

9.3 INSROT – Indian Script Roman Transliteration Table

Indian Scripts are phonetic and have similarity in alphabetic correspondence. Transliteration between Indian languages is simple, unambiguous and phonetically similar. INSROT (Indian Script Roman Transliteration) Table is proposed as a standard transliteration scheme. The use of capital letters is avoided in the modified scheme to facilitate case-insensitive search. Single quote (') that is on non-shift is used for this purpose. This is read as "prime". The proposed transliteration table is given below:

Vowels

Syllabic Form	Intra Syllabic Form	Roman Equivalent
अ	-	a
आ	ा	aa
इ	ि	i
ई	ी	ii
उ	ु	u
ऊ	ू	uu
ए	े	e'
ऐ	ै	e
ओ	ो	ai
औ	ौ	o
		au

Syllabic Form	Intra Syllabic Form	Roman Equivalent
अँ	ँ	a'
आँ	ाँ	o'
ऋ	ृ	r'i
ऌ	ॄ	r'i'
ल		lr'i
ल्ल		lr'i'
ं		am'
ँ		am_'
ः		o:'
ः		o:'
ः		o_'

	Voiceless Unaspirated	Voiceless Aspirated	Voiced Unaspirated	Voiced Aspirated	Unaspirate	Nasals
Velars	क (ka)	ख (kha)	ग (ga)	घ (gha)	ङ (ng'a)	
Pre-palatals	च (cha)	छ (c'ha)	ज (ja)	झ (jha)	ञ (nj'a)	
Retro flexes	ट (t'a)	ठ (t'ha)	ड (d'a)	ढ (d'ha)	ण (n'a)	
Dentals	त (ta)	थ (tha)	द (da)	ध (dha)	न (na)	
Labials	प (pa)	फ (pha)	ब (ba)	भ (bha)	म (ma)	
Semi vowels	य (ya)	र (ra)	ल (la)	व (va)		
Sibilants	श (sha)	ष (s'a)	स (sa)			
Glottal	ह (ha)	क्ष (ks'a),	त्र (tra),	ज्ञ (jna),	ळ (l'a)	

[Use of h' for rendering as explicit ह (ha) rather an aspirated consonant, e.g., (th'a), (jh'a), (bh'a). On the basis of pragmatism (jna) is proposed rather than (jnj'). Moreover combination of (j) and (na) is grammatically in valid.]

Nukta Consonants

क़ (k.a)	ख़ (kh.a)	ग़ (g.a)	ज़ (j.a)
ड़ (d'.a)	ढ़ (d'h.a)	फ़ (ph.a)	य़ (y.a)
ऴ (l'.a)	ऱ (r.a)	ऩ (n.a)	

Special Character

अँ (a'um'), ऽ (~), ः (r_')

Non-join \

पक्व = pakva

पक्व = pak\va

सत्य = sat\ya

पंक = pam'ka

पङ्क = pang'ka

पङ्क = pang\ka

अर्थात् = arthaat

Intra Syllabic Vowels Forms combined with consonant character

क (ka)	का (kaa)	कि (ki)	की (kii)
कु (ku)	कू (kuu)	कृ (kr'i)	के (ke)
कै (kai)	को (ko)	कौ (kau)	कों (ko')
कं (kam')	कँ (kam_')		

Rule for decoding from Romanized text.

- 'a' is integral part of consonant. Omission of 'a' results into 'pure' consonants. e.g. ka (क), k (क्)
- Vowel combined with 'pure' consonant transforms into matra. e.g. khi (खि), ghuu (घू), ko' (कों)
- h is added to consonants/vowels to denote aspirated or closer sounds, eg. kha (ख), c'ha (छ), jha (झ), ...
- m' denotes anusvar/ bindu and combines with previous vowel as in am' (अं), kam' (कं), kim' (किं), svim'ga (स्विंग)
- h'a is used following a consonant to render explicit ह rather an aspirated character. To illustrate, ख (kha), क्ख (kh'a), घ (gha), ग्ग (gh'a), छ (c'ha), च्च (c'h'a), झ (jha), ज्ज (jh'a), ठ (t'ha), ट्ठ (t'h'a), ढ (d'ha), ड्ढ (d'h'a), थ (tha), त्थ (th'a), ध (dha), द्ध (dh'a), फ (pha), फ्फ (ph'a), भ (bha), ब्भ (bh'a), श (sha), स्श (sh'a), Such requirements will be rare.

◌ and ◌ are proposed for Nukta and Visarga. When ◌ and ◌ are used as punctuation marks, minimum a space must follow. However ambiguity resolution during decoding in context is simple.

Example of word/phrase level transliteration

कट (kat'a), खाट (khaat'a), घृत (ghr'ita), चिप (chipa), झील (jhiila), बाण (baan'a), तुक (tuka), टूट (t'uut'a), थूक (thuuka), फोड़ (phod'.a), मैल (maila), षट (s'at'a), साथ (saatha), आशा (aashaa), ईख (iikha), ऋषि (r'is'i), और (aura), बूढ़ा (buud'h.aa), मक्खन (makkhana), झाड़वर (d'raaivara), अण्डा (an'd'aa), गद्दी (gaddii), सत्ताईस

(sattaaiisa), पृथ्वी (pr'ithvii), प्रथम (prathama), कुँवर (kum_ 'vara), ख़्बाब (kh.baaba), श्वान (shvaana), प्राण (praan'a), पुण्य (pun'ya), ज्ञानज्योति (jnaanajyoti), नूपुर (nuupura), ध्वनि (dhvani), कॉलेज (ko'leja), हंस (ham'sa), हँस, (ham_ 'sa), आँखें (aam_ 'khem'), विपत्ति (vipatti), परिस्थिति (paristhiti), पॅन (pa'na), बॉल (bo'la), बाँके बिहारी (baam_ 'ke bih'aarii), गङ्गा (ganj' 'gaa), क्वाथ (k'vaatha), क्वा (kvaa), पद्य (padya), पद्य (pad'ya), निष्क्रिय (nis'kriya), कृषि (kr'is'i), जमदग्नि (jamadagni), डमरू (d'amaruu), रत्न (ratna), तन (tana), टन (t'ana), दाल (daala), डाल (d'aala), कृपा (kr'ipaa), क्रिया (kriyaa) ज्योति (jyoti), खजाना (kh.ajaanaa), चण्डीगढ़ (chan'd'iigad'h.a) दुःख (du:kha)

न हि ज्ञानेन सदृशं पवित्रमिह विद्यते.

(na h'i jnj'aanena sad'r'isham' pavitramih'a vidyate)

INSROT for Other Indian Languages

There are eighteen constitutionally recognized official Languages in India. Indic scripts have originated from *Brahmi* script. The basic characteristics of Indic scripts may be summarized as below:

- What You Speak Is What You Write (WYSIWYW): Unlike in English, vowel consonant in Devanagari does not change its phonetic value to denote some other character in the alphabet.
- Script grammar describes transformation rules
 - A vowel when combined with preceding pure consonant, transforms into *matra*, whereas consonant remains unchanged.
 - When consonant combines with preceding pure consonants conjunct is formed with linear or vertical juxtaposition or a quite different symbol.
- Common phonetic based alphabet among Indian languages.

The Indic script alphabet correspondence table is presented here for easy reference. The Roman equivalents of the Indic alphabets described in the table, in the same manner as proposed in the INSROT for Devanagari.

Indian Script Alphabet Correspondence

DEV	RMN	PNJ	GJR	ORI	BNG	ASM	TLG	KND	MLM	TML
ँ	am'		ँ	ँ	ँ	ँ				
ं	am'	ँ	ं	ं	ं	ं	ं	ं	ं	
ः	o:'		ः	ଃ	ঃ	ঃ	ഃ	ഃ	ഃ	ഃ
अ	a	ਅ	अ	ଅ	অ	অ	అ	అ	അ	അ
आ	aa	ਆ	आ	ଆ	আ	আ	ఆ	ఆ	ആ	ആ
इ	i	ਇ	इ	ଉ	ই	ই	ఇ	ఇ	ഇ	ഇ
ई	ii	ਈ	ई	ଈ	ঈ	ঈ	ഈ	ഈ	ഈ	ഈ
उ	u	ਉ	उ	ଊ	ঊ	ঊ	ఊ	ఊ	ഊ	ഊ
ऊ	uu	ਊ	ऊ	ଠ	ঠ	ঠ	ఠ	ఠ	ഠ	ഠ
ऋ	r'i	ਰਿ	ऋ	ୠ	ৠ	ৠ	ఱ	ఱ	ఱ	
ॠ	e'						ఎ	ఎ	എ	എ
ए	e	ੲ	ए	୲	৲	৲	ఋ	ఋ	ഠ	ഠ
ऐ	ai	ਐ	ऐ	ୢ	ৢ	ৢ	ఌ	ఌ	ഡ	ഡ
ॡ	a'									
ओ							ఒ	ఒ	ഒ	ഒ
औ	o	ੳ	ओ	୴	৴	৴	ఓ	ఓ	ഓ	ഓ
औ	au	ਐ	औ	୶	৶	৶	ఔ	ఔ	ഔ	ഔ
आँ	o'									
क	ka	ਕ	क	କ	ক	ক		క	ക	ക
क़	ka	ਕ								
ख	kha	ਖ	ख	ଖ	খ	খ	ఖ	ఖ	ഖ	ഖ
ख़	kha	ਖ								
ग	ga	ਗ	ग	ଘ	গ	গ	గ	గ	ഗ	ഗ
ग़	ga	ਗ								
घ	gha	ਘ	घ	ଘ	ঘ	ঘ	ఘ	ఘ	ഘ	ഘ
ङ	ng'a	ਙ	ङ	ଙ	ঙ	ঙ	ఙ	ఙ	ఙ	ఙ
च	cha	ਚ	च	ଚ	চ	চ	చ	చ	ച	ച
छ	c'ha	ਚ	छ	ଛ	ছ	ছ	చ	చ	ച	ച

Standardization

DEV	RMN	PNJ	GJR	ORI	BNG	ASM	TLG	KND	MLM	TML
ज	ja	ਜ	જ	ଜ	জ	জ	ജ	ಜ	ജ	ജ
जा	j.a	ਜ								
झ	jha	ਝ	ઝ	ଝ	ঝ	ঝ	ഝ	ಝ	ఝ	
ञ	nj'a	ਞ	ਞ	ଞ	ঞ	ঞ	ഞ	ಞ	ఞ	ఞ
ट	t'a	ਟ	ટ	ଟ	ট	ট	ട	ಠ	ఠ	ఠ
ठ	t'ha	ਠ	ઠ	ଠ	ঠ	ঠ	ഠ	ಠ	ఠ	
ड	d'a	ਡ	ડ	ଡ	ড	ড	ട	ಢ	ఢ	
झ	d'a	ਝ								
ढ	d'ha	ਝ	ढ	ଢ	ড	ড	ഢ	ಢ	ఢ	
ण	n'a	ਠ								
ण	n'a	ਠ	ण	ଣ	ণ	ণ	ഠ	ಠ	ఠ	ఠ
त	ta	ਟ	ਟ	ଟ	ট	ট	ട	ಠ	ఠ	ఠ
थ	tha	ਥ	थ	ଥ	থ	থ	ഠ	ಠ	ఠ	
द	da	ਡ	ड	ଡ	ড	ড	ട	ಢ	ఢ	
ध	dha	ਝ	ध	ଧ	থ	থ	ഠ	ಠ	ఠ	
न	na	ਨ	ন	ନ	ন	ন	ഠ	ಠ	ఠ	ఠ
नि	n.a									ఠ
प	pa	ਪ	પ	ପ	প	প	ഠ	ಠ	ఠ	ఠ
फ	pha	ਫ	ફ	ଫ	ফ	ফ	ഠ	ಠ	ఠ	
फ़	ph.a	ਫ								
ब	ba	ਬ	બ	ବ	ব	ব	ഠ	ಠ	ఠ	
भ	bha	ਭ	ભ	ଭ	ভ	ভ	ഠ	ಠ	ఠ	
म	ma	ਮ	મ	ମ	ম	ম	ഠ	ಠ	ఠ	ఠ
य	ya	ਯ	ય	ଯ	য	য	ഠ	ಠ	ఠ	ఠ
य़	y.a									
र	ra	ਰ		ର	র	র	ഠ	ಠ	ఠ	ఠ
ऋ	r.a						ഠ		ఠ	ఠ
ल	la	ਲ	લ	ଲ	ল	ল	ഠ	ಠ	ఠ	ఠ

Continue...

DEV	RMN	PNJ	GJR	ORI	BNG	ASM	TLG	KND	MLM	TML
ळ			७	७				७	७	७
ळ									७	७
व	va	व	व	व	व	व	व	व	व	व
श	sha	श	श	श	श	श	श	श	श	श
ष	s'a		५	५	५	५	५	५	५	५
स	sa	स	स	स	स	स	स	स	स	स
ह	ha	ह	६	६	६	६	६	६	६	६
ा		ा	ा	ा	ा	ा	ा	ा	ा	ा
ि		ि	ि	ि	ि	ि	ि	ि	ि	ि
ी		ी	ी	ी	ी	ी	ी	ी	ी	ी
ु		ु	ु	ु	ु	ु	ु	ु	ु	ु
ू		ू	ू	ू	ू	ू	ू	ू	ू	ू
े			े	े	े	े	े	े	े	े
ै		ै	ै	ै	ै	ै	ै	ै	ै	ै
ौ		ौ	ौ	ौ	ौ	ौ	ौ	ौ	ौ	ौ
ो							ो	ो	ो	ो
ो		ो	ो	ो	ो	ो	ो	ो	ो	ो
ो		ो	ो	ो	ो	ो	ो	ो	ो	ो
ौ										
्		्	्	्	्	्	्	्	्	्
ं		ं	ं	ं	ं	ं	ं	ं	ं	ं
।		।	।	।	।	।	।	।	।	।