports several keyboard layouts for Devanagari, including Harvard-Kyoto, WX notation, Bolanagari and phonetic. The 'remington' typing method in Ubuntu IBUS is similar to the Krutidev typing method, popular in Rajasthan. The 'itrans' method is useful for those who know English well (and the English keyboard) but not familiar with typing in Devanagari.



Devanagari Phonetic Keyboard Layout



Play media

One can use ULS "अक्षरंतरण" (Transliteration) or "मराठी लिपी" (Inscript) typing options to search or edit Marathi Wikipedia articles as shown in this video clip; One can click on the 'cc' to change the subtitle languages to Marathi, English, Sanskrit, Konkani, Ahirani languages.

See also

- Languages of India
- Clip font
- Devanagari transliteration
- Devanagari Braille
- ISCII
- Nagari Pracharini Sabha
- Nepali
- Schwa deletion in Indo-Aryan languages
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