

*Introduction of*

# संस्कृत (Sanskrit)

*Romanized: Saṃskṛta*

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# SANSKRIT

- A language of ancient India with a 3,500-year history
- Primary sacred language of Hinduism
- Sanskrit is written in Bramhi, Gupta and Devanāgarī scripts. Most of the literature is written in Devanāgarī script.
- Devanāgarī is part of the Brahmic family of scripts of India, Nepal, Tibet, and Southeast Asia.

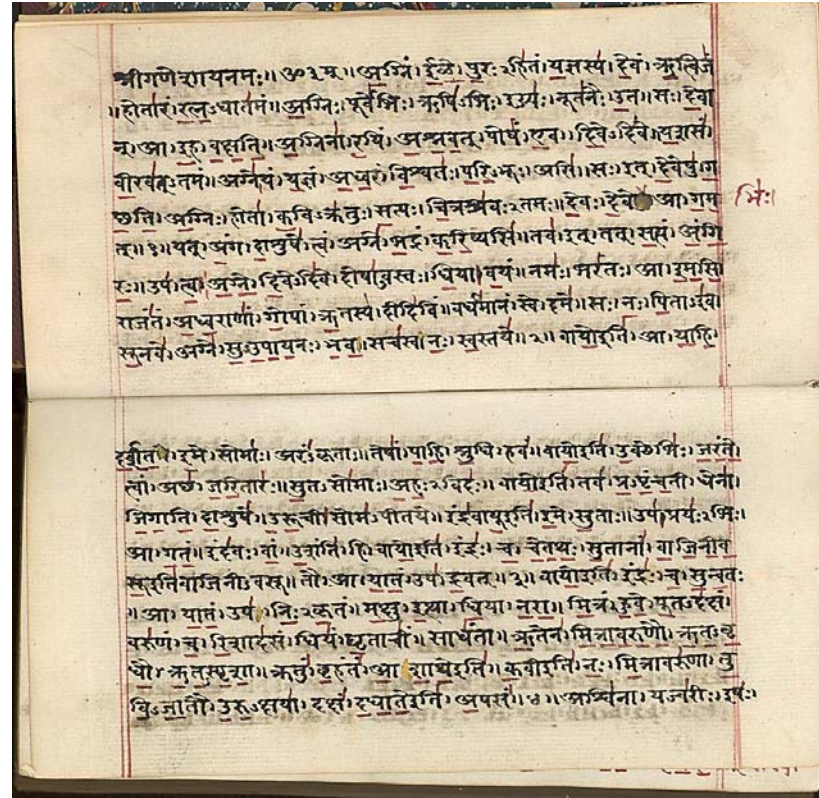


# DEVANĀGARĪ SCRIPT

- *Devanagari* is a compound of "deva" देव and "nāgarī" नागरी.
  - *Deva* means "heavenly or divine"
  - *Nagari* comes from नगर (*nagar*), which means abode or city.
  - Hence, *Devanagari* denotes *from the abode of divinity or deities*.
- Is written left-to-right
- Composed of 47 primary characters = 14 vowels + 33 consonants + 2 extra vowels (ॐ , ॐः) are only used in the Sanskrit
- Used for over 120 languages



# RIGVEDA MANUSCRIPT IN DEVANAGARI,



# EVOLUTION FROM BRAHMI TO GUPTA, AND TO DEVANAGARI

## consonants

	k-	kh-	g-	gh-	ñ-	c-	ch-	j-	jh-	ñ-	ṭ-	ṭh-	ḍ-	ḍh-	ṇ-	t-	th-	d-	dh-	n-	p-	ph-	b-	bh-	m-	y-	r-	l-	v-	ś-	ṣ-	s-	h-
<b>Brahmi</b>	𑀓	𑀘	𑀕	𑀖	𑀡	𑀣	𑀤	𑀦	𑀧	𑀨	𑀩	𑀪	𑀫	𑀬	𑀭	𑀮	𑀯	𑀰	𑀱	𑀲	𑀳	𑀴	𑀵	𑀶	𑀷	𑀸	𑀹	𑀺	𑀻	𑀼	𑀽	𑀾	𑀿
<b>Gupta</b>	𑀓	𑀘	𑀕	𑀖	𑀡	𑀣	𑀤	𑀦	𑀧	𑀨	𑀩	𑀪	𑀫	𑀬	𑀭	𑀮	𑀯	𑀰	𑀱	𑀲	𑀳	𑀴	𑀵	𑀶	𑀷	𑀸	𑀹	𑀺	𑀻	𑀼	𑀽	𑀾	𑀿
<b>Devanagari</b>	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	स	ह



# SANSKRIT VOWELS (16) IN THE DEVANAGARI SCRIPT

	Independent form	IAST/ ISO	Independent form	IAST/ ISO
<i>kaṇṭhya</i> (Guttural)	अ	<i>a</i>	आ	<i>ā</i>
<i>tālavya</i> (Palatal)	इ	<i>i</i>	ई	<i>ī</i>
<i>oṣṭhya</i> (Labial)	उ	<i>u</i>	ऊ	<i>ū</i>
<i>mūrdhanya</i> (Retroflex)	ऋ	<i>ṛ/ṛ̥</i>	ॠ	<i>ṝ/ṝ̥</i>
<i>dantya</i> (Dental)	ॡ	<i>ḷ/ḻ</i>	(ॢ)	<i>(ḹ)</i> <sup>[197]</sup>
<i>kaṇṭhatālavya</i> (Palatoguttural)	ए	<i>e/ē</i>	ऐ	<i>ai</i>
<i>kaṇṭhoṣṭhya</i> (Labiodental)	ओ	<i>o/ō</i>	औ	<i>au</i>
(consonantal allophones)	अं	<i>aṁ/aṁ</i> <sup>[198]</sup>	अः	<i>aḥ</i> <sup>[199]</sup>



# SANSKRIT CONSONANTS (33) IN THE DEVANAGARI SCRIPT

	sparśa (Plosive)												anunāsika (Nasal)			antastha (Approximant)			ūṣman/saṃgharṣhī (Fricative)		
Voicing →	aghoṣa						ghoṣa												aghoṣa		
Aspiration →	alpaprāṇa			mahāprāṇa			alpaprāṇa			mahāprāṇa			alpaprāṇa						mahāprāṇa		
kaṇṭhya (Guttural)	क	ka	/k/	ख	kha	/kʰ/	ग	ga	/g/	घ	gha	/gʱ/	ङ	ṇa	/ɳ/	ह	ha	/ɦ/			
tālavya (Palatal)	च	ca	/c/ /t͡ɕ/	छ	cha	/cʰ/ /t͡ɕʰ/	ज	ja	/j/ /d͡ʒ/	झ	jha	/jʱ/ /d͡ʒʱ/	ञ	ña	/ɲ/	य	ya	/j/	श	śa	/ɕ/
mūrdhanya (Retroflex)	ट	ṭa	/ɭ/	ठ	ṭha	/ɭʰ/	ड	ḍa	/ɖ/	ढ	ḍha	/ɖʱ/	ण	ṇa	/ɳ/	र	ra	/ɽ/	ष	ṣa	/ʂ/
dantya (Dental)	त	ta	/t/	थ	tha	/tʰ/	द	da	/d/	ध	dha	/dʱ/	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	/u/			



# DEVANAGARI DIGITS (10)

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





# DATASET FOR MACHINE LEARNING

- <https://www.kaggle.com/rishianand/devanagari-character-set>
- It comprises of 92000 images [32x32 px] corresponding to 46 characters, consonants "ka" to "gya", and the digits 0 to 9.
- 33 original Devanagari alphabets + 3 Nepali alphabets + 10 digits = 46 characters
- The vowels are missing.



# REFERENCES

- <https://en.wikipedia.org/wiki/Sanskrit>
- <https://en.wikipedia.org/wiki/Devanagari>
- Sanskrit for Beginners by Ashok  
(<https://www.youtube.com/playlist?list=PL0KqNDJdHBichDeImagb5T4G11c0XMZj3>)
- <https://www.quora.com/What-is-the-difference-between-Devanagari-script-and-Sanskrit-script>
- <https://www.kaggle.com/rishianand/devanagari-character-set>

