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Draft Indian Standard
Indian Language Technologies –
Transliteration of Indic Scripts into
Latin Characters

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भारतीय मानक ब्यूरो

Bureau of Indian Standards

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FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards after the draft finalized by the Indian Language Technologies and Products Sectional Committee and approved by the Electronics and Information Technology Division Council.

This Indian Standard on "Indian Language Technologies Transliteration of Indic Scripts into Latin Characters" establishes guidelines for transliterating Indic scripts into Latin characters, which are used in digital content creation, transcription, and data exchange. The Indian standard applies to the following Indic scripts: Assamese, Bangla, Devanagari, Gujarati, Gurmukhi, Kannada, Malayalam, Meetei Mayek, Oriya, Tamil, and Telugu.

The standard define several schemes of transliteration of Indian scripts being used in one or other manner. It also provides guidelines for the use of diacritic marks, punctuation, and case within transliterated text. Additionally, it defines the representation of loanwords, numerals, and symbols in transliterated text.

The objective of this standard is to facilitate accurate and consistent transliteration of Indic scripts into Latin characters, which is crucial for enabling efficient digital communication in a multilingual country like India.

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0 INTRODUCTION

0.1 Transliteration of Indian scripts using Latin characters.

Multi-lingualism is one of the peculiar characteristics of India. Over 100 billion people speak several languages and dialects in different parts of the country. The major languages of India belong to four major linguistic families, Indo-Aryan (spoken by 70% of Indians), Dravidian languages (spoken by 22% of Indians), and Austro-Asiatic and Tibeto-Burman linguistic families.

Hindi is the principal official language of the Republic of India while English is used as the secondary official language. Individual mother tongues in India number several hundred; the 1961 census recognized 1,652. According to Census of India of 2001, there are 29 languages which are spoken by more than a million native speakers and 122 by more than ten thousand speakers. Three millennia of language contact have made significant mutual influence on these four language families of India.

0.2 Need for Transliteration scheme for Indian Scripts

India is a multilingual country with as many as 22 scheduled languages. These 22 Indian languages are written using 11 scripts; thus more than one language is written in one script. All these 22 languages and the corresponding scripts are listed in Annex A.

A large chunk of population knows more than one language. This has created a need for transliteration tools which can convert text written in one language script to another Indian language script. Many such conversions may need mapping of language script data to human and machine understandable intermediate form.

A larger chunk of such population who is conversant in more than one language is such that they can understand and communicate verbally in another language though may not know the script of that language.

The above requirements create the need of having one standardized way of transliteration scheme for Indian Scripts. This relates to the written languages, not to the spoken languages. Although this will often approximate the pronunciation of a language, that remains a secondary consideration.

1 SCOPE

This Indian standard defines a set of guiding principles and scheme for the transliteration of Indian scripts using Latin characters.

This Indian standard presently covers Indian scripts Assamese/Bangla, Devanagri, Gujarati, Gurumukhi, Kannada, Malayalam, Oriya, Tamil, Telugu and provides transliteration tables for these scripts.

2 REFERENCE

The standards given below contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of these standards.

IS 13194:1991 Indian Script Code for Information Interchange

ISO/IEC 10646:2020 Information technology — Universal coded character set (UCS)

IS/ISO 15919 : 2001 Information and Documentation — Transliteration of Devanagari and Related Indic Scripts into Latin Characters

3 TERMINOLOGY AND SYMBOLS

3.1 Terminology

For the purpose of this standard, the following definitions shall apply.

3.1.1 Conversion

Representing graphic characters from a source script by the graphic characters of a target script, most commonly by romanization

NOTE The two basic methods of conversion of a system of writing are transliteration and transcription. The use of the terms source script and target script in transliteration is analogous to the terms source language and target language in translation.

3.1.2 Script

Set of graphic characters used for the written form of one or more languages

3.1.3 Graphic character

Character (other than a control character) that has a visual representation, normally handwritten, printed or displayed

NOTE A graphic character is a single element of a script. Examples are letters, conjunct characters, numerical digits,

punctuation marks or diacritical marks.

3.1.4 Reverse transliteration

Process whereby the characters of a target script are transliterated into those of the source script

NOTE This International Standard aims to enable reverse-transliterated text to be identical to the original source text up to equivalent orthography. However, non-reversible transcription-like transliterations are often found to be useful when quoting recent material.

3.1.5 Romanization

Conversion of non-Latin graphic characters into Latin graphic characters, using either transliteration or transcription

3.1.6 Transcription

Representation of the sounds of a source language by graphic characters associated with a target language

3.1.7 Transliteration

Representation of the graphic characters of a source script by the graphic characters of a target script

NOTE In transcription, pronunciation conventions are of primary importance, while in transliteration, writing conventions are of primary importance.

3.1.8 UCS

Universal Multiple-Octet Coded Character Set (UCS) as defined in ISO/IEC 10646-1

3.2 Abbreviations

IPA	International Phonetic Alphabets (2005)
CIIL	Central Institute of Indian Language Transliteration scheme version 0.1A
WX	wx scheme
ITRANS	Indian Language Transliteration
NLKR	National Library at Kolkata Romanization
HK	Harvard Kyoto
IAST	International Alphabet of Sanskrit Transliteration h\s (for Hindi\for Sanskrit)
INSROT	Indian Script to Roman Transliteration

4 OVERVIEW OF TRANSLITERATION SCHEMES FOR INDIC SCRIPTS

In the transliteration of Indian scripts several schemes are being used in one or other manner. This section provides an overview of some of the prominent schemes.

4.1.1 International Alphabet of Sanskrit Transliteration (IAST)

The International Alphabet of Sanskrit Transliteration (IAST) is a popular transliteration scheme that allows a lossless romanization of Indic scripts. IAST is the most popular transliteration scheme for romanization of Sanskrit and Pāṇi. It is often used in printed publications, especially for books dealing with ancient Sanskrit and Pāṇi topics related to Indian religions. With the wider availability of Unicode fonts, it is also increasingly used for electronic texts. The sign inventory of IAST has both small and capital letters versions but some characters use special symbols to represent them.

4.1.2 *National Library at Kolkata romanization*

The National Library at Kolkata romanization, intended for the romanization of all Indic scripts, is an extension of IAST. It differs from IAST in the use of the symbols *ē* and *ō* for ए and ओ (e and o are used for the short vowels present in many Indian languages), the use of '!' for the consonant (in Kannada) ಀ, and the absence of symbols for ऋ ॠ and ॡ.

4.1.3 *Harvard-Kyoto scheme*

This scheme was used by scholars from Japan who prepared electronic version of the important texts in Sanskrit Ramayana and Mahabharata. The Harvard-Kyoto Convention is a system for transliterating in ASCII the Sanskrit language and other languages that use the Devanāgarī script. Again it uses combination capital and small letters and is limited to the Devanagari script only.

4.1.4 *Indian languages TRANSliteration (ITRANS)*

The "Indian languages TRANSliteration" (ITRANS) is an ASCII transliteration scheme for Indic scripts, particularly, but not exclusively, for Devanagari (used for the Hindi, Marathi, Sanskrit, Nepali, Sindhi and some other languages). It was developed by Avinash Chopde. ITRANS was in some use for the encoding of Indian e-texts. It is wider in scope than the Harvard-Kyoto scheme for Devanagari transliteration, with which it coincides largely, but not entirely. With the wider implementation of Unicode, the traditional IAST is used increasingly also for electronic texts.

Like the Harvard-Kyoto scheme, the ITRANS Romanization does not use any diacritical sign not found on the common English-language computer keyboard, and it is quite easy to read. For some letters, there are variants: e.g. long vowels can be transcribed either by doubling the simple vowel, or with capitals which creates some ambiguity. Its application for other Indian languages and scripts have not yet been tried at largely.

4.1.5 *WX Notation*

This is a roman transliteration scheme for Devanagari. It is being used by many institutes in India for language technology related developments. Its salient features are that it utilizes Single key stroke for each Devanagri consonant/vowel. *alpaprANa* (*un-aspirated*) consonants are mapped to *small case* alphabets, and *mahAprANa* (*aspirated*) consonants are mapped to *Capital* alphabets. *Short vowels* are mapped to *small case* alphabets and *long vowels* to *Capital* alphabets. Using of small and capital letters at the same time pose some difficulty for a new reader. Also some tools which do not differentiate between casing of letters may not act as desired. The present scheme is not suitable for searching the contents on the Internet.

4.1.6 *Velthuis*

The disadvantage of the schemes mentioned in 4.1.1 to 4.1.5 is case-sensitivity, implying that transliterated names may not be capitalized. This difficulty is avoided with the system developed in 1996 by Frans Velthuis for TeX, loosely based on IAST, in which case is irrelevant.

4.1.7 *Transliteration of Devanagari and Related Indic Scripts into Latin Characters*

This Indian standard is an adoption of ISO 15919:2001. This presents Transliteration of Devanagari and related Indic scripts into Latin characters. ISO 15919 Transliteration of Devanagari and related Indic scripts into Latin characters is an international standard for the transliteration of Indic scripts to the Latin alphabet published in 2001. It uses diacritics to map

the much larger set of Brahmic consonants and vowels to the Latin script. Due to use of Latin characters this becomes less readable and difficult to use for general public. There are some cases where same mappings are used to represent more than one characters e.g. ख and ख़ are represented using kh.

The addition of diacritics, either by hand or by machine, is time-consuming and requires an attentive scholar to make use of it. Even more important, it makes the same demands on the typesetter. As a result, typographical errors caused by the omission of such marks are frequently encountered in publications; the most common one being the omission of the dot over an *n* for the nasal velar *ng*.

4.1.8 Indian Script to Roman Transliteration (INSROT)

The use of capital letters is avoided in the INSROT to facilitate case insensitive search. Single quote (') that is on non-shift is used for this purpose. This is read as "prime".

5 GUIDING PRINCIPLES AND KEY CHARACTERISTICS OF A TRANSLITERATION SCHEME

Key characteristics and guiding principles to be followed while designing a transliteration scheme are listed in 5.1 and 5.2

5.1 Key Characteristics Characteristics of Transliteration Scheme

- a) Easy to Use: The scheme should be easy to read and understand by humans and interpretable by Machines. To facilitate the same, the scheme should use only readable ASCII characters.
- b) Scalability: it should be able to cover characters of all major Indic scripts
- c) Interoperability: Compatibility with latest Unicode standard for Indic languages
- d) Uniqueness: Uniqueness without ambiguity to be ensured
- e) Ability to map: Ensuring mapping to the similar characters across various Indic scripts
- f) Nasalization and other diacritics: Proper handling of Nasalization and other diacritics such as Nukta etc.

5.2 Guiding Principles

- a) Minimum complexity: The schemes which are less complex are easy to use
- b) Removing anomalies employed by other schemes
- c) User-friendliness: User-friendliness refers to the ability of the system to provide a condition to its users to perform the tasks efficiently and effortlessly while enjoying the user experience. Using only the characters available on normal keyboard to represent the roman equivalents
- d) Avoiding the use of Case sensitive characters and diacritic marks that are not directly available on QWERTY keyboard.
- e) Using special symbols only if necessary
- f) Maintaining the usage of notations for representing specific feature or purpose only
- g) Addressing the issues and needs of the languages to the extent maximum possible
- h) Harmonious representation from user perspective
- i) Using 7-bit ASCII characters for representing any Indian language scripts.
- j) Keeping the similarity with the well known or well understood notations used in most commonly used transliteration schemes.
- k) Avoiding use of Capital letters (This will ensure that no confusion arises by the Automatic capitalization feature of some of the Word Processors).

6 COMPARISON OF VARIOUS TRASLITERATION SCHEMES:

Some of the shortcomings and/or inconsistencies in the transliteration schemes mentioned in Clause 4 are as follows (A comparison of these transliteration schemes are given in Annex B: Table 14 and 15):

- a) Most of the schemes have diacritic marks except WX scheme
- b) Multiple characters have been used for representing single sound in all schemes except wx scheme.
- c) Sound equivalence is lost in WX scheme because \w\ \x\ etc. is being used for dental plosives.
- d) National Library at Kolkata Romanization (NLKR) scheme and ISO (International Organization for Standardization) are very similar only a few characters are different.
- e) Some schemes have made use of Non-ASCII range of characters e.g. Harvard Kyoto and IAST schemes.
- f) More or less almost all schemes are case sensitive except ISO, Velthuis and INSROT.

7 CHARACTERISTICS OF INDIC SCRIPTS

Most of the Indian scripts are originated from Brahmi script and phonetic level similarity brings them together. Though there are variations at their implementation level, at the general level there is a great deal of similarity between these scripts.

In most of the Indian scripts, there is presence of a letter or character to represent each phoneme in Indian languages. The pronunciation of consonants is typically quite regular and predictable, leaving occasional exceptions in certain languages (e.g. Tamil). This makes the number of letters in alphabet quite large.

The text in all Indic scripts are written from left to right, Urdu being an exception that run from right to left.

Unlike the Latin alphabet, the script has no concept of letter case.

Characters in Indic scripts represent vowels, consonants and their combinations; nasalization, breathings, numerals and punctuation.

Each vowel has a full form (occupying a full character space in text, and required when beginning a word or in vowel hiatus) and a combining form (mātrā) used when the vowel follows a consonant, except that the short a standing at the beginning of Indic alphabets has only a full form, because no mātrā is required.

Consonants include stops, semivowels, spirants, and other speech sounds. Stop consonants are arranged in classes, or vargas, according to the point of articulation, and within each class are subdivided into unvoiced or voiced, unaspirated or aspirated consonants, and a nasal consonant.

Characters for consonants are most simply quoted in a form which includes the inherent vowel [ə] represented with character [a] after the consonant character representation. The inherent vowel is removed by the virāma sign of the relevant script (Dev., Bengali, Assamese, Gujarati, Gurumukhi and Odia ୠ, Tamil ீ, Telugu ు, Kan. ృ, Malayalam ീ, Sinhala ඌ. A The relevant mātrā is used when any other vowel follows a consonant. Consonant clusters frequently form conjunct characters. Use of virāma to form consonant clusters is unusual, except in Tamil where it is the normal method. When a mātrā is associated with a consonant, it replaces the inherent vowel. Mātrās have various forms, even in a single script, and details may be found in dictionaries and grammars.

It is important to note that many Indic characters have variant forms. Such differences of orthography are not distinguished in this International Standard.

8 TRANSLITERATION SCHEME FOR INDIAN SCRIPTS

This Indian Standard specifies a unified transliteration scheme for the Indic scripts using Latin characters. The transliteration of Indic scripts using Latin characters shall be as specified in the Tables 2 to Table 11, and subject to the rules specified in Clause 9.

8.1 The structure and key features of the Transliteration scheme

The structure of the transliteration tables is explained in the rest of this clause.

The target characters (Latin script) fall within the ranges 0020-007F of ISO/IEC 10646-1:2020.

The repertoires for many of the source characters fall within the following ranges of ISO/IEC 10646-1:2020, for the script concerned:

- a) 0900-097F (Devanagari)
- b) 0980-09FF (Bengali)
- c) 0A00-0A7F (Gurmukhi)
- d) 0A80-0AFF (Gujarati)
- e) 0B00-0B7F (Oriya)
- f) 0B80-0BFF (Tamil)
- g) 0C00-0C7F (Telugu)
- h) 0C80-0CFF (Kannada)
- i) 0D00-0D7F (Malayalam)
- j) ABC0-ABFF (Meitei Meyek)

8.1.1 List of Symbols used for different aspects.

The characters/symbols used to represent different aspects of the script are given in table 1:

Table 1 Characters/Symbols used to represent aspects of Indic scripts

Aspect	Symbol used	Example
Aspiration	h	characters - kha, gha, cha, jha, t ^h ha, d ^h ha, tha, dha, pha, bha etc.
Retroflex	^	characters - t ^a , t ^h a, d ^a , d ^h a, n ^a , l ^a , l ^a za etc.
Nukta character	z	characters – kza, khza, gza, jza, d ^a za, d ^h za, yza, l ^a za etc.
Sindhi Implosives	_	characters – g_a, j_a, d ^a _a, b_a
Disambiguation	:	– भ bha vs ब्र b:ha, उ u vs ऊ u:, इ i vs ए i: ¹
Vocalic and some special characters	`	characters – h`, r`, lr`, a`, e`, o`, r`r`, lr`lr`

¹ Pujabi Character ਊ and ਋ are usually used for Numbering.

Avagraha	.	character – h~
Malayalam Chillu characters	~	character – n~, r~ etc.
Nasalization	~	chandrabindu or anuswar (m~) and bindi or anunasik (n~)

Only a single form of each Indic character is shown, just as in ISO/IEC 10646. Specifications of alternative forms of these characters, including shapes when these are included in conjunct forms or in consonant-vowel combinations, are outside the scope of this Standard.

This clause gives tables for each script, Vowels are shown in full form followed by a typical form of the corresponding mātrā.

Annex C gives tables showing linguistically equivalent characters in each script (except that Gurmukhi Bindi is not exactly equivalent to anusvara in the other scripts).

8.2 Transliteration scheme for Assamese/Bangla Script (representing Assamese and Bengali)

Table 2 Transliteration scheme for Assamese/Bangla Script

Sl.No.	Bangla	Transliteration	Unicode	Unicode Names
1.	ু	m~	0981	CANDRABINDU
2.	ূ	n~	0982	ANUSVARA
3.	ৃ	h`	0983	VISARGA
4.	অ	a	0985	A
5.	আ	aa	0986	AA
6.	ই	i	0987	I
7.	ঈ	ii	0988	II
8.	উ	u	0989	U
9.	ঊ	uu	098A	UU
10.	ঋ	r`	098B	VOCALIC R
11.	ৠ	lr`	098C	VOCALIC L
12.	এ	e	098F	E
13.	ঐ	ai	0990	AI
14.	ঔ	o	0993	O
15.	ঔ	au	0994	AU
16.	ক	ka	0995	KA
17.	খ	kha	0996	KHA
18.	গ	ga	0997	GA
19.	ঘ	gha	0998	GHA
20.	ঙ	nga	0999	NGA
21.	চ	ca	099A	CA
22.	ছ	cha	099B	CHA
23.	জ	ja	099C	JA
24.	ঝ	jha	099D	JHA
25.	ঞ	nja	099E	NYA
26.	ট	t^a	099F	TTA
27.	ঠ	t^ha	09A0	TTHA

28.	ড	d^a	09A1	DDA	46.	স	sa	09B8	SA
29.	ঢ	d^ha	09A2	DDHA	47.	হ	ha	09B9	HA
30.	ণ	n^a	09A3	NNA	48.	ড়	d^za	09DC	DDDHA
31.	ত	ta	09A4	TA	49.	ত্ৰ	d^hza	09DD	RHA
32.	থ	tha	09A5	THA	50.	য়	yza	09DF	YYA
33.	দ	da	09A6	DA	51.	ঋ	r`r`	09E0	VOCALIC RR
34.	ধ	dha	09A7	DHA	52.	ৄ	lr`lr`	09E1	VOCALIC LL
35.	ন	na	09A8	NA	53.	০	0	09E6	ZERO
36.	প	pa	09AA	PA	54.	১	1	09E7	ONE
37.	ফ	pha	09AB	PHA	55.	২	2	09E8	TWO
38.	ব	ba	09AC	BA	56.	৩	3	09E9	THREE
39.	ভ	bha	09AD	BHA	57.	৪	4	09EA	FOUR
40.	ম	ma	09AE	MA	58.	৫	5	09EB	FIVE
41.	য	ya	09AF	YA	59.	৬	6	09EC	SIX
42.	র	ra	09B0	RA	60.	৭	7	09ED	SEVEN
43.	ল	la	09B2	LA	61.	৮	8	09EE	EIGHT
44.	শ	sha	09B6	SHA	62.	৯	9	09EF	NINE
45.	ষ	s^a	09B7	SSA	63.	হ্	h~	09BD	AVAGRAHA

8.3 Transliteration scheme for Devanagari Script (representing Hindi, Marathi, Konkani)

Table 3 Transliteration scheme for Devanagari Script

Sl.No.	Devanagari	Transliteration	Unicode	Unicode Names
1.	ं	m~	0901	CANDRABINDU
2.	ः	n~	0902	ANUSVARA
3.	ः	h`	0903	VISARGA

4.	अ	A	0905	A	28.	झ	jha	091D	JHA
5.	आ	aa	0906	AA	29.	ञ	nja	091E	NYA
6.	इ	I	0907	I	30.	ट	t^a	091F	TTA
7.	ई	ii	0908	II	31.	ठ	t^ha	0920	TTHA
8.	उ	u	0909	U	32.	ड	d^a	0921	DDA
9.	ऊ	uu	090A	UU	33.	ढ	d^ha	0922	DDHA
10.	ऋ	r`	090B	VOCALIC R	34.	ण	n^a	0923	NNA
11.	ॠ	lr`	090C	VOCALIC L	35.	त	ta	0924	TA
12.	एँ	a`	090D	CANDRA E	36.	थ	tha	0925	THA
13.	ऐ	e`	090E	SHORT E	37.	द	da	0926	DA
14.	ए	E	090F	E	38.	ध	dha	0927	DHA
15.	ऐ	ai	0910	AI	39.	न	na	0928	NA
16.	औ	ao	0911	CANDRA O	40.	न्	nza	0929	NNNA
17.	ओ	o`	0912	SHORT O	41.	प	pa	092A	PA
18.	ओ	o	0913	O	42.	फ	pha	092B	PHA
19.	औ	au	0914	AU	43.	ब	ba	092C	BA
20.	क	ka	0915	KA	44.	भ	bha	092D	BHA
21.	ख	kha	0916	KHA	45.	म	ma	092E	MA
22.	ग	ga	0917	GA	46.	य	ya	092F	YA
23.	घ	gha	0918	GHA	47.	र	ra	0930	RA
24.	ङ	nga	0919	NGA	48.	ऱ	rza	0931	RRA
25.	च	ca	091A	CA	49.	ल	la	0932	LA
26.	छ	cha	091B	CHA	50.	ळ	l^a	0933	LLA
27.	ज	ja	091C	JA	51.	ॢ	l^za	0934	LLLA

52.	व	va	0935	VA	69.	०	0	0966	ZERO
53.	श	sha	0936	SHA	70.	१	1	0967	ONE
54.	ष	s^a	0937	SSA	71.	२	2	0968	TWO
55.	स	sa	0938	SA	72.	३	3	0969	THREE
56.	ह	ha	0939	HA	73.	४	4	096A	FOUR
57.	क	kza	0958	QA	74.	५	5	096B	FIVE
58.	ख	khza	0959	KHHA	75.	६	6	096C	SIX
59.	ग	gza	095A	GHHA	76.	७	7	096D	SEVEN
60.	ज	jza	095B	ZA	77.	८	8	096E	EIGHT
61.	ड	d^za	095C	DDDHA	78.	९	9	096F	NINE
62.	ढ	d^hza	095D	RHA	79.	ग	g_a	097B	GGA
63.	फ	phza	095E	FA	80.	ज	j_a	097C	JJA
64.	य	yya	095F	YYA	81.	ड	d^_a	097E	DDDA
65.	ऋ	r`r`	0960	VOCALIC RR	82.	ब	b_a	097F	BBA
66.	ॠ	lr`lr`	0961	VOCALIC LL	83.	ॐ	o`m	0950	OM
67.	।		0964	DANDA	84.	ऽ	.h	093D	AVGRHA
68.	॥		0965	DB DANDA	85.	ः	r_a		Eyesh RA

8.3.1 Hindi example words in Roman scheme

का (kaa), कि (ki), की (kii), कु (ku), कू (kuu), के (ke), कै (kai), को (ko), कौ (kau), कं (kan~), कै (kam~) कां (kaan~), काँ (kaam~) किं (kin~), कीं (kiin~), कुं (kun~), कुँ (kum~) कूँ (kuun~), कूँ (kuum~) केँ (ken~), कै (kain~), कों (kon~), कौ (kaun~)

कट (kat^a), खाट (khaat^a), घृत (ghr`ta), चिप (cipa), झील (jhiila), बाण (baan^a), तुक (tuka), टूट (t^uut^a), थूक (thuuka), फोड़ (phod^za), मैल (maila), षट (s^at^a), साथ (saatha), आशा (aashaa), ईख (iikha), ऋषि (r`s^i), और (aura), बूढ़ा (buud^hzaa), मक्खन (makkhana), ड्राइवर (d^raaivara), अण्डा (an^d^aa), गद्दी (gaddii), सत्ताईस (sattaaiisa), पृथ्वी (pr`thvii), प्रथम (prathama), कुँवर (kum~vara), ख़्वाब (khzbaaba), श्वान (shvaana), प्राण (praan^a), पुण्य (pun^ya),

ज्ञानज्योति (jnjaanajyoti), नूपुर (nuupura), ध्वनि (dhvani), कॉलेज (kaoleja), हंस (han~sa), हँस (ham~sa), आँखें (aam~khen~), विपत्ति (vipatti), परिस्थिति (paristhiti), पैन (pa`na), बॉल (baola), बाँके बिहारी (baam~ke bihaarii), गङ्गा (ganggaa), क्वाथ (kvaatha), क्वा (kvaa), पद्य (padya), पद्य (padya), निष्क्रिय (nis^kriya), कृषि (kr`s^i), जमदग्नि (jamadagni), डमरू (d^amaruu), रत्न (ratna), तन (tana), टन (t^ana), दाल (daala), डाल (d^aala), कृपा (kr`paa), क्रिया (kriyaa), ज्योति (jyoti), खजाना (khzajaanaa), चण्डीगढ़ (can^d^iigad^hza), दुःख (dukha)

8.3.2 Sample Hindi Text in Devanagari and Roman script:

आमतौर पर हर छोटी-बड़ी बीमारी के लिए लोग झट से एंटीबायोटिक ले लेते हैं। लेकिन अब डॉक्टरों ने इन दवाओं को लेकर लोगों को आगाह किया है। डॉक्टरों का कहना है कि एंटीबायोटिक के प्रति प्रतिरोधक क्षमता या रिजिस्टेंस पैदा हो रही है जो सेहत के लिए सबसे बड़े खतरों में से एक है। ये चेतावनी इंग्लैंड की मुख्य चिकित्सा अधिकारी और हेल्थ प्रोटेक्शन एजेंसी नाम की संस्था ने दी है। इनका कहना है कि छोटे-मोटे संक्रमण के लिए भी एंटीबायोटिक का बेवजह इस्तेमाल हो रहा है जिससे बैक्टीरिया इनके प्रति प्रतिरोधक क्षमता विकसित कर रहे हैं। डॉक्टरों ने मरीजों को सलाह दी है कि वे दवाओं का सेवन ज़रा सोच समझ कर करें, खासकर तब जब बहुत कम नई एंटीबायोटिक दवाएँ विकसित हो रही हैं। लापरवाही न बरतें ब्रिटेन की डॉक्टर सैली डेविस कहती हैं, “जिस स्तर और दर से एंटीबायोटिक दवाएँ अपना असर खो रही हैं वो चिंता का विषय है और इस असर को बदला नहीं जा सकता। एंटीबायोटिक दवाओं के प्रति बैक्टीरिया तेज़ी से प्रतिरोधक क्षमता विकसित कर रहे हैं। बाद में दवाओं का इन बैक्टीरिया पर कोई असर नहीं होगा।” इंग्लैंड की मुख्य चिकित्सा अधिकारी ने एंटीबायोटिक के इस्तेमाल को लेकर हिदायतें जारी की है। इसमें कहा गया है कि एंटीबायोटिक तभी लेनी चाहिए जब प्रशिक्षित डॉक्टर ने कहा हो। डॉक्टर ने जितनी दिनों की दवाई दी हो, उतने ही दिन दवा लेनी चाहिए, भले ही आप बेहतर महसूस कर रहे हों क्योंकि बीच में दवाई छोड़ने से बैक्टीरिया प्रतिरोधक क्षमता विकसित कर सकते हैं। डॉक्टरों की हिदायत एंटीबायोटिक तभी लेनी चाहिए जब प्रशिक्षित डॉक्टर ने कहा हो। डॉक्टर ने जितनी दिनों की दवाई दी हो, उतने दिन दवा लेनी चाहिए भले ही आप बेहतर महसूस कर रहे हों बीच में दवाई छोड़ने से बैक्टीरिया प्रतिरोधक क्षमता विकसित कर सकते हैं। जुकाम या फ्लू जैसे वायरसों से होने वाले संक्रमण में एंटीबायोटिक मददगार नहीं होते।

aamataura para hara chot^ii-bad^zii bimaarii ke lie loga jhat^a se en~t^iibaayot^ika le lete hain~. lekina aba d^aokt^aron~ ne ina davaaon~ ko lekara logon~ ko aagaaha kiya hai. d^aokt^aron~ kaa kahanaa hai ki en~t^iibaayot^ika ke prati pratirodhaka kshamataa yaa rijzisaat^en~sa paida ho rahii hai jo sehata ke lie sabase bad^ze khataron~ men~ se eka hai. ye cetaavanii in~glain~d^a kii mukhya cikitsaa adhikaarii aura heltha prot^ekshana ejen~sii naam kii san~sthaa ne dii hai. inkaa kahanaa hai ki chot^e-mot^e san~kraman^a ke lie bhii en~t^iibaayot^ika kaa bevajaha istemaal ho rahaa hai jisase baikt^iiriyaa inake prati pratirodhaka kshamataa vikasita kara rahe hain~. d^aokt^on~ ne mariijzon~ ko salaaha dii hai ki ve davaaon~ kaa sevana jzaraa soca samajha kara karen~, khaasakara taba jaba bahuta kama naii en~t^iibaayot^ika davaaem~ vikasita ho rahi hain~. laaparavaahii na baraten~ brit^ena kii d^aokt^ara sailii d^evisa kahatii hain~, "jisa stara aura dara se en~t^iibaayot^ika davaaem~ apanaa asara kho rahii hain~ vo cin~taa ka vis^aya hai aura isa asara ko badalaa nahiin~ jaa sakata. en~t^iibaayot^ika davaaon~ ke prati baikt^iiriyaa tejzii se pratirodhaka kshamataa vikasita kara rahe hain~. baada men~ davaon~ kaa ina baikt^iiriyaa para koi asara nahiin~ hogaa. "in~glain~d^a kii mukhya cikitsaa adhikaarii ne en~t^iibaayot^ika ke istemaala ko lekara hidaayat~ jaarii kii hai. isamen~ kahaa gayaa hai ki en~t^iibaayot^ika tabhii lenii caahie jaba prashikshita d^aokt^ara ne kahaa ho. d^aokt^ara ne jitani dinon~ kii davaaii dii

ho, utane hii dina davaa lenii caahie, bhale hii aapa behatara mahasuusa kara rahe hon~ kyon~ki biica men~ davaaai chod^zane se baikt^iiriyaa pratirodhaka kshamataa vikasita kara sakate hain~. d^aokt^aron~ kii hidaayata en~t^iibaayot^ika tabhii lenii caahie jaba prashikshita d^aokt^ara ne kahaa ho. d^aokt^ara ne jitanii dinon~ kii davaii dii ho, utane dina davaa lenii caahie bhale hii aapa behatara mahasuusa kara rahe hon~ biica men~ davaaai chod^zane se baikt^iiriya pratirodhaka kshamataa vikasita kara sakaten~ hain~. jzukaama yaa phluu jaise baayarason~ se hone vaale san~kraman^a men~ en~t^iibaayot^ika madadagaara nahiin~ hote.

8.4 Transliteration scheme for Gujarati Script

Table 4 Transliteration scheme for Gujarati

SL.N.	Gujarati	Transliteration	Unicode	Unicode Names
1.	ૠ	m~	0A81	CANDRABINDU
2.	ૡ	n~	0A82	ANUSVARA
3.	ૢ	h`	0A83	VISARGA
4.	અ	a	0A85	A
5.	આ	aa	0A86	AA
6.	ઇ	i	0A87	I
7.	ઈ	ii	0A88	II
8.	ઉ	u	0A89	U
9.	ઊ	uu	0A8A	UU
10.	ૠ	r`	0A8B	VOCALIC R
11.	ૡ	lr`	0A8C	VOCALIC L
12.	એ	a`	0A8D	CANDRA E
13.	ૠ	e	0A8F	E
14.	ૡ	ai	0A90	AI
15.	ૢ	ao	0A91	CANDRA O
16.	ૣ	o	0A93	O
17.	૤	au	0A94	AU
18.	ક	ka	0A95	KA
19.	ખ	kha	0A96	KHA
20.	ગ	ga	0A97	GA
21.	ઘ	gha	0A98	GHA
22.	ંગ	nga	0A99	NGA
23.	ચ	ca	0A9A	CA
24.	છ	cha	0A9B	CHA
25.	જ	ja	0A9C	JA
26.	ઝ	jha	0A9D	JHA
27.	ન	nja	0A9E	NYA
28.	ટ	t^a	0A9F	TTA
29.	ઠ	t^ha	0AA0	TTHA
30.	ડ	d^a	0AA1	DDA
31.	ઢ	d^ha	0AA2	DDHA
32.	ણ	n^a	0AA3	NNA
33.	ત	ta	0AA4	TA
34.	થ	tha	0AA5	THA
35.	દ	da	0AA6	DA
36.	ધ	dha	0AA7	DHA
37.	ન	na	0AA8	NA
38.	પ	pa	0AAA	PA
39.	ફ	pha	0AAB	PHA
40.	બ	ba	0AAC	BA
41.	ભ	bha	0AAD	BHA
42.	મ	ma	0AAE	MA

43.	યા	ya	0AAF	YA	54.	૦	0	0AE6	ZERO
44.	રા	ra	0AB0	RA	55.	૧	1	0AE7	ONE
45.	લા	la	0AB2	LA	56.	૨	2	0AE8	TWO
46.	ળા	l^a	0AB3	LLA	57.	૩	3	0AE9	THREE
47.	વા	va	0AB5	VA	58.	૪	4	0AEA	FOUR
48.	શા	sha	0AB6	SHA	59.	૫	5	0AEB	FIVE
49.	સા	s^a	0AB7	SSA	60.	૬	6	0AEC	SIX
50.	સા	sa	0AB8	SA	61.	૭	7	0AED	SEVEN
51.	હા	ha	0AB9	HA	62.	૮	8	0AEE	EIGHT
52.	ર્ર	r^r`	0AE0	VOCALIC RR	63.	૯	9	0AEF	NINE
53.	લ્ર	lr^lr`	0AE1	VOCALIC LL	64.	૨	h~	0ABD	AVAGRAHA

8.4.1 Gujarati example words in proposed scheme:

અમારું (amaarum~), આપણે (aapan^e), ઇયળ (iyal^a), ઇશારો (ishaaro), ઈંટ (iim~t^a), ઈંધણ (iim~dhan^a), ઉત્કર્ષ (utkars^a), ઉત્પન્ન (utpanna), ઊંડુ (uum~d^u), ઊંટ(uum~t^a), ઊંઘ (uum~gha), મેલ (mela), મેલ (ma^la), ગોળ (gol^a), ગોળ (gaol^a), ગોરજ (goraja), ફળ (phal^a), ગુણવાન (gun^avaana), પટકોણ (s^at^akon^a), આહ્લાદ (aahlaada), આળ (aal^a), આંજવું (aam~javum~), ગ્રીષ્મ (griis^ma), ઉષ્ણ (us^n^a), બ્રહ્મા (brahmaa), ભીંડો (bhiim~d^o), કાંટો (kam~t^o), કાંટા (kam~kan^a), જ્યોત્સ્ના (jyotsnaa), મુદ્દો (muddo), યુદ્ધ (yuddha), અર્થાત્ (arthat), બહેન (bahena), દુઃખ (duHkha), દુઃખી (dukhii), થૂંકવું (thuum~kavum~)

8.5 Transliteration scheme for Gurmukhi Script (representing Punjabi)

Table 5 Transliteration scheme for Gurmukhi Script

Sl.N.	Gurmukhi	Transliteration	Unicode	Unicode Names
1.	ੳ	m~	0A70	TIPPI
2.	.	n~	0A02	BINDI
3.	ਅ	A	0A05	A
4.	ਆ	aa	0A06	AA
5.	ਇ	I	0A07	I

6.	ਈ	ii	0A08	II
7.	ਉ	u	0A09	U
8.	ਊ	uu	0A0A	UU
9.	ਏ	E	0A0F	E
10.	ਐ	ai	0A10	AI
11.	ਓ	o	0A13	O
12.	ਔ	au	0A14	AU
13.	ਕ	ka	0A15	KA
14.	ਖ	kha	0A16	KHA
15.	ਗ	ga	0A17	GA
16.	ਘ	gha	0A18	GHA
17.	ਙ	nga	0A19	NGA
18.	ਚ	ca	0A1A	CA
19.	ਛ	cha	0A1B	CHA
20.	ਜ	ja	0A1C	JA
21.	ਝ	jha	0A1D	JHA
22.	ਞ	nja	0A1E	NYA
23.	ਟ	t^a	0A1F	TTA
24.	ਠ	t^ha	0A20	TTHA
25.	ਡ	d^a	0A21	DDA
26.	ਢ	d^ha	0A22	DDHA
27.	ਣ	n^a	0A23	NNA
28.	ਤ	ta	0A24	TA
29.	ਥ	tha	0A25	THA

30.	ਦ	da	0A26	DA
31.	ਧ	dha	0A27	DHA
32.	ਨ	na	0A28	NA
33.	ਪ	pa	0A2A	PA
34.	ਫ	pha	0A2B	PHA
35.	ਬ	ba	0A2C	BA
36.	ਭ	bha	0A2D	BHA
37.	ਮ	ma	0A2E	MA
38.	ਯ	ya	0A2F	YA
39.	ਰ	ra	0A30	RA
40.	ਲ	la	0A32	LA
41.	ਲ਼	l^a	0A33	LLA
42.	ਵ	va	0A35	VA
43.	ਸ਼	sha	0A36	SHA
44.	ਸ	sa	0A38	SA
45.	ਹ	ha	0A39	HA
46.	ਖ਼	khza	0A59	KHHA
47.	ਗ਼	gza	0A5A	GHHA
48.	ਜ਼	jza	0A5B	ZA
49.	ਡ਼	d^za	0A5C	DDDHA
50.	ਫ਼	phza	0A5E	FA
51.	।		0A64	DANDA
52.	॥		0A65	DB DANDA
53.	੦	0	0A66	ZERO

54.	ੴ	1	0A67	ONE	59.	੬	6	0A6C	SIX
55.	੨	2	0A68	TWO	60.	੭	7	0A6D	SEVEN
56.	੩	3	0A69	THREE	61.	੮	8	0A6E	EIGHT
57.	੪	4	0A6A	FOUR	62.	੯	9	0A6F	NINE
58.	੫	5	0A6B	FIVE					

8.5.1 Punjabi/i example words in proposed scheme

ਕਾ (kaa), ਕੀ (ki), ਕੀ (kii), ਕੁ (ku), ਕੂ (kuu), ਕੇ (ke), ਕੈ (kai), ਕੋ (ko), ਕੌ (kau), ਕੰ (kam~), ਕਾਂ (kaan~), ਕੀਂ (kim~), ਕੀਂ (kiin~), ਕੁੰ (kum~), ਕੁੰ (kun~) ਕੁੰ (kuum~), ਕੁੰ (kuun~) ਕੇ (ken~), ਕੈ (kain~), ਕੋ (kon~), ਕੌ (kaun~)

ਸਵਰ (svara), ਸਵੈ-ਜੀਵਨੀ (svai-jiiivanii), ਜੇਬ੍ਹਾ (jebha), ਕੱਲ੍ਹਾ (kallha), ਤਰ੍ਹਾਂ (tarhaam~), ਉਨ੍ਹਾਂ (unhaan~), ਪ੍ਰਾਪਤ (praapata), ਪ੍ਰਬੰਧ (prabam~dha), ਪੜ੍ਹ (pad^zha), ਚੰਡੀਗੜ੍ਹ (cam~d^iigad^zha), ਰਾਮਲੀਲਾ (raamaliilhaa), ਸੜਕ (sad^zaka), ਭ੍ਰਿਸ਼ਟਾਚਾਰ (bhrishat^aacaara), ਕਾਵਿ-ਸੰਗ੍ਰਹੀ (kaavi-sam~grahi), ਬੱਦਲ (baddala), ਪਰੰਪਰਾ (param~paraa), ਵੱਲੋਂ (vallon~), ਅਸੀਂ (asiin~), ਗੌਰਮਤਿ (gauramim~t^a), ਸੁੰਦਰਤਾ (sum~darataa) ਗਰਾਊਂਡ (garaauun~d^a), ਸਮੇਂ (samen~), ਜ਼ਿਮੀਂਦਾਰ (jzimiin~daara), ਜ਼ਿਮੀਂਦਾਰੀ (jzim~mevaarii), ਰੰਗ (ram~ga), ਅੰਮ੍ਰਿਤ (aam~mrita), ਨੈਂ (naun~), ਕੇਂਦਰ (ken~dara) ਕੌਂਸਲ (kaun~sala), ਪਿੰਡ (pim~d^a), ਉਂਜ (unn~ja), ਜੁਗਨੂੰ (juganuun~), ਆਲ੍ਹਣਾ (aalhan^aa), ਸਤਰੰਗੀ (sataram~gii), ਪੀਘ (piin~gha), ਪੰਘੂੜਾ (pam~ghuud^zaa), ਹਵੇਲੀ (havelii), ਸੱਥ (sattha), ਪੰਚਾਇਤ (pam~caaita), ਵਹਿੜਾ (vihad^zaa), ਪਸ਼ੂ (pashuu), ਡੰਗਰ (dam~gara), ਖੇਤੀਬਾੜੀ (khetiibaad^zii), ਭੂਗੋਲ (bhuugola), ਘੁੰਮਦਾ (ghum~madaa), ਕੱਪੜਾ (kappad^zaa), ਲੱਭ (labbha), ਬੱਚਾ (baccaa), ਜੰਗਲ (jam~gala), ਉੱਤੇ (utte), ਜਦੋਂ (jadon~), ਸੌਂਦਾ (saun~daa), ਕਰਾਂਗਾ (karaan~gaa), ਮੈਨੂੰ (mainuum~), ਪਹਾੜ (pahaad^za), ਤੁਸੀਂ (tusiin~), ਪਰੀਖਿਆ (pariikhiaa), ਵੀਦਿਆ (viddiaa), ਸਿੱਖਿਆ (sikkhiaa), ਬਾਅਦ (baaada), ਨਵਾਂ (navaan~), ਨਵੇਂ (naven~), ਨੱਚ (nacc), ਤਨਿ (tim~na), ਸਕੂਲ (sakuula), ਜਮਾਤ (jamaata), ਦਰਖਤ (darakhzata), ਧੜਮ (dhad^zam~ma), ਡਾਂਗ (d^igga), ਧੁੱਪ (dhuppa), ਰੌਸ਼ਨੀ (raushanii), ਜਿਵੇਂ (jiven~), ਕੀਉਂ (kiun~), ਖੋਲ੍ਹਿਆ (kholhiaa)

8.5.2 Sample Punjabi Text in Gurmukhi and Roman script:-

ਚੰਡੀਗੜ੍ਹ ਭਾਰਤ ਦੀ ਇੱਕ ਯੂਨੀਅਨ ਟੈਰਟਰੀ ਹੈ। ਇਹ ਭਾਰਤ ਦੇ ਦੋ ਸੂਬਿਆਂ ਪੰਜਾਬ ਅਤੇ ਹਰਿਆਣਾ ਦੀ ਰਾਜਧਾਨੀ ਹੈ। ਇਸ ਨੂੰ ਭਾਰਤ ਦਾ ਖੂਬਸੂਰਤ ਸ਼ਹਿਰ ਮੰਨਿਆ ਜਾਂਦਾ ਹੈ। ਸ਼ਹਿਰ ਦੇ ਲਾਗੇ ਦੇ ਜ਼ਿਲ੍ਹਿਆਂ ਵਾਂਗ ਹਰਿਆਣਾ ਦੇ ਅੰਬਾਲਾ ਅਤੇ ਪੰਚਕੁਲਾ ਅਤੇ ਪੰਜਾਬ ਦੇ ਮੋਹਾਲੀ, ਪਟਿਆਲਾ ਅਤੇ ਰੋਪੜ ਜ਼ਿਲ੍ਹੇ ਹਨ। ਇਸਦੇ ਉੱਤਰੀ ਹੱਦ ਤੇ ਹਮਿਚਲ ਪ੍ਰਦੇਸ਼ ਦੀ ਹੱਦ ਜ਼ਿਆਦਾ ਦੂਰ ਨਹੀਂ ਹੈ। ਸ਼ਹਿਰ ਦੀ ਆਬ-ਓ-ਹਵਾ ਸਲੀਨ ਸਬ-ਟ੍ਰਾਪਿਕਲ ਕਲਿਮ ਦੀ ਹੈ; ਜਿਸ ਵਾਂਗ ਗਰਮੀਆਂ ਵਾਂਗ ਬਹੁਤ ਗਰਮੀ, ਸ਼ੀਤਲ ਵਾਂਗ ਨੀਂਹ, ਬੇਅਤਬਾਰੀ ਬਰਸਾਤ ਅਤੇ ਟੈਪਰੇਚਰ ਵਾਂਗ ਵੱਡੇ ਫਰਕ (-1° ਤੋਂ 41.2°) ਦਾ ਅੰਦਾਜ਼ਾ ਰਹਦਾ ਹੈ। ਸ਼ੀਤਲ ਵਾਂਗ ਦਸੰਬਰ ਅਤੇ ਜਨਵਰੀ ਦੇ ਮਹੀਨੇ ਵਾਂਗ ਕਦੇ-ਕਦੇ ਕੋਹਰਾ ਹੋ ਸਕਦਾ ਹੈ। ਔਸਤ ਸਾਲਾਨਾ ਬਰਸਾਤ 111.07 c.m. ਹੁੰਦੀ ਹੈ। ਸ਼ਹਿਰ ਵਾਂਗ ਕਈ ਵਾਰ ਲਹਿੰਦੇ ਤੋਂ ਪਰਤਦੇ ਮਾਨਸੂਨ ਸ਼ੀਤਲ ਬਰਸਾਤ ਵੀ ਕਰ ਦਿੰਦੇ ਹਨ। ਭਾਰਤੀ ਪੰਜਾਬ ਦੀ ਰਾਜਧਾਨੀ ਚੰਡੀਗੜ੍ਹ ਹੈ ਅਤੇ ਪਾਕਿਸਤਾਨੀ ਪੰਜਾਬ ਦੀ ਰਾਜਧਾਨੀ ਲਹੌਰ ਹੈ। ਬਰਤਾਨਵੀ ਹਦਿਸਤਾਨ ਦੀ ਵੰਡ ਮਗਰੋਂ 1947 ਵਾਂਗ ਸੂਬੇ ਪੰਜਾਬ ਨੂੰ ਭਾਰਤ ਅਤੇ ਪਾਕਿਸਤਾਨ ਵਿੱਚਕਾਰ ਦੇ ਹਿੱਸਿਆਂ ਵਿੱਚ ਵੰਡ ਦਿੱਤਾ ਗਿਆ ਸੀ। ਇਸ ਵੰਡ ਕਰਕੇ ਰਾਜ ਦੀ ਪੁਰਾਣੀ ਰਾਜਧਾਨੀ ਲਹੌਰ ਪਾਕਿਸਤਾਨ ਦੇ ਹਿੱਸੇ ਵਿੱਚ ਚਲੀ ਗਈ ਸੀ। ਹੁਣ ਭਾਰਤੀ ਪੰਜਾਬ ਨੂੰ ਇੱਕ ਨਵੀਂ ਰਾਜਧਾਨੀ ਦੀ ਲੋੜ ਪਈ। ਪਹਿਲਾਂ ਮੌਜੂਦ ਸ਼ਹਿਰਾਂ ਨੂੰ ਰਾਜਧਾਨੀ ਵਿੱਚ ਬਦਲਣ ਵਿੱਚ ਆਉਣ ਵਾਲੀਆਂ ਬਹੁਤ

ਸਾਰੀਆਂ ਐਕੜਾਂ ਦੇ ਸਿੱਟੇ ਵੱਜੋਂ ਇੱਕ ਨਵੀਂ ਪਲੈਨਡ ਰਾਜਧਾਨੀ ਕਾਇਮ ਕਰਨ ਦਾ ਫੈਸਲਾ ਕੀਤਾ ਗਿਆ। ਉਸ ਵੇਲੇ ਭਾਰਤ ਵਿੱਚ ਚੱਲ ਰਹੀਆਂ ਬਹੁਤ ਸਾਰੀਆਂ ਨਵੀਆਂ ਸ਼ਹਿਰੀ ਤਜਵੀਜ਼ਾਂ ਵਿੱਚ ਚੰਡੀਗੜ੍ਹ ਨੂੰ ਸਭ ਤੋਂ ਵੱਧ ਅਹਿਮੀਅਤ ਮਿਲੀ ਜਿਸਦੇ ਖਾਸ ਕਾਰਣ ਸਨ ਇੱਕ ਤਾਂ ਸ਼ਹਿਰ ਦੀ ਰਣਨੀਤਕ ਲੋਕੇਸ਼ਨ ਅਤੇ ਦੂਜਾ ਪ੍ਰਧਾਨ ਮੰਤਰੀ ਜਵਾਹਰ ਲਾਲ ਨਹਿਰੂ ਦਾ ਇਸ ਪ੍ਰਾਜੈਕਟ ਵਿੱਚ ਜ਼ਾਤੀ ਤੌਰ ਤੇ ਰੁਝਾਨ ਹੋਣਾ। ਨਵੀਂ ਕੌਮ ਦੇ ਮਾਡਰਨ ਅਤੇ ਅਗਾਂਹ-ਵਧੂ ਨਜ਼ਰੀਏ ਦੇ ਰੂਪ ਵਿੱਚ ਚੰਡੀਗੜ੍ਹ ਨੂੰ ਵੇਖਦੇ ਹੋਏ ਉਨ੍ਹਾਂ ਨੇ ਸ਼ਹਿਰ ਨੂੰ ਬੀਤੀਆਂ ਹੋਈਆਂ ਰਿਵਾਇਤਾਂ ਤੋਂ ਅਜ਼ਾਦ, ਕੌਮ ਦੇ ਅੱਗੇ ਵਧਣ ਵਿੱਚ ਯਕੀਨ ਰੱਖਣ ਦਾ ਚਿੰਨ੍ਹ ਦੱਸਿਆ। ਸ਼ਹਿਰ ਦਾ ਡਿਜ਼ਾਇਨ ਇੱਕ ਫ਼ਰਾਂਸੀਸੀ ਆਰਕੀਟੈਕਟ ਅਤੇ ਸ਼ਹਿਰੀ ਨਕਸ਼ਾਸ਼ਾਸ਼ ਲ ਕਾਰਬੂਜ਼ਿਏ ਨੇ 1950 ਦੇ ਦਹਾਕੇ ਵਿੱਚ ਕੀਤਾ। ਕਾਰਬੂਜ਼ਿਏ ਅਸਲ ਵਿੱਚ ਸ਼ਹਿਰ ਦੇ ਦੂਸਰੇ ਆਰਕੀਟੈਕਟ ਸਨ। ਪਹਿਲਾ ਮਾਸਟਰ-ਪਲੈਨ ਅਮਰੀਕੀ ਆਰਕੀਟੈਕਟ ਐਲਬਰਟ ਮੇਅਰ ਨੇ ਬਣਾਇਆ ਸੀ, ਜੋ ਆਰਕੀਟੈਕਟ ਮੈਥਿਊ ਨਾਵੀਤਸਕੀ ਨਾਲ ਕੰਮ ਕਰਦੇ ਸਨ। 1950 ਵਿੱਚ ਨਾਵੀਤਸਕੀ ਦੀ ਕੁਵੇਲੇ ਮੌਤ ਕਾਰਨ ਕਾਰਬੂਜ਼ਿਏ ਨੂੰ ਇਹ ਪ੍ਰਾਜੈਕਟ ਮਿਲਿਆ।

cam~d^iigad^zha bhaarata dii ika yuuniiiana t^airat^arii hai. iha bhaarata de do suubiaan~ pam~jaaba ate hariaan^aa dii raajadhaanii hai. isa nuum~ bhaarata daa khzuubasuurata shahira mam~niaa jaan~daa hai. shahira de laage de jzilhiaan~ vicca hariaan^aa de am~baalaa ate pam~cakula ate pam~jaaba de mohaalii, pat^iaalaa ate ropad^za jzilhe hana. isade uttarii hisse ton~ himaacala pradesh di hadda jziaadaa duura nahin~ hai. shahira dii aaba-o-havaa sillhii saba-t^raapikala kisama dii hai; jisa vicca garamiiaan~ vicca bahuta garamii, siaal^a vicca niggha, beatabaarii barasaata ate t^ain~parecara vicca vad^d^e phzaraka (-1° ton~ 41.2°) daa am~daajzaa rahim~da hai. siaal^a vicca disam~bara ate janavarii de mahiine vicca kade-kade koharaa ho sakadaa hai. ausata saalaanaa barasaata 111.07 c.m. hun~di hai. shahira vicca kaii vaara hahim~de ton~ paratade maavsuuna siaal^uu barasaata vii kara dim~de hana. bhaaratii pam~jaaba dii raajadjaanii cam~d^iigad^ha hai ate paakisataanii pam~jaaba di raajadhaanii lahaura hai. barataanavii him~dusataana dii vam~d^a magaron~1947 vicca suube pam~jaaba num~bhaarata ate pakisataana vicaakaara do hiddiaan~ vicca vam~d^a dittaa giaa sii. isa vam~d^a karake raaja dii puraani raajadhaanii lahaura paakisataana de hisse vicca calii gaii sii. hun^a bhaaratii pam~jaaba nuum~ ikka naviin~ raajadhaanii di lod^za paii. pahilaan~ maujuuda shahiraan~ nuum~ raajadhaanii vicca badalan^a vicca aaun^a vaaliiiaan~ bahuta saariiiaan~ aukad^zaan~ de sitt^e vajjon~ ikka naviin~ palainad^a raajadhaanii kaaima karana daa phaisalaa kiitaa giaa. usa vele bhaarata vicca challa rahiiiaan~ bahuta saariiiaan~ naviiiaan~ shahirii tajaviijzaan~ vicca cam~d^iigad^za nuum~ sabha ton~ vaddha ahimiiata milii jisade khzaasa kaarana sana ikka taan~ shahira dii ran^aniitaka lokeshana ate duujaa pradhaana mam~tarii javaahara laala nahiruu da isa praajaikat^a vicca jzaatii taura te rujhaana hon^aa. naviin~ kauma de maadarana ate agaan~ha-vadhuu najzariie de ruupa vicca cam~d^iigad^zha nu vekhade hoe unhaan~ ne shahira nuum~ biitiiiaan~ hoiiiaan~ rivaaiataan~ ton~ ajzaada, kauma de agge vadhan^a vicca yakiina rakkhan^a da cim~nha dassiaa. shahira daa d^ijzaaina ikka phzaraan~siisii aarkiit^aikat^a ate shahirii nakashaasaajza la kaarabuujzie ne 1950 de dahaake vicca kiitaa. kaarabuujzie asala vicca shahira de duusare aarkiit^aikat^a sana. pahila maasat^ara-palaina amariikii aarakit^aikat^a ailabarat^a meara ne ban^aaiaa sii, jo aarakit^aikat^a maithiinu naabiitasakii naala kam~ma karade sana. 1950 vicca naaviitasakii dii kuvele mauta kaarana kaarabuujzie nuum~ iha praajaikat^a miliaa.

8.6 Transliteration scheme for Kannada Script

Table 6 Transliteration scheme for Kannada Script

Sl.N.	Kannada	Transliteration	Unicode	Unicode Names
1.	ಂ	n̄	0C82	ANUSVARA
2.	ಃ	h̄	0C83	VISARGA
3.	ಅ	a	0C85	A
4.	ಆ	aa	0C86	AA
5.	ಇ	i	0C87	I
6.	ಈ	ii	0C88	II
7.	ಉ	u	0C89	U
8.	ಊ	uu	0C8A	UU
9.	ಋ	r̄	0C8B	VOCALIC R
10.	ೠ	lr̄	0C8C	VOCALIC L
11.	ಎ	ē	0C8E	E
12.	ಏ	e	0C8F	EE
13.	ಐ	ai	0C90	AI
14.	ಒ	ō	0C92	O
15.	ಓ	o	0C93	OO
16.	ಔ	au	0C94	AU
17.	ಕ	ka	0C95	KA
18.	ಖ	kha	0C96	KHA
19.	ಗ	ga	0C97	GA
20.	ಘ	gha	0C98	GHA
21.	ಙ	nga	0C99	NGA
22.	ಚ	ca	0C9A	CA

23.	ಛ	cha	0C9B	CHA
24.	ಜ	ja	0C9C	JA
25.	ಝ	jha	0C9D	JHA
26.	ಞ	nja	0C9E	NYA
27.	ಟ	t^a	0C9F	TTA
28.	ಠ	t^ha	0CA0	TTHA
29.	ಡ	d^a	0CA1	DDA
30.	ಢ	d^ha	0CA2	DDHA
31.	ಣ	n^a	0CA3	NNA
32.	ತ	ta	0CA4	TA
33.	ಥ	tha	0CA5	THA
34.	ದ	da	0CA6	DA
35.	ಧ	dha	0CA7	DHA
36.	ನ	na	0CA8	NA
37.	ಪ	pa	0CAA	PA
38.	ಫ	pha	0CAB	PHA
39.	ಬ	ba	0CAC	BA
40.	ಭ	bha	0CAD	BHA
41.	ಮ	ma	0CAE	MA
42.	ಯ	ya	0CAF	YA
43.	ರ	ra	0CB0	RA
44.	ಱ	rza	0CB1	RRA
45.	ಲ	la	0CB2	LA
46.	ಳ	l^a	0CB3	LLA

47.	va	0CB5	VA
48.	sha	0CB6	SHA
49.	s^a	0CB7	SSA
50.	sa	0CB8	SA
51.	ha	0CB9	HA
52.	r`r`	0CE0	VOCALIC RR
53.	lr`lr`	0CE1	VOCALIC LL
54.	0	0CE6	ZERO
55.	1	0CE7	ONE
56.	2	0CE8	TWO

57.	3	0CE9	THREE
58.	4	0CEA	FOUR
59.	5	0CEB	FIVE
60.	6	0CEC	SIX
61.	7	0CED	SEVEN
62.	8	0CEE	EIGHT
63.	9	0CEF	NINE
64.	h~	0CBD	AVAGRAHA

8.7 Transliteration scheme for Malayalam Script

Table 7 Transliteration scheme for Malayalam Script

SL.N.	Malayalam	Transliteration	Unicode	Unicode Names
1.	ഠ	n~	0D02	ANUSVARA
2.	ഡ	h`	0D03	VISARGA
3.	അ	a	0D05	A
4.	ആ	aa	0D06	AA
5.	ഇ	i	0D07	I
6.	ഈ	ii	0D08	II
7.	ഉ	u	0D09	U
8.	ഊ	uu	0D0A	UU
9.	ഋ	r`	0D0B	VOCALIC R
10.	ൠ	lr`	0D0C	VOCALIC L

11.	എ	e`	0D0E	E
12.	ഐ	e	0D0F	EE
13.	ഓ	ai	0D10	AI
14.	ഔ	o`	0D12	O
15.	ഓ	o	0D13	OO
16.	ഔ	au	0D14	AU
17.	ക	ka	0D15	KA
18.	ഖ	kha	0D16	KHA
19.	ഗ	ga	0D17	GA
20.	ഘ	gha	0D18	GHA
21.	ങ	nga	0D19	NGA
22.	ച	ca	0D1A	CA

23.	ച	cha	0D1B	CHA
24.	ജ	ja	0D1C	JA
25.	ശ	jha	0D1D	JHA
26.	ഞ	nja	0D1E	NYA
27.	ട	t^a	0D1F	TTA
28.	ഠ	t^ha	0D20	TTHA
29.	ഡ	d^a	0D21	DDA
30.	ഢ	d^ha	0D22	DDHA
31.	ണ	n^a	0D23	NNA
32.	ത	ta	0D24	TA
33.	ഥ	tha	0D25	THA
34.	ദ	da	0D26	DA
35.	ധ	dha	0D27	DHA
36.	ന	na	0D28	NA
37.	ണ	nza	0D29	NNNA
38.	പ	pa	0D2A	PA
39.	ഫ	pha	0D2B	PHA
40.	ബ	ba	0D2C	BA
41.	ഭ	bha	0D2D	BHA
42.	മ	ma	0D2E	MA
43.	യ	ya	0D2F	YA
44.	ര	ra	0D30	RA
45.	റ	rza	0D31	RRA
46.	ല	la	0D32	LA

47.	ള	l^a	0D33	LLA
48.	ഴ	l^za	0D34	LLLA
49.	വ	va	0D35	VA
50.	ശ	sha	0D36	SHA
51.	ഷ	s^a	0D37	SSA
52.	സ	sa	0D38	SA
53.	ഹ	ha	0D39	HA
54.	ഋ	r`r`	0D60	VOCALIC RR
55.	ൠ	lr`lr`	0D61	VOCALIC LL
56.	൦	0	0D73	ZERO
57.	൧	1	0D67	ONE
58.	൨	2	0D68	TWO
59.	൩	3	0D69	THREE
60.	൪	4	0D6A	FOUR
61.	൫	5	0D6B	FIVE
62.	൬	6	0D6C	SIX
63.	൭	7	0D6D	SEVEN
64.	൮	8	0D6E	EIGHT
65.	൯	9	0D6F	NINE
66.	ഈ	h~	0D3D	AVAGRAHA
67.	ൺ	n^~	0D7A	CHILLU NN
68.	ൻ	n~	0D7B	CHILLU N
69.	ർ	rz~	0D7C	CHILLU RR
70.	ൽ	l~	0D7D	CHILLU L

71.	ശ	l^~	0D7E	CHILLU LL
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72.	ക	k~	0D7F	CHILLU K
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8.7.1 Malayalam example sentences in proposed scheme:

Malayalam Sentence	Trasliteration
നാസയുടെ ആർട്ടിമിസ് ഒന്നാം ദൗത്യം വിജയകരമായി പൂർത്തിയാക്കി.	naasayut^e` aarz!t^t^imis o`nnaan~ dautyan~ vijayakaramaayi puurz!ttiyaakki.
ചന്ദ്രനെ ചുറ്റി സുരക്ഷിതമായി തിരിച്ചെത്തിയ ഒരൈയോൺ സമീപ ഭാവിയിൽ തന്നെ മനുഷ്യരുമായി യാത്ര പുറപ്പെടും	. candrane` curzrzi surakshitamaayi tircce`ttiya o`rzaiyon^z! samiipa bhaaviyilz! tanne` manus^yarumaayi yaatra purzappe`t^un~.
ഈ സീസൺ ആർട്ടിക് സ്പോടനത്തോടെയാണ് ആരംഭിച്ചത്.	ii siisan^z! aarz!t^t^ik sphotanattot^e`yaan^ aaran~bhiccat.
ധ്രുവപ്രദേശങ്ങളിൽ നിന്ന് തണുത്ത കാറ്റ് വീശുന്നതിനെയാണ് ആർട്ടിക് വോർട്ടക്സ് അല്ലെങ്കിൽ പോളാർ വോർട്ടക്സ് എന്ന് വിളിക്കുന്നത്.	dhrzuvaprzadeshangngal^ilz! ninn tan^utta kaarzrz viishunnatine`yaan^ aarz!t^t^ik vorz!t^t^aks alle`ngkilz! pol^aarz! vorz!t^t^aks e`nn vil^ikkunnat.
ഏറോണയെന്ന വാക്കിലാണ് 2022 ന്റെ ശാസ്ത്രലോകം ഉണർന്നത്.	phl^urzon^aye`nna vaakkilaan^ ൨൦൨൨ nz!rze` shaastralokan~ un^arz!nnat.
കൊറോണയും ഇൻഫ്ലുവൻസയും ചേർന്ന് വരുന്ന രോഗാവസ്ഥ ഇസ്രായേലിൽ റിപ്പോർട്ട് ചെയ്യപ്പെട്ടതായിരുന്നു വാർത്ത.	ko`rzon^ayun~ inz!phl^uvanz!sayun~ cerz!nn varunna rogaavastha israayelilz! rzipporz!t^t^ ce`yyappe`t^t^ataayirunnu vaarz!tta.
പക്ഷേ, കൊവിഡ് സുനാമിക്ക് ശമനമുണ്ടായി.	paks^e ko`vid^ sunaamikk shamanamun^t^aayi.

8.8 Transliteration scheme for Meetei Mayek

Table 8 Transliteration scheme for Meetei Mayek

SL.N.	Meetei Mayek	Transliteration	Unicode	Unicode Names
1.	ᩈ	ka	ABC0	KOK (k)
2.	ᩈ	sa	ABC1	SAM (s)
3.	ᩈ	la	ABC2	LAI (l)
4.	ᩈ	ma	ABC3	MIT (m)
5.	ᩈ	pa	ABC4	PA (p)
6.	ᩈ	na	ABC5	NA (n)
7.	ᩈ	ca	ABC6	CHIL (c)
8.	ᩈ	ta	ABC7	TIL (t)
9.	ᩈ	kha	ABC8	KHOU (k ^h)
10.	ᩈ	nga	ABC9	NGOU (ŋ)
11.	ᩈ	tha	ABCA	THOU (t ^h)
12.	ᩈ	wa	ABCB	WAI (w)
13.	ᩈ	ya	ABCC	YANG (j)
14.	ᩈ	ha	ABCD	HUK (h)
15.	ᩈ	uu	ABCE	UN (u)
16.	ᩈ	ii	ABCF	I (i)
17.	ᩈ	pha	ABD0	PHAM (p ^h)
18.	ᩈ	a	ABD1	ATIYA (ə)
19.	ᩈ	ga	ABD2	GOK (g)

20.	ᩈ	jha	ABD3	JHAM (j ^h)
21.	ᩈ	r [`]	ABD4	RAI (ɹ)
22.	ᩈ	ba	ABD5	BA (b)
23.	ᩈ	ja	ABD6	JIL (j)
24.	ᩈ	da	ABD7	DIL (d)
25.	ᩈ	gha	ABD8	GHOu (g ^h)
26.	ᩈ	dha	ABD9	DHOu (d ^h)
27.	ᩈ	bha	ABDA	BHAM (b ^h)
28.	ᩈ	k:	ABDB	KOK LONSUM (k)
29.	ᩈ	l:	ABDC	LAI LONSUM (l)
30.	ᩈ	m:	ABDD	MIT LONSUM (m)
31.	ᩈ	p:	ABDE	PA LONSUM (p)
32.	ᩈ	n:	ABDF	NA LONSUM (n)
33.	ᩈ	t:	ABE0	TIL LONSUM (t)
34.	ᩈ	ng:	ABE1	NGOU LONSUM (ŋ)
35.	ᩈ	i:	ABE2	I LONSUM (i)
36.	ᩈ	o	ABE3	ONAP (o)
37.	ᩈ	i	ABE4	INAP (i)
38.	ᩈ	aa	ABE5	ANAP (a)

39.	ଠ	e	ABE6	YENAP (e)
40.	ଌ	au	ABE7	SOUNAP (əu)
41.	ୂ	u	ABE8	UNAP (u)
42.	ଐ	ai	ABE9	CHEINAP (əi)
43.	ଞ	n~	ABEA	NUNG (ŋ)
44.	୦	0	ABF0	ZERO
45.	୧	1	ABF1	ONE
46.	୨	2	ABF2	TWO

47.	୩	3	ABF3	THREE
48.	୪	4	ABF4	FOUR
49.	୫	5	ABF5	FIVE
50.	୬	6	ABF6	SIX
51.	୭	7	ABF7	SEVEN
52.	୮	8	ABF8	EIGHT
53.	୯	9	ABF9	NINE

8.9 Transliteration scheme for Oriya Script

Table 9 Transliteration scheme for Oriya Script

S.N.	Odia	Transliteration	Unicode	Unicode Names
1.	ଠ	m~	0B01	CANDRABINDU
2.	ଠ	n~	0B02	ANUSVARA
3.	ଠ	h`	0B03	VISARGA
4.	ଅ	a	0B05	A
5.	ଆ	aa	0B06	AA
6.	ଇ	i	0B07	I
7.	ଈ	ii	0B08	II
8.	ଉ	u	0B09	U
9.	ଊ	uu	0B0A	UU
10.	ଋ	r`	0B0B	VOCALIC R
11.	ୠ	lr`	0B0C	VOCALIC L
12.	ଏ	e	0B0F	E
13.	ଐ	ai	0B10	AI
14.	ଓ	o	0B13	O
15.	ଔ	au	0B14	AU
16.	କ	ka	0B15	KA
17.	ଖ	kha	0B16	KHA
18.	ଗ	ga	0B17	GA
19.	ଘ	gha	0B18	GHA
20.	ଙ	nga	0B19	NGA
21.	ଚ	ca	0B1A	CA
22.	ଛ	cha	0B1B	CHA

23.	ଜ	ja	0B1C	JA
24.	ଝ	jha	0B1D	JHA
25.	ଞ	nja	0B1E	NYA
26.	ଟ	t^a	0B1F	TTA
27.	ଠ	t^ha	0B20	TTHA
28.	ଡ	d^a	0B21	DDA
29.	ଢ	d^ha	0B22	DDHA
30.	ଣ	n^a	0B23	NNA
31.	ତ	ta	0B24	TA
32.	ଥ	tha	0B25	THA
33.	ଦ	da	0B26	DA
34.	ଧ	dha	0B27	DHA
35.	ନ	na	0B28	NA
36.	ପ	pa	0B2A	PA
37.	ଫ	pha	0B2B	PHA
38.	ବ	ba	0B2C	BA
39.	ଭ	bha	0B2D	BHA
40.	ମ	ma	0B2E	MA
41.	ଯ	ya	0B2F	YA
42.	ର	ra	0B30	RA
43.	ଲ	la	0B32	LA
44.	ଳ	l^a	0B33	LLA

45.	ୱ	va	0B35	VA
46.	ଶ	sha	0B36	SHA
47.	ଷ	s^a	0B37	SSA
48.	ସ	sa	0B38	SA
49.	ହ	ha	0B39	HA
50.	ଝ	d^za	0B5C	DDDHA
51.	ଞ	d^hza	0B5D	RHA
52.	ଝ	yza	0B5F	YYA
53.	ଋ	r`r`	0B60	VOCLIC RR
54.	ୠ	lr`lr`	0B61	VOCLIC LL
55.	୦	0	0B66	ZERO
56.	୧	1	0B67	ONE
57.	୨	2	0B68	TWO
58.	୩	3	0B69	THREE
59.	୪	4	0B6A	FOUR
60.	୫	5	0B6B	FIVE
61.	୬	6	0B6C	SIX
62.	୭	7	0B6D	SEVEN
63.	୮	8	0B6E	EIGHT
64.	୯	9	0B6F	NINE
65.	ୱ	h~	0B3D	AVAGRAHA

8.9.1 Odia example words in proposed scheme:

କା (kaa), କି (ki), କୀ (kii), କୁ (ku), କୁ (kuu), କେ (ke), କୈ (kai), କୋ (ko), କୌ (kau), କଂ (kam~), କଞ୍ (kan~) କାଂ (kaam~), କାଁ (kaan~) କିଂ (kim~), କିଂ (kiim~), କୁଂ (kum~), କୁଁ (kun~) କୁଂ (kum~), କୁଁ (kuun~) କେଂ (kem~), କୈଂ (kaim~), କୋଂ (kom~), କୌଂ (kaum~)

କଟକ (kat^aka), ଘାଟ (ghaat^a), ଘୃତ (ghr^ta), ବାଣୁଆ (baan^uaa), ରଷି (r`s^i), ବୁଢ଼ା (bud^hzaa), ପାଟଣା (paat^an^aa), ଅମ୍ବର (ambara), କୁମ୍ଭୀର (kumbhiira), ପଶ୍ଚିମ (pashchima),

ଅକ୍ଷଫୋର୍ଡ (aksaphord^a), ସର୍କାସ (sarkasa), ଗୁମ୍ଫା (gumphaa), ଉଦୟଗିରି (uday^agirii),

ମନ୍ଦିର (mandira), ଗାନ୍ଧି (gaandhi), ଲଙ୍କାମରିଚ (langkaamaricha), ଆଳୁ (aal^u), ପ୍ରାସାଦ (praasaada), ପୃଥ୍ବୀରାଜ (pr^thbiiraaja), ଲକ୍ଷ୍ମୀ (lakshmii), ଭଣ୍ଡାର (bhan^d^aara), ପଶ୍ଚିମାଞ୍ଚଳ (pashchimaanjchal^a), ବସନ୍ତ (basanta), କର୍ଣ୍ଣାଟକ (karn^an^aat^aka), ବୁଢ଼ (budhdha), ଆବ୍ରାହମ ଲିଙ୍ଗ (aabraahama lingkana), ଭରଦ୍ଵାଜ (bharadbaaja), ଜାତିୟ (jaatiiy^a), ଇନ୍ଦୋନେସିଆ (in^d^onesiaa), ଭାରତ (bhaarata), ରାଜସ୍ଥାନ (raajasthaana), ଉତ୍ତରାଞ୍ଚଳ (uttaranjchal^a), ବ୍ରାଜିଲ (braajila), ପାଣିତ (pan^d^ita), କାଜିରଙ୍ଗା (kaajiranggaa), କାଠମାଣ୍ଡୁ (kaat^hamaan^d^u), କାଶ୍ମିର (kaashmiira), ଅଗଷ୍ଟ (agas^t^a), ବ୍ରାହ୍ମଣ (braahman^a)

8.10 Transliteration scheme for Tamil Script

Table 10 Transliteration scheme for Tamil Script

SL.N.	Tamil	Transliteration	Unicode	Unicode Names
1.	◌̣	n~	0B82	ANUSVRA
2.	◌̣̣	h`	0B83	VISARGA
3.	அ	a	0B85	A
4.	ஆ	aa	0B86	AA
5.	இ	i	0B87	I
6.	ஈ	ii	0B88	II
7.	உ	u	0B89	U
8.	ஊ	uu	0B8A	UU
9.	எ	e`	0B8E	E
10.	ஏ	e	0B8F	EE
11.	ஐ	ai	0B90	AI
12.	ஓ	o`	0B92	O
13.	ஔ	o	0B93	OO
14.	ஔ	au	0B94	AU
15.	க	ka	0B95	KA
16.	ங	nga	0B99	NGA
17.	ச	ca	0B9A	CA
18.	ஜ	ja	0B9C	JA

19.	ஞ	nja	0B9E	NYA
20.	ட	t^a	0B9F	TTA
21.	ண	n^a	0BA3	NNA
22.	த	ta	0BA4	TA
23.	ந	na	0BA8	NA
24.	ன	nza	0BA9	NNNA
25.	ப	pa	0BAA	PA
26.	ம	ma	0BAE	MA
27.	ய	ya	0BAF	YA
28.	ர	ra	0BB0	RA
29.	ற	rza	0BB1	RRA
30.	ல	la	0BB2	LA
31.	ள	l^a	0BB3	LLA
32.	ழ	l^za	0BB4	LLLA
33.	வ	va	0BB5	VA
34.	ஸ	sha	0BB6	SHA

35.	ஷ	s^a	0BB7	SSA
36.	ஸ	sa	0BB8	SA
37.	ஹ	ha	0BB9	HA
38.	ஐ	0	0BE6	ZERO
39.	க	1	0BE7	ONE
40.	உ	2	0BE8	TWO
41.	ங	3	0BE9	THREE
42.	ச	4	0BEA	FOUR
43.	ஞ	5	0BEB	FIVE
44.	ஶ	6	0BEC	SIX
45.	எ	7	0BED	SEVEN
46.	அ	8	0BEE	EIGHT
47.	ஐ	9	0BEF	NINE
48.	ஓ	o`m	0BD0	OM

8.10.1 Tamil example sentences and corresponing Transliteration:

Tamil Sentences	Transliteration
நாஜி குறியாக்க இயந்திரமான எனிக்மாவை உடைத்து, இரண்டாம் உலகப் போரில் நேசநாட்டுப் படைகள் வெற்றி பெற உதவிய பத்தாண்டுகளுக்குள், கணிதவியலாளரான ஆலன் டூரிங், “இயந்திரங்களால் சிந்திக்க	naaji kurzikka iyantiramaanza e`nzikmaavai ut^aittu, iran^t^aam ulakap poril necanaat^t^up pat^aikal^ ve`rzi pe`rza utaviya pattaan^t^ukal^ukkul^, kan^itaviyalaal^araan aalanz t^uuring, "iyantirangkal^aal cintikka mut^iyumaa?" e`nzkirza kel^viyut^anz varalaarzzai maarzziyamaikka munzaintaar.

முடியுமா?" என்கிற கேள்வியுடன் வரலாற்றை மாற்றியமைக்க முனைந்தார்.	
1950 ஆம் ஆண்டில், அவர் 'கணினி இயந்திரம் மற்றும் நுண்ணறிவு' எனும் கட்டுரையினை வெளியிட்டதுடன், அவரது அடுத்தடுத்த சோதனைகள், செயற்கை நுண்ணறிவின் அடிப்படை இலக்கையும், பார்வையையும் நிறுவினார்.	1950 aam aan^til, avar 'kan^inzi iyantiram marzrum nun^n^arzivu' e'nzum kat^t^uraiyinzai vel^iyit^t^atut^anz, avaratu atuttatutta cotanzaikal^, ce^yarzkai nun^n^arzivin^ at^ippat^ai ilakkaiyum, paarvaiyaiyum nirzuviyatu.
விண்வெளிக்கு மனிதர்களை அனுப்ப பயன்படுத்தும் கிரையோஜெனிக் இயந்திர சோதனை நெல்லை மாவட்டம் மகேந்திரகிரி விண்வெளி ஆராய்ச்சி மையத்தில் நடைபெற்றது.	vin^ve`l^ikku manzitarikal^ai anzuppaa payanzpat^uttum kiraiyoje`nzik iyantira cotanzai ne`llai maavat^t^am makentirakiri vin^vin^ve`l^i aaraaycci maiyattil nat^aipe`rzzatu.
இந்த சோதனை வெற்றி பெற்றதாக கூறப்பட்டுள்ளது.	inta cotanzai ve`rzzai pe`rzzataaka kuurzappat^t^ul^l^atu.
கிரையோஜெனிக் எந்திரத்தின் சி.20 இ 11 எம்.கே.111 பரிசோதனை 28 விநாடிகள் நீடித்தது. இந்த சோதனை வெற்றிகரமாக நடந்து முடிந்ததாக இஸ்ரோ விஞ்ஞானிகள் தரப்பில் தெரிவிக்கப்பட்டுள்ளது.	kiraiyoje`nzik e`ntirattinz ci.20 i11 e`m.ke.111 paricotanai ve`rzzikaramaaka nat^antu mut^intataaka isro vinjnjaanzikal^ tarappil te`rivikkappat^t^ul^l^atu.
ஒரு மனிதரிடம் இருந்து மற்றொருவருக்கு பரவும் போது சிறு சிறு மாற்றங்கள் அதன் உயிர் அணுக்களில் ஏற்படும்.	o`ru manzitarit^am iruntu marzro`ruvarukku paravum potu cirzu cirzu maarzrangkal^ atanz uyir an^ukkal^il erzpat^um.
கொஞ்சம் வெளிப்படையான மாற்றம் ஏற்படும் போது அதை புதிய திரிபு வைரஸ் என்று	ko`njcam ve`l^ippat^aiyaanza maarzram erzpatum potu atai putiya wiripu vairas enzru at^aiyaal^appattut^uvar. appat^i ko`ronzaa vairas, aalpaa, piit^t^aa, kaamaa,

அடையாளப்படுத்துவர். அப்படி கொரோனா வைரஸ், ஆல்பா, பீட்டா, காமா, ஓமிக்ரோன் என்று பல்வேறு திரிபுகளை கண்டறிந்தது.	omikronz e`n rzu palverzu tiripukal^ai kan^tarzintatu.
இந்தியா , ஆப்பிரிக்கா நாடுகளில் கண்டறிய பட்ட இந்த திரிபுகளால் பல்லாயிரக்கணக்கான மக்கள் பாதிக்கப்பட்டு உயிர் இழந்தனர். தடுப்பூசிகள், கட்டுப்பாடுகள் போன்றவற்றால் நோய் பாதிப்புகளை குறைத்த நிலையில் தற்போது மீண்டும் சீனாவில் BF.7 என்ற வைரஸின் புதிய மாறுபாட்டுத் தொற்று வேகமாக பரவி வருகிறது.	intiyaa, aappirikkaa naat^ukal^il kan^t^rziya pat^t^a inta tiripukal^aal pallaayirakkan^akkaanza makkal^ paatikkappat^t^u uyir ilzantanzar. tat^uppuucikal^, kat^t^uppaat^ukal^ ponrzavarzraal noy paatippukal^ai kurzaitta nilaiyil tarzoity miin^t^um ciinzaavil BF.7 e`n rzza vairasinz putiya maarzupaat^t^ut to`rzru vekamaaka paravi varukirzatu.

8.11 Transliteration scheme for Telugu Script

Table 11 Transliteration scheme for Telugu Script

Sl.N.	Telugu	Transliteration	Unicode	Unicode Names
1.	ఠ	m~	0C01	CANDRABINDU
2.	ఠ	n~	0C02	ANUSVARA
3.	ః	h`	0C03	VISARGA
4.	అ	a	0C05	A
5.	ఆ	aa	0C06	AA
6.	ఇ	i	0C07	I
7.	ఈ	ii	0C08	II
8.	ఉ	u	0C09	U
9.	ఊ	uu	0C0A	UU
10.	ఋ	r`	0C0B	VOCALIC R
11.	ౠ	lr`	0C0C	VOCALIC L
12.	ఎ	e`	0C0E	E
13.	ఏ	e	0C0F	EE
14.	ఐ	ai	0C10	AI
15.	ఒ	o`	0C12	O
16.	ఓ	o	0C13	OO
17.	ఔ	au	0C14	AU
18.	క	ka	0C15	KA
19.	ఖ	kha	0C16	KHA

20.	గ	ga	0C17	GA
21.	ఘ	gha	0C18	GHA
22.	ఙ	nga	0C19	NGA
23.	చ	ca	0C1A	CA
24.	ఛ	cha	0C1B	CHA
25.	జ	ja	0C1C	JA
26.	ఝ	jha	0C1D	JHA
27.	ఞ	nja	0C1E	NYA
28.	ట	t^a	0C1F	TTA
29.	ఠ	t^ha	0C20	TTHA
30.	డ	d^a	0C21	DDA
31.	ఢ	d^ha	0C22	DDHA
32.	ణ	n^a	0C23	NNA
33.	త	ta	0C24	TA
34.	థ	tha	0C25	THA
35.	ద	da	0C26	DA
36.	ధ	dha	0C27	DHA
37.	న	na	0C28	NA
38.	ప	pa	0C2A	PA
39.	ఫ	pha	0C2B	PHA
40.	బ	ba	0C2C	BA

41.	భ	bha	0C2D	BHA
42.	మ	ma	0C2E	MA
43.	య	ya	0C2F	YA
44.	ర	ra	0C30	RA
45.	ఱ	rza	0C31	RRA
46.	ల	la	0C32	LA
47.	ళ	l^a	0C33	LLA
48.	వ	va	0C35	VA
49.	శ	sha	0C36	SHA
50.	ష	s^a	0C37	SSA
51.	స	sa	0C38	SA
52.	హ	ha	0C39	HA
53.	ఋ	r`r`	0C60	VOCALIC RR
54.	ౠ	lr`lr`	0C61	VOCALIC LL
55.	౦	0	0C66	ZERO
56.	౧	1	0C67	ONE
57.	౨	2	0C68	TWO
58.	౩	3	0C69	THREE
59.	౪	4	0C6A	FOUR
60.	౫	5	0C6B	FIVE
61.	౬	6	0C6C	SIX
62.	౭	7	0C6D	SEVEN

63.	౮	8	0C6E	EIGHT
64.	౯	9	0C6F	NINE

65.	౬	h~	0C3D	AVAGRAHA
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8.11.1 Telugu example words and sentences in proposed scheme:

క (ka), కా (kaa), కి (ki), కీ (kii), కు (ku), కూ (kuu), కృ (kr`), క్ష (kr`r`), కె (ke`), కే (ke), కై (kai), కొ (ko`), కో (ko), కౌ (kau), కం (ka.n), కః ( kah`)

పుస్తకం (pustaka.n), అమ్మాయి (ammaayi), గుడి (gud^i), తల (tala), కాలు (kaalu), చెయ్యి (ce`yyi), పరిగెత్తు (parige`ttu), చెప్పు (ce`ppu), జుట్టు (jut^t^u), భుజం (bhuja.n), ముక్కు (mukku), కళ (kal^a), ఇవ్వు (ivvu), ప్రేమించు (premi.ncu), వర్షం (vars^a.n), శరీరం (shariira.n), తాగు (taagu), అడుగు (ad^ugu), కొను (ko`nu), చదువు (caduvu), తిను (tinu), వృక్షం (vr`ks^a.n), క్షమించు (ks^ami.ncu)

8.11.2 Sample Telugu Text in Telugu and Roman script:-

కీళ్ల వ్యాధి(ఆస్టియోఆర్థరైటిస్) చికిత్సకు హైదరాబాద్‌కు చెందిన లీ హెల్త్ డొమెయిన్ సరికొత్త ఔషధాన్ని రూపొందించింది. శక్తివంతమైన ఫైటో పోషకాలతో సహజ బయోన్యూట్రాస్యూటికల్స్ ఆధారంగా స్మూత్‌వాక్ బ్రాండ్ పేరుతో ఈ ట్యాబ్లెట్లను తయారు చేశారు. కొలాజెన్ టైప్-2, ఎగ్ పెల్ నుంచి సేకరించిన పొర, గుగ్గిలం, పసుపు నుంచి తీసిన కుర్క్యుమిన్, విటమిన్ డి-3 మేళవింపుతో ఔషధాన్ని ఉత్పత్తి చేశారు. మృదులాస్థిని(కార్టిలేజ్) పెంచి కీళ్లలో కణజాల రుగ్మతలపై ఇది చక్కగా పనిచేస్తుంది. తద్వారా నొప్పులు, గట్టిదనాన్ని తగ్గిస్తుంది. ఈ మందు వాడితే సర్జరీలను నివారించవచ్చని కంపెనీ డైరెక్టర్ లీలా రాణి వెల్లడించారు.

సాధారణంగా బాధితుల్లో ఎక్కువ మంది మందులు, చికిత్సల కోసం వెళతారు. చివరి ప్రయత్నంగా శస్త్ర చికిత్స(సర్జరీ) చేయించుకుంటున్నారు. ఆస్టియోఆర్థరైటిస్ చికిత్సలో వాడే నాన్‌స్టెరాయిడ్‌ల్ యాంటీ ఇన్‌ఫ్లామేటరీ డ్రగ్స్, అనాల్జెసిక్స్ నొప్పిని నివారించి తాత్కాలికంగా ఉపశమనాన్ని కలిగిస్తాయి. స్మూత్‌వాక్ ట్యాబ్లెట్లు రోజు 2-3 వేసుకోవడం ద్వారా మూడు వారాల్లో నొప్పుల నుంచి వేగంగా ఉపశమనం లభిస్తుంది. ఇది సరళత(లూబ్రికేషన్), కదలిక మెరుగుపరిచి కీళ్లకు అనువుగా ఉంటుంది. ట్యాబ్లెట్లను మూడు నాలుగు నెలలు వాడడం ద్వారా సర్జరీలను నివారించవచ్చు.

18 ఏళ్లుపైబడ్డ వారందరూ వాడొచ్చు. కోవిడ్-19 నేపథ్యంలో ఆసుపత్రికి వెళ్లలేనివారు ఆన్‌లైన్‌లో అమెజాన్ ద్వారా స్మూత్‌వాక్‌ను కొనుగోలు చేయవచ్చు. అభివృద్ధి చెందిన, చెందుతున్న దేశాల్లో కీళ్లవాపునకు (ఆర్థరైటిస్) సంబంధించి ఆస్టియోఆర్థరైటిస్ సాధారణంగా వచ్చే రెండవ అతిపెద్ద జబ్బు. దేశంలో 18 కోట్లకు మందికిపైగా ఈ సమస్యతో బాధపడుతున్నారు. మధుమేహం, ఎయిడ్స్, క్యాన్సర్ రోగుల కంటే ఆర్థరైటిస్ బాధితులే అధికం. పురుషులతో పోలిస్తే మహిళలే ఎక్కువగా ఈ రుగ్మత బారిన పడుతున్నారు. 65 ఏళ్లుపైబడ్డ మహిళల్లో 45 శాతం మందికి ఈ జబ్బు లక్షణాలు బయటపడుతున్నాయి. పరీక్షల్లో వీరిలో 70 శాతం మందికి రుగ్మత నిర్ధారణ అవుతోంది.

kiil^la vyaadhi(aast^iyooartharait^is) cikitsaku haidaraabaadku ce`.ndina lii he`lt d^o`me`yin sariko`tta aus^adhaanni ruupo`.ndi.nci.ndi. shaktiva.ntamaina phait^o pos^akaalato sahaja bayonyuut^raasyuut^ikals aadhaara.ngaa smuutvaak braa.nd^ peruto ii t^yaable`t^lanu tayaaru ceshaaru. ko`laaje`n t^aip-2, e`g s^e`l nu.nci sekari.ncina po`ra, guggila.n, pasupu nu.nci tiisina kurkumin, vit^amin d^i-3 mel^avi.nputo aus^adhaanni utpatti ceshaaru. mr`dulaasthini(kaart^ilej) pe`.nci kiil^lalo kan^ajaala rugmatalapai idi cakkagaa panicestu.ndi. tadvaaraa no`ppulu, gat^t^idanaanni taggistu.ndi. ii ma.ndu vaad^ite sarjariilanu nivaari.ncavaccani ka.npe`nii d^aire`kt^ar liilaa raan^i ve`llad^i.ncaaru.

saadhaaran^a.ngaa baadhitullo e`kkuva ma.ndi ma.ndulu, cikitsala kosa.n ve`l^ataaru. civari prayatna.ngaa shastra cikitsa(sarjarii) ceyi.ncuku.nt^unnaaru. aast^iyooartharait^is cikitsalo vaad^e naanst^e`raayid^al yaa.nt^ii inphlaamet^arii d^rags, anaalje`siks no`ppini nivaari.nci taatkaalika.ngaa upashamanaanni kaligistaayi. skuutvaak t^yaable`t^lu rojuu 2-3 vesukovad^a.n dvaaraa muud^u vaaraallo no`ppula nu.nci vega.ngaa upashamana.n labhistu.ndi. idi saral^ata(luubrikes^an), kadalika me`ruguparici kiil^laku anuvugaa u.nt^u.ndi. t^yaable`t^lanu muud^u naalugu ne`lalu vaad^ad^a.n dvaaraa sarjariilanu nivaari.ncavaccu.

18 el^lupaibad^d^a vaara.ndaruu vaad^o`ccu. kovid^19 nepathya.nlo aasupatriki ve`l^lalenivaaru aanlainlo ame`jaan dvaaraa smuutvaaknu ko`nugolu ceyavaccu. abhivr`ddhi ce`.ndina, ce`.ndutunna deshaallo kiil^lavaapunaku (aartharait^is) sa.nba.ndhi.nci aast^iyooartharait^is saadhaaran^a.ngaa vacce re`.nd^ava atipe`dda jabbu. desha.nlo 18 kot^laku ma.ndikipaigaa ii samasyato baadhapaad^utunnaaru. madhumeha.n, e`yid^s, kyaansar rogula ka.nt^e aartharait^is baadhitule adhika.n. purus^ulato poliste mahil^ale e`kkuvagaa ii rugmata baarina pad^utunnaaru. 65 el^lupaibad^d^a mahil^allo 45 shaata.n ma.ndiki ii jabbu laks^an^aalu bayat^apad^utunnaayi. pariiks^allo viirilo 70 shaata.n ma.ndiki rugmata nirdaaran^a avuto.ndi.

9 SPECAIL REQUIREMENTS

Rule 1. All transliterations made using this standard shall be case-sensitive.

Rule 2. Inherent inherent vowel (ə) with a consonant shall always be transliterated. The consonants of most of the Indian languages carry inherent vowel (ə) sound and it is represented specifically by inserting ‘a’ after consonants if these are not followed by any dependent vowel.

Rule 3. As nasalization can be represented in Indian scripts using a diacritic symbol (Bindi or Anuswar), while transliterating, the orthographic representation of the source script is to be taken into consideration e.g. for हिंदी [hin~dii] and हिन्दी [hindii].

Rule 4. When Candrabindu or Anusvara represents vowel nasalization in a modern language, it shall be transliterated as a (m~) after the transliterated vowel. In the case of the digraphs ai, au, the (m~) shall be placed after to the second vowel.

NOTE 1 Vowel nasalization in modern languages (“modern nasalization”) occurs in languages of North India and Nepal, but not in classical Sanskrit or Vedic. Its general sign is Chandrabindu but, in Hindi and Nepali, Chandrabindu reduces to a dot after a vowel extending above the line.

Rule 5. When Chandrabindu or Anusvara or Bindi are associated with a vowel or a consonant, they shall be placed after that vowel or consonant. When these are associated with a dependent vowel or Matra, they shall be placed after the dependent vowel or Matra in transliterated form.

Rule 6. Latin punctuation signs and Hindu-Arabic numerals shall remain unchanged in transliteration. The numerals represented in respective scripts are to be changed with their Hindu-Arabic numeral equivalents.

Rule 7. A colon : before a Latin character shall be used to resolve ambiguity. Some normative cases are as follows:

- Vowel hiatus, not digraph transliteration of diphthongs; as in Hindi की (kai) “of” vs. कई (ka:i) “many” and in Bengali ba:i (not bai) for representing বই “book”.
- r:ya for Nepali - र्य (not rya, र्य)
- If combination of successive consonants also used to represent another consonant, than colon is used to distinguish between the two e.g. बह (b:ha) vs. भ (bha)

NOTE 2 A colon at the end of a word is normal punctuation.

Rule 8. If a word is ending with a Halant or Viram sign to indicate specific vowel drop, then in transliteration, final ‘a’ after the last character is to be dropped e.g. सत्त (satat)

Rule 9. Caret sign ^ is used for Retroflex consonants.

Rule 10. ` (grave accent) is used for with not so commonly used characters (e.g. Vocalic RR)

Rule 11. All Nukta characters use “z” to represent Nukta symbol.

Rule 12. Unicode Non-Joiner character is represented by \ (Backslash).

Rule 13. The special symbol Addak used for gemmination in Gurmukhi is represented with the repetition of the consonant following it e.g. ਬੱਚਾ baccaa, ਗੱਲ galla, ਸਿੱਖਿਆ sikkhiala.

Rule 14. Characters used to represent Sindhi implosive consonants make use of underscore characters after consonants e.g. ڱ (g_a)

ANNEX A
(Foreword)

SCHEDULED LANGUAGES IN INDIA AND CORRESPONDING SCRIPTS

Sl.	Language	Language Code (ISO 639-3:2007)	Script	Script Code (ISO 15924:2004)
1.	Assamese	asm	Bangla	beng
2.	Bangla	ben	Bangla	beng
3.	Bodo	brx	Devanagri	deva
4.	Dogri	doi	Devanagri	deva
5.	Gujarati	guj	Gujarati	gujr
6.	Hindi	hin	Devanagri	deva
7.	Kannada	kan	Kannada	knda
8.	Kashmiri	kas	Devanagri, Perso- Arabic	deva, arab
9.	Konkani	kok	Devanagri, Kannada, Malyalam, Perso- Arabic	deva, knda, mlym, arab
10.	Maithili	mai	Devanagri	Deva
11.	Manipuri	mni	Manipuri/Meitei Mayek, Bangla	mtei, beng
12.	Malayalam	mal	Malayalam	Mlym
13.	Marathi	mar	Devanagri	Deva
14.	Nepali	nep	Devanagri	Deva

15.	Oriya	ori	Oriya	Orya
16.	Punjabi	pan	Gurmukhi	Guru
17.	Sanskrit	san	Devanagri	Deva
18.	Santali	sat	Devanagri, Ol Chiki	deva, olck
19.	Sindhi	snd	Devanagri, Perso-Arabic	deva,
20.	Tamil	tam	Tamil	Taml
21.	Telugu	tel	Telugu	Telu
22.	Urdu	urd	Perso-Arabic	Arab

ANNEX B

COMPARISON OF DIFFERENT TRANSLITERATION SCHEMES

The Table 12 and 13 shows the transliteration of Devanagari Script using various transliteration schemes mentioned in Clause 4 (however, it is applicable for all major Indian scripts). The last column shows the transliteration scheme defined in this standard.

Table 12 Comparison of Different transliteration schemes

Sl.	Unicode Name	Dev	CIIL	WX	ITRANS	NLKR	ISO-15919	HK	IAST h's	INSROT	Velthuis	This Indian standard
1.	CHANDRABINDU	ँ	m'	z	.N					m_'	"m	m~
2.	ANUSVARA	ं	aM	M	.n	aṁ		M	Ṃṃ	m'	.m	n~
3.	VISARGA	ः	aH	H	H	aḥ		H	Ḥḥ	:	.h	h`
4.	A	अ	a	a	a	a	a	a	A\ā	a	a	a
5.	AA	आ	A	A	aa	ā	ā	A	Ā\ā	aa	aa	aa
6.	I	इ	i	i	i	i	i	i	I\i	i	i	i
7.	II	ई	I	I	ii	ī	ī	I	Ī\ī	ii	ii	ii
8.	U	उ	u	u	u	u	u	u	U\u	u	u	u
9.	UU	ऊ	U	U	uu	ū	ū	U	Ū\ū	uu	uu	uu
10.	VOCALIC R	ऋ	x	q	RRi	ṛ	ṛ	R	Ṛ\ṛ	r'i	.r	r`
11.	VOCALIC L	ॠ	q	L	LLi		!	IR	Ṭ\!	lr'i	.l	lr`
12.	CANDRA E	एँ	ae				ê					a`
13.	SHORT E	ऐ	e	eV	E	e	e			e'		e`
14.	E	ए	E	e	e	ē	ē	e	E\ē	e	e	e
15.	AI	ऐ	ai	E	ai	ai	ai	ai	Ai\ai	ai	ai	ai
16.	CANDRA O	औँ	ao	AV		--				o'		ao
17.	SHORT O	ओ	o	oV	O	o	o					o`
18.	O	ओ	O	o	o	o	ō	o	O\o	o	o	o

19.	AU	औ	au	O	au	ō		au	Au\au	au	au	au
20.	KA	क	ka	ka	ka	ka	ka	ka	Ka\ka	ka	ka	ka
21.	KHA	ख	kha	Ka	kha	kha	kha	kha	Kha\kha	kha	kha	kha
22.	GA	ग	ga	ga	ga	ga	ga	ga	Ga\ga	ga	ga	ga
23.	GHA	घ	gha	Ga	gha	gha	gha	gha	Gha\gha	gha	gha	gha
24.	NGA	ङ	ng'a	fa	~Na	ña	ña	Ga	Ña\ña	ng'a	"na	nga
25.	CA	च	ca	ca	cha	ca	ca	ca	Ca\ca	cha	ca	ca
26.	CHA	छ	cha	Ca	chha	cha	cha	cha	Cha\cha	c'ha	cha	cha
27.	JA	ज	ja	ja	ja	ja	ja	ja	Ja\ja	ja	ja	ja
28.	JHA	झ	jha	Ja	jha	jha	jha	jha	Jha\jha	jha	jha	jha
29.	NYA	ञ	nj'a	Fa	~na	ña	ña	Ja	Ña\ña	nj'a	~na	nja
30.	TTA	ट	Ta	ta	Ta	ṭa	ṭa	Ta	Ṭa\ṭa	t'a	.ta	t^a
31.	TTHA	ठ	Tha	Ta	Tha	ṭha	ṭha	Tha	Ṭha\ṭha	t'ha	.tha	t^ha
32.	DDA	ड	Da	da	Da	ḍa	ḍa	Da	Ḭa\ḍa	d'a	.da	d^a
33.	DDHA	ढ	Dha	Da	Dha	ḍha	ḍha	Dha	Ḭha\ḍha	d'ha	.dha	d^ha
34.	NNA	ण	Na	Na	Na	ṇa	ṇa	Na	Ṇa\ṇa	n'a	.na	n^a
35.	TA	त	ta	wa	ta	ta	ta	ta	Ta\ta	ta	ta	ta
36.	THA	थ	tha	Wa	tha	tha	tha	tha	Tha\tha	tha	tha	tha
37.	DA	द	da	xa	da	da	da	da	Da\da	da	da	da
38.	DHA	ध	dha	Xa	dha	dha	dha	dha	Dha\dha	dha	dha	dha
39.	NA	न	na	na	na	na	na	na	Na\na	na	na	na
40.	NNNA	न्	n'a	nYa	nh	ṇa	ṇa			n.a		nza
41.	PA	प	pa	pa	pa	pa	pa	pa	Pa\pa	pa	pa	pa
42.	PHA	फ	pha	Pa	pha	pha	pha	pha	Pha\pha	pha	pha	pha

43.	BA	ब	ba	ba	ba	ba	ba	ba	Ba\ba	ba	ba	ba
44.	BHA	भ	bha	Ba	bha	bha	bha	bha	Bha\bha	bha	bha	bha
45.	MA	म	ma	ma	ma	ma	ma	ma	Ma\ma	ma	ma	ma
46.	YA	य	ya	ya	ya	ya	ya	ya	Ya\ya	ya	ya	ya
47.	RA	र	ra	ra	ra	ra	ra	ra	Ra\ra	ra	ra	ra
48.	RRA	र	Ra	rYa	Ra	ṛa	ṛa			r.a		rza
49.	LA	ल	la	la	la	la	la	la	La\la	la	la	la
50.	LLA	ळ	La	lYa	La	ḷa	ḷa		ḷa	l'a		l^a
51.	LLLA	ळ	Za	lYYA		ḷa	ḷa			l'.a		l^za
52.	VA	व	va	va	va	va	va	va	Va\va	va	va	va
53.	SHA	श	sha	Sa	sha	śa	śa	za	Śa\śa	sha	"sa	sha
54.	SSA	ष	Sa	Ra	Sha	ṣa	ṣa	Sa	Ṣa\ṣa	s'a	.sa	s^a
55.	SA	स	sa	sa	sa	sa	sa	sa	Sa\sa	sa	sa	sa
56.	HA	ह	ha	ha	ha	ha	ha	ha	Ha\ha	ha	ha	ha
57.	QA	क	k'a	kZa	qa		qa			k.a		kza
58.	KHHA	ख	kh'a	KZa	Ka		ḵa			kh.a		khza
59.	GHHA	ग	g'a	gZa	Ga		ḡa			g.a		gza
60.	ZA	ज	j'a	jZa	Ja		za			j.a		jza
61.	DDDHA	ड	D'a	dZa	.Da		ṛa			d'.a		d^za
62.	RHA	ढ	Dh'a	DZa	.Dha		ṛha			d'h.a		d^hza
63.	FA	फ	ph'a	PZa	fa		fa			ph.a		phza
64.	YYA	य	Ya	YZa	Ya	ÿa	ÿa			y.a		yza
65.	VOCALIC RR	ऋ	X	Q	RRI		ṛ	RRa	Ṛa\ṛa	r'ii	.rra	r`r`
66.	VOCALIC LL	ॠ	Q		LLI		ṝ	IRRa	Ṝa\ṝa	lr'ii		lr`lr`

67.	DANDA		\.									
68.	DOUBLE DANDA		\..									
69.	ZERO	०	\0		0							0
70.	ONE	१	\1		1							1
71.	TWO	२	\2		2							2
72.	THREE	३	\3		3							3
73.	FOUR	४	\4		4							4
74.	FIVE	५	\5		5							5
75.	SIX	६	\6		6							6
76.	SEVEN	७	\7		7							7
77.	EIGHT	८	\8		8							8
78.	NINE	९	\9		9							9
79.	GGA	ग़	g"a							g_a		g_a
80.	JJA	ज़	j"a							j_a		j_a
81.	DDDA	ड़	D"a							d'_a		d^_a
82.	BBA	ब़	b"a							b_a		b_a
83.	OM	ॐ	@M		OM/AUM					a'um'		o`m
84.	AVAGRAHA	ऽ	\s		.a					~		h~
85.	Eyelash RA	Marathi	r'a					ř		r_'		r_a

Table 13 Comparison of Different transliteration schemes – Consonant conjuncts

Sl.	Unicode Name	Dev	CHIL	WX	ITRANS	NLKR	ISO-15919	HK	IAST h\s	INSROT	Velthuis	Proposed Scheme
86.		क्ष		kRa	xa					ks'a		ks^a
87.		ज्ञ		jFa	GYa					jna		jnja
88.		श्र		Sra								shra

89.		त्र		wra						tra		tra
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ANNEX C TRANSLITERATION OF INDIAN SCRIPTS:

The unified transliteration scheme for the Indic scripts using Latin characters is given in Table 14. Transliteration of Consonant Conjuncts in Indic Scripts Using Latin Characters are given in Table 15.

Table 14 Transliteration of Indic Scripts Using Latin Characters

Sl.No.	Proposed	Devanagari	Gurmukhi	Tamil	Kannada	Malayalam	Telugu	Assamese/ Bangla	Gujarati	Odia
1.	.m	ं	ੰ	NA	NA	NA	ఁ	ে	ે	େ
2.	.n	ं	ੰ	◌	◌	◌	◌	ং	ં	◌
3.	h`	ः	NA	ஃ	ಃ	ಃ	ః	ঃ	ઃ	ଃ
4.	a	अ	ਅ	அ	ಆ	അ	అ	অ	અ	ଅ
5.	aa	आ	ਆ	ஆ	ಆ	അ	ఆ	আ	આ	ଌ
6.	i	इ	ਇ	இ	ಇ	ഇ	ఇ	ই	ઇ	ଈ
7.	ii	ई	ਈ	ஈ	ಈ	ഈ	ఈ	ঐ	ઈ	ଐ
8.	u	उ	ਉ	உ	ಉ	ഉ	ఉ	উ	ઉ	ଊ
9.	uu	ऊ	ਊ	ஊ	ಉ	ഊ	ఊ	ঊ	ઊ	ଠ
10.	r`	ऋ	NA	NA	ಯ	ర్ర	ఋ	ঋ	ઋ	ଠ
11.	lr`	ॠ	NA	NA	ಱ	റ	ఱ	ৠ	ॠ	ଠ
12.	a`	एँ	NA	NA	NA	NA	NA	NA	એ	NA
13.	e`	ऐ	NA	எ	ಎ	എ	ఎ	NA	NA	NA
14.	e	ए	ਏ	ஏ	ಏ	ഏ	ఏ	এ	એ	ଏ
15.	ai	ऐ	ਐ	ஐ	ಐ	ഐ	ఐ	ঐ	ઐ	ଐ
16.	ao	औ	NA	NA	NA	NA	NA	NA	ઓ	NA
17.	o`	ओ	NA	ஓ	ಓ	ഓ	ఓ	NA	NA	NA
18.	o	ओ	ਓ	ஔ	ಔ	ഔ	ఔ	ও	ઓ	ଌ

19.	au	औ	औ	ఱ	ఱ	ఱ	ఱ	ఱ	ఱ	ఱ
20.	ka	क	क	क	क	क	क	क	क	क
21.	kha	ख	ख	NA	ख	ख	ख	ख	ख	ख
22.	ga	ग	ग	NA	ग	ग	ग	ग	ग	ग
23.	gha	घ	घ	NA	घ	घ	घ	घ	घ	घ
24.	nga	ङ	ङ	ङ	ङ	ङ	ङ	ङ	ङ	ङ
25.	ca	च	च	च	च	च	च	च	च	च
26.	cha	छ	छ	NA	छ	छ	छ	छ	छ	छ
27.	ja	ज	ज	ज	ज	ज	ज	ज	ज	ज
28.	jha	झ	झ	NA	झ	झ	झ	झ	झ	झ
29.	nja	ञ	ञ	ञ	ञ	ञ	ञ	ञ	ञ	ञ
30.	t^a	ट	ट	ट	ट	ट	ट	ट	ट	ट
31.	t^ha	ठ	ठ	NA	ठ	ठ	ठ	ठ	ठ	ठ
32.	d^a	ड	ड	NA	ड	ड	ड	ड	ड	ड
33.	d^ha	ढ	ढ	NA	ढ	ढ	ढ	ढ	ढ	ढ
34.	n^a	ण	ण	ण	ण	ण	ण	ण	ण	ण
35.	ta	त	त	त	त	त	त	त	त	त
36.	tha	थ	थ	NA	थ	थ	थ	थ	थ	थ
37.	da	द	द	NA	द	द	द	द	द	द
38.	dha	ध	ध	NA	ध	ध	ध	ध	ध	ध
39.	na	न	न	न	न	न	न	न	न	न
40.	nza	ज्ञ	NA	ज्ञ	NA	ज्ञ	NA	NA	NA	NA

41.	pa	प	प	പ	പ	പ	പ	പ	പ	ପ
42.	pha	फ	ढ	NA	ଫ	ଫ	ଫ	ଫ	ଫ	ଫ
43.	ba	ब	ब	NA	ବ	ബ	బ	ব	ব	ବ
44.	bha	भ	भ	NA	ଭ	ഭ	భ	ভ	ভ	ଭ
45.	ma	म	म	മ	మ	മ	మ	ম	ম	ମ
46.	ya	य	य	ധ	య	య	య	য	য	ଯ
47.	ra	र	र	ര	ర	ര	ర	র	র	ର
48.	rza	र	NA	റ	జ	റ	జ	NA	NA	NA
49.	la	ल	ल	ല	ల	ല	ల	ল	ল	ଲ
50.	l^a	ळ	ळ	ണ	ళ	ള	ళ	NA	ল	ଳ
51.	lza	ळ	NA	ഴ	NA	ഴ	NA	NA	NA	NA
52.	va	व	व	വ	వి	വ	వి	NA	ব	ব
53.	sha	श	स	ശ	ష	ശ	ష	শ	শ	ଶ
54.	s^a	ष	NA	ഷ	ష	ഷ	ష	ষ	য	ଞ
55.	sa	स	स	സ	స	സ	స	স	স	ସ
56.	ha	ह	ह	ഹ	హ	ഹ	హ	হ	হ	ହ
57.	kza	क	क	NA	NA	NA	NA	NA	NA	NA
58.	khza	ख	ख	NA	NA	NA	NA	NA	NA	NA
59.	gza	ग	ग	NA	NA	NA	NA	NA	NA	NA
60.	jza	ज	ज	NA	NA	NA	NA	NA	NA	NA
61.	d^za	ड	ड	NA	NA	NA	NA	ড়	NA	ଡ

62.	d^hza	ᱢ	NA	NA	NA	NA	NA	ᱢ	NA	ᱢ
63.	phza	ᱦ	ᱢ	NA	NA	NA	NA	NA	NA	NA
64.	yza	ᱠ	NA	NA	NA	NA	NA	ᱠ	NA	ᱠ
65.	r`r`	ᱠ	NA	NA	ᱠ	ᱠ	ᱠ	ᱠ	ᱠ	ᱠ
66.	lr`lr`	ᱠ	NA	NA	ᱠ	ᱠ	ᱠ	ᱠ	ᱠ	ᱠ
67.				NA	NA	NA	NA		NA	
68.				NA	NA	NA	NA		NA	
69.	0	०	०	୦	୦	୦	୦	୦	୦	୦
70.	1	୧	୧	୧	୧	୧	୧	୧	୧	୧
71.	2	୨	୨	୨	୨	୨	୨	୨	୨	୨
72.	3	୩	୩	୩	୩	୩	୩	୩	୩	୩
73.	4	୪	୪	୪	୪	୪	୪	୪	୪	୪
74.	5	୫	୫	୫	୫	୫	୫	୫	୫	୫
75.	6	୬	୬	୬	୬	୬	୬	୬	୬	୬
76.	7	୭	୭	୭	୭	୭	୭	୭	୭	୭
77.	8	୮	୮	୮	୮	୮	୮	୮	୮	୮
78.	9	୯	୯	୯	୯	୯	୯	୯	୯	୯
79.	g_a	ᱠ	NA	NA	NA	NA	NA	NA	NA	NA
80.	j_a	ᱠ	NA	NA	NA	NA	NA	NA	NA	NA
81.	d^_a	ᱠ	NA	NA	NA	NA	NA	NA	NA	NA
82.	b_a	ᱠ	NA	NA	NA	NA	NA	NA	NA	NA
83.	o`m	ᱠ	NA	ᱠ	NA	NA	NA	NA	NA	NA
84.	.h	ᱠ	NA	NA	ᱠ	ᱠ	ᱠ	ᱠ	ᱠ	ᱠ
85.	r_a	Eyesh RA	NA	NA		୦	NA			

Table 15 Transliteration of Consonant Conjuncts in Indic Scripts Using Latin Characters

Some Consonant Conjuncts and their Transliteration										
Sl. N.	Transliteration	Devanagari	Gurmukhi	Tamil	Kannada	Malayalam	Telugu	Assamese/Bangla	Gujarati	Odia
1.	ksha	क्ष	NA	க்ஷ		ക്ഷ	క్ష	କ୍ଷ	क्ष	କ୍ଷ
2.	jnja	ज्ञ	NA	NA		ಜ್ಞ	జ్ఞ	ଜ୍ଞ	ज्ञ	NA
3.	shra	श्र	NA	NA		ശ്ര	శ్ర	ଶ୍ର	શ્ર	NA
4.	tra	त्र	NA	NA		ത്ര	త్ర	ତ୍ର	ત્ર	NA

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