

SCRIPT GRAMMAR FOR MARATHI LANGUAGE

Prepared by

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0. INTRODUCTION

The term **script grammar** refers to the behaviour pattern of the writing system of a given language. Languages which have written representations do not use a haphazard manner of storing the information within the system, but use a coherent pattern which is similar to the linguistic grammar of a given language. With the help of specialists (not necessarily linguist) who work in the area of the written representation of the language, the manner in which the shapes of the characters of the language and the representation of the conjunct forms is provided. In other words the Script Grammar deals with the surface structure of the language and tries to provide the best possible “fit” for shapes and their representation. Since this is a highly subjective issue, the shapes provided here are recommendations at the best and conform to the perception of the mandating body/evaluators who consensually arrive at the “best possible fit” which is acceptable to a majority of users. An example will make the above clear. Although Marathi and Hindi share the same script Devanāgarī, not only do they not share the same character inventory but in addition the representation of certain characters is different. Thus the Marathi /la/ is different from the Hindi /la/ in so far as the placement of the stem is concerned Hindi ल Marathi ल. This ensures that the Script Grammar conforms to the language in question and provides the character shapes acceptable to a given user community. It should be noted that this does not mean monotony. The Hindi and Marathi /la/ can have a variety of forms once the intrinsic structure of the character is determined.

Script Grammar is the term used to define:

- the writing system used to inscribe a given language
- the history of the script and language (wherever available)
- the syllabic structure of the writing system of the language
- the rule ordering of the characters within the syllable (akshar)
- description of the syllabic clusters
- collation order of the characters: lexical / dictionary sorting order

1. OBJECTIVES OF SCRIPT GRAMMAR

The Objectives of the script grammar for each language can be divided into two major parts:

Societal:

- Provide a visual representation of shapes that are deemed to be in conformity with the perception of a given community
- Ensure thereby that this perception is safe-guarded
- Through wide-spread dissemination and creation of appropriate tools ensure that within the given linguistic community, all media tries to adopt the given shape.

Technical:

- Classify the language in terms of its ISO and also whether it belongs to the Abjad, Akshar (Alphasyllabary) class.
- Provide an inventory of the characters pertinent to the language and classify the same in terms of their taxonomy.
- As a corollary determine whether the inventory is in conformity to the Syllable formalism as stipulated in ISCII'91 and subsequently adopted by Unicode.
- Since Brahmi is written from left to right, and since certain characters do not follow the linear L to R order, provide an inventory of displaced concatenators i.e. characters such as Mātrās that concatenate to the Consonant
- Propose the best shape representation of the individual characters as well as of the ligatures used within a given script. As a corollary request the expert(s) to identify the largest possible strings of such ligatures.
- Finally provide the collation order pertinent to that script/language, which would be of great utility to high-end NLP as well as to CLDR's in the pertinent language. The collation order for Marathi is different from Hindi although both languages share the same script. Thus in Marathi झ, ञ are placed at the end of the consonant inventory i.e. after ह in the sort order. In Hindi झ is sorted along with क and ञ with ज

2. END USERS FOR SCRIPT GRAMMAR

The script-grammar specific to a given language can be used by a large number of users.

- Most importantly it can be used by font developers desirous of developing a font which is compliant with the perception of the characters and ligatures of a language by its user community.
- Certain features of the script grammar such as the shapes can also be used for testing OCR and OHWR. Similarly information regarding Ligatures as well as collation order can help in high-end NLP work such as detecting invalid combinations, correct implementation of syllable structure, prediction routines to name a few. Information regarding collation and character sets can be also used for CLDR.
- They allow the font designer to design a font which is in compliance with the norms and standards of that particular script. A major problem which will be dealt with in the template is one of ligatures. The final list of ligatures defined by the script grammar allows the font designer to write specific rules for such glyphs.
- It permits the software developer to design and implement the keyboard and the input mechanism which will meet the requirement of the particular linguistic community.
- The collation or sort order as described in a Script Grammar permits the software developer to write software functions/ routines for sorting data in all applications.
- Script Grammars are equally important for keyboard design, especially when supplemented by frequency data from a corpus.

As can be seen the script grammar has a wide range of use and can be of utility to font developers, Indian language developers and linguists in the area of computation.

3. SCOPE

This script grammar document contains following information about the language and the script used for writing the language.

1. Name of the language and its representation in the 3 letter mnemonic as per ISO 639.1 & 639.3 standard.
2. Script used to inscribe the given language
3. The structure of the script used for writing the language
 - Rule ordering of the characters within the syllable formation is a language
 - Description of the syllabic clusters of the script
 - Collation order of the characters: lexical / dictionary sorting order
 - Compliance of the script with Unicode.

These will be treated within the relevant sections of the script grammar

4. TERMINOLOGY¹

Abjad: A writing system in which each symbol always or usually stands for a consonant. The long vowels are indicated. However the short vowels are rarely marked and the reader needs to supply these. Example: Urdu written in Perso-Arabic Script is an example of this writing system.

Abugida: also called an alphasyllabary, is a segmental writing system in which consonant–vowel sequences are written as a unit: each unit is based on a consonant letter, and vowel notation is obligatory but secondary²

Akshar: see **Abugida**

Allographs: Variants of the representation of a character. Thus ae and æ [U+00E6] in Latin alphabet are allographs.

Allo-Script: The term relates to languages which share a common script. Thus Devanāgarī is used to write 9 official languages. However these languages do not use the same set of characters. Thus Marathi uses the retroflex lla ऴ [U+ 0933] which Hindi does not use. Flaps used in Hindi ढ [U+095C] ढ [U+095D] are not used in Konkani. These sub-sets of scripts based on a single “matricial” script are termed as allo-scripts.

Alphabet: A set of letters used in writing a language. Example: The English Alphabet.

Aspirated consonant: A consonant which is pronounced with an extra puff of air coming out at the time of release of the oral obstruction. This has a sound of an extra "h".

Basic alphabet: The minimal set of letters which can be used for uniquely encoding every word of a language. The basic alphabet for English consists of only the upper-case letters A-Z

Catenators: Also termed as Concatenators are characters which are concatenated to another character. In the Brahmi script these are the Mātrās or Vowel modifiers which are adjoined to the consonant and add a vocalic value to the consonant.

Conjunct: The Indic scripts are noted for a large number of consonant conjunct forms that serve as orthographic abbreviations (ligatures) of two or more adjacent letterforms. This abbreviation takes place only in the context of a consonant cluster...Under normal circumstances, a consonant cluster is depicted with a conjunct glyph if such a glyph is available in the current font. In the absence of a conjunct glyph, the one or more dead

¹ As in the case of the BIS Document, in order to make the terminology accessible for all readers, examples have been chosen from English/Latin scripts, wherever possible. Some definitions have been excerpted from the BIS ISCII91 document and suitably modified where necessary.

² Wikipedia definition

consonants that form part of the cluster are depicted using half-form glyphs. In the absence of half-form glyphs, the dead consonants are depicted using the nominal consonant forms combined with visible virama signs.³

Consonant: A letter representing a speech sound in which the breath is at least partly obstructed,

Diacritic: A mark added to a letter which distinguishes it from the same letter without a mark, usually having a different phonetic value or stress.

Displaced Catenator: (see Catenator) Within the Brahmi script, the writing system is linear and moves from left to right. However in the case of some catenators this rule is not observed and the catenator (wholly or partially) is placed to the right of the consonant to which it relates. The short vowel I in Devanāgarī is an example of a displaced catenator.

Display composing: The process of organizing the basic shapes available in a font in order to display (or print) a word.

Display rendition: The process by which a string of characters is displayed (or printed). In this process several consecutive characters may combine with each other on the screen. The sequence of display of the characters may become different.

Eyebrow repha: (See Eyelash ra)

Eyelash ra: The eyelash ra is used in Konkani, Nepali and Marathi. It is treated as different from the र् (repha) by certain linguists. While the former is treated as a flap, the latter is a continuant trill (*cf.*, Kalyan Kale and Anjali Soman. 1986). There are cases in Marathi of minimal pairs such as: आचार्यास “to the teacher” vs. आचाऱ्यास “to the cook” or दर्या /darya/ “ocean” vs. दऱ्या /darya/ “valleys”.

Font: A set of symbols used for display or printing of a script in a particular style.

International numerals: The conventional 0 to 9 digits used in English for denoting numbers. These are also known as Indo-Arabic numerals (to differentiate them from the Roman numerals like IX for 9).

Latin alphabet: The alphabet used for writing the language of ancient Rome. Also known as the Roman alphabet. The alphabet is used today for writing English and European languages.

Letter: A character representing one or more of the simple or compound sounds used in speech. It can be any of the alphabetic symbols.

³ Unicode 6.0 Chapter 9.0 pp 6-7

Ligature: (see **Conjunct**)

Nasal consonant: A consonant pronounced with the breath passing through the nose. Example *m n* in English.

Nasalized vowel: A vowel pronounced with the breath passing both through the nose and the mouth. In Indian scripts this is denoted by a Chandrabindu and gives the vowel/vowel modifier over which it placed a nasal value. Example: जाँच

Phonetic alphabet: An alphabet which has direct correspondence between letters and sounds Example: The International Phonetic Alphabet..

Pure consonant: A consonant which does not have any vowel implicitly associated with it.

Rafar: A special case of a ligature constituted by the adjunction of ra followed by a halanta to consonant. The resultant combination places the ra on top of the consonant to which it is adjoined. In case the consonant itself is adjoined to another consonant, the rafar is placed above the consonant e.g. र्+क कर्क , र्+घ्+य घ्यर्

Rakar: A special case of a ligature constituted by the adjunction of a consonant followed by a halanta to ra. In a large number of Brahmi scripts the ra is adjoined to the stem of consonant to which it relates. In the case of consonants which have no stem such as the dental retroflexes in Devanāgarī, the rakar is placed below the consonant to which it relates.

Repha: (see **Rafar**)

Roman script: The script based on the ancient Roman alphabet, with the letters A-Z and additional diacritic marks. Used for writing a language which is not usually written in the Roman alphabet.

Script: A distinctive and complete set of characters used for the written form of one or more languages.

Script numerals: The 0 to 9 digits in a script, which have shapes distinct from their international counterparts.

Syllable: A unit of pronunciation uttered without interruption, forming whole or part of a word, and usually having one vowel or diphthong sound optionally surrounded by one or more consonants

Transliteration: Representation of words with the closest corresponding letters in an alphabet of a different language.

Vowel: A letter representing a speech sound made with the vibration of the vocal cords, but without audible obstruction

Vowel sign: A graphic character associated with a letter, to indicate a vowel to be associated with that character (Mātrā in Hindi).

5. PHILOSOPHY AND UNDERLYING PRINCIPLES

The script grammar is based on the following principles:

1. The Grammar aims to depict the surface grammar of the written language: the manner in which characters as well as conjuncts are depicted
2. Where a given script admits many languages, it is pre-supposed that such languages will prescribe different representations for a given shape or conjunct according to the perception of the native users of that language
3. Corollary to the above the result is a script and allo-scripts i.e. a given script shared by many languages is not uniformly deployed across all the languages but is subject to variations and modulations.
4. The term Grammar is used here in a non-normative sense: what is prescribed is in the form of recommendations provided by experts who visualize the shape of the given script in their mother tongue in a specific manner. Subjective variations may occur⁴
5. The Grammar is limited to its synchronic use i.e. the manner in which a given language as of today admits a character set within the script used to write it. It is not diachronic or historical in nature and does not study the evolution of the given script across centuries.

⁴ It is recommended that such variations be culled by placing the Grammars of different scripts in public review.

6. SCRIPT GRAMMAR STRUCTURE

The script grammar provided below has the following parts.

Part 6.1. deals with peripheral elements such as the ISO of the language, the writing system used: (Alphasyllabic) Abugida or Abjad.

Part 6.2. treats of the syllabic structure. It verifies whether the character set of the language complies with the ISCII syllabic structure and if not which cases are not compliant.

Part 6.3 is the script grammar proper and describes the character set as well as the conjunct shapes of the given script along with the collation order

6.1. PERIPHERAL ELEMENTS OF THE SCRIPT GRAMMAR

These constitute the elements that are peripheral to the Script Grammar. The main parameters considered are the mnemonic and name of the language (needed for CLDR and also for language tags), the writing system used to inscribe the language and wherever possible a short history of the language.

6.1.1. Name of the language and its representation in the 3 letter mnemonic as per ISO 639.1. & 639.3

Name of the Language: MARATHI

ISO Mnemonics: *mar*

This refers to a one line description of the language and its mnemonic representation as per the ISO. In the case of Marathi, the above information is pertinent.

6.1.2. Identification of the writing system(s) used to inscribe the given language

Marathi is written using the Devanāgarī script. It is an alphasyllabary with the akshar as its core.

This is a one line description of the script used to write the language. However in case the language uses more than one script, all the scripts in question are specified, provided these constitute the official language of the given state.

All scripts derived from Brahmi are Abugidas i.e. syllabary driven systems. The main features of Abugidas are as under:

- The consonant has an implicit vowel built-in which is normally the schwa.
- The inherent vowel can be modified by the addition of other vowels or muted by a diacritic termed as a Virama or Halanta
- Vowels can be handled as full vowels with a vocalic value
- When two or more consonants join together they form ligatures which can be recognized by their shape क्ख or alternatively form an entirely new shape क्ष = क्ष.

Abugidas/Alphasyllabaries because of their syllabic structure require a special description which is the subject of the discussion in 6.2. below.

6.1.3. Amendments needed in Unicode for Marathi language

The following amendment is felt to the computational experts.

The need to introduce the eye-lash ra र्‍ in Unicode to facilitate entry of the character.

6.2. CONFORMITY TO THE SYLLABLE STRUCTURE

Marathi language complies with the syllable (akshar) structure described above. It can admit up to h consonant clusters.

Alphasyllabaries are determined by the notion of the syllable or the Akshar. The compositional grammar of the syllable determines its well-formedness. This is through a series of formal constraints based on a Backus-Naur Formalism which is given below. The syllable (akshar), first defined in the ISCII document (1991), identifies the following character 'sub-sets' for the purposes of identifying the syllable (akshar). In what follows the syllable analysis will be restricted to Marathi.

(C) Consonants

| | | | | |
|---|---|----|---|---|
| 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 | ऌ* | ल | व |
| श | ष | स | ह | ळ |

* This indicates that there are differences of expert opinion on this.

(V) Vowels

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| अ | आ | इ | ई | उ | ऊ | ऋ | ॠ | ए | ऐ |
| ऐ | ओ | ऑ | औ | | | | | | |

(M) Mātrās or Vowel Modifiers

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| ा | ि | ी | ु | ू | ृ | ॄ | े | ै |
| ो | ौ | ॅ | ॉ | | | | | |

(D) Diacritics

| | |
|------------|--|
| ं: Anuswar | Anuswara, a nasal, is denoted by a dot above the letter after which it is to be pronounced. For example, कांदा. This falls under Nasal category. |
| ः Visarga | Visarga, denoted by two dots placed above the other. For |

| | |
|-------------|---|
| | example, प्रातःकाल. This falls under aspirate category |
| ॐ: Avagraha | For extra length with long vowels / स्वर + अ उपदेशेऽजनुनासिक इत्/ |

(H):Halanta ् - Halant used in most writing systems of the Indian subcontinent to signify the lack of an inherent vowel.

(N)⁵ Nukta ृ - is Not used in Marathi

Each of these sub-types has its restrictions in terms of what can precede or follow it within a syllable (akshar), as shown in the table below:

| PRECEDED BY | SUBTYPE | FOLLOWED BY |
|-------------|----------|-------------|
| -, H | C | M,D,H |
| - | V | D |
| C | M | D |
| C,V,M | D | - |
| C | H | C |

C can be preceded by H or no subtype and followed by any one of the following: M,D,H

V can be preceded by no subtype and followed by D but not by another sub-type.

M can be preceded by C and followed by D.

D can be preceded by C, V, M and followed by no other subtype. It closes the syllable (akshar).

H can be preceded by C alone and followed only by C and no other sub-set.

6.2.1. Syllable (akshar) Types

⁵ The nukta is a small dot placed under a character in Northern scripts to show that they are flapped or for deriving 5 other consonants in the Devanāgarī and Punjabi scripts, required for Urdu क़,ख़,ग़,ज़,फ़

The formalism defines the syllable (akshar) in terms of both what can constitute a syllable (akshar) and what cannot. A valid syllable (akshar) as per this definition can be of only two types:

1. A vowel syllable (akshar): a full vowel.
2. A consonant syllable (akshar): a full consonant (having a weak vowel or a mātrā)

The three other subsets viz. Mātrās, Diacritics, Halanta cannot constitute a syllable (akshar) by themselves or in combination among themselves.

6.2.1.1. The Vowel syllable (akshar) is of the following types:

6.2.1.1.1. A pure vowel all by itself: अ, /a/ आ /ā/ etc.

6.2.1.1.2. A vowel followed by a modifier i.e. either a nasal marker or a visarga or an avagraha: ई /ī /, आः /āH/ आऽ /ā:/

6.2.1.2. The Consonant syllable (akshar) can be of the following types:

6.2.1.2.1. A full consonant (with or without Nukta) i.e. with the inherent vowel : क : /ka/

6.2.1.2.2. A consonant followed by a mātrā i.e. the inherent vowel being substituted by another vowel: की /ki:/

6.2.1.2.3. A consonant followed by a modifier: कं /kā̃/, हः /haH⁶/

6.2.1.2.4. A consonant followed by a mātrā and a modifier: कुं /kū/, दुः /duH/.

6.2.1.2.5. A consonant cluster i.e. a dead or half consonant (Consonant+Halanta) followed by a full consonant followed optionally by a mātrā, a modifier or a combination of both. These result in a ligature or what is often termed as *yuktakshara*.

त्क /tka/ त्कं /tkā̃/, त्कः /tkaH/ त्कुं /tkū/, त्दु /tdu/.

The above permutations and combinations result in 7 major syllable (akshar) types. Of these the last type introduces the problem of the number of consonant clusters. ISCII (91, p.23) provides for up to three consonant clusters as the “worst case” i.e. the largest possible string. This is functional for modern Prakrits where the largest consonantal cluster rarely exceeds three consonant. Sanskrit is an exception where in a single word, four consonants can come together: कार्त्स्न्य /kārtsnya/ "wholeness", "entirety".

This means that theoretically the following forms can be postulated:

1. Vowel Set: With the Vowel as the node.
V VD
2. Consonant set: With the Consonant as the node (an implicit or modified vowel is pre-implied).

| | | | |
|------|-------|----------|----------------|
| Node | Mātrā | Modifier | Mātrā+Modifier |
|------|-------|----------|----------------|

⁶ This character represents phonetically the weak implicit vowel, termed as schwa and often shown as /a/ also.

| | | | |
|---------|----------|----------|-----------|
| C | CM | CD | CMD |
| CHC | CHCM | CHCD | CHCMD |
| CHCHC | CHCHCM | CHCHCD | CHCHCMD |
| CHCHCHC | CHCHCHCM | CHCHCHCD | CHCHCHCMD |

A total number of 16 theoretical syllables is therefore possible. It will be seen that the written syllable (akshar) is not very different in structure from the phonetic syllable and that the movement from the written to the spoken levels is made feasible by application of certain rules.

This formal structure of the syllable (akshar) explained above is common to all Brahmi based scripts (with a few variations). It will form the basis of an exhaustive description of the characters as well as their ligatural representations.

6.3 SCRIPT GRAMMAR PROPER

This section lays down in detail the different parameters of the Script Grammar for Marathi. These are:

- 6.3.1. The Character Set of Marathi.
- 6.3.2. The Consonant mātṛā combinations of Marathi.
- 6.3.3. The Ligature Set of Marathi.
- 6.3.4. Collocation Order of Marathi
- 6.3.5. Cardinal Numbers used in Marathi.

6.3.1. The Character Set of Marathi.

This section provides detailed information about the characters in the language and the list of the same and also more importantly shows the manner in which the character is to be written. Each subsection comprises therefore two parts: the basic character set and the shape each character should have, as mandated by the experts who have designed the script grammar of Marathi.

This comprises the following:

- 6.3.1.1. The Consonant Set
- 6.3.1.2. The Vowel Set
- 6.3.1.3. The Mātṛā Set
- 6.3.1.4. Displaced Catenators
- 6.3.1.5. Shape of the combination of ra (rakar, repha)
- 6.3.1.6. The Set of Diacritics
- 6.3.1.7. Numerals
- 6.3.1.8. Punctuation marks
- 6.3.1.9. Other symbols

Each of these will be analysed in detail:

6.3.1.1. The Consonant Set

The Consonant set of Marathi comprises the following characters:

Basic Consonant inventory arranged as per their Vargas.

| | -voiced -aspirated | -voiced +aspirated | +voiced -aspirated | +voiced +aspirated | Nasal |
|-----------|-----------------------|-----------------------|-----------------------|-----------------------|-------|
| Velar | क | ख | ग | घ | ङ |
| Palatal | च | छ | ज | झ | ञ |
| Retroflex | ट | ठ | ड | ढ | ण |
| Dental | त | थ | द | ध | न |
| B-labial | प | फ | ब | भ | म |

Other consonants

| | | | | |
|---|---|---|---|---|
| य | र | ऌ | ल | ळ |
| व | श | ष | स | ह |

Note: Ligatures क्ष त्र ज्ञ are not listed in the consonants list.

The exact shapes as desired by the experts are provided in the table below:

| | -voiced -aspirated | -voiced +aspirated | +voiced -aspirated | +voiced +aspirated | Nasal |
|-----------|-----------------------|-----------------------|-----------------------|-----------------------|-------|
| Velar | क | ख | ग | घ | ङ |
| Palatal | च | छ | ज | झ | ञ |
| Retroflex | ट | ठ | ड | ढ | ण |
| Dental | त | थ | द | ध | न |
| B-labial | प | फ | ब | भ | म |

Other consonants

| | | | | |
|---|---|---|---|---|
| य | र | ऌ | ल | ळ |
| व | श | ष | स | ह |

6.3.1.2. The Vowel Set

The Vowel set of Marathi is as under:

| | |
|---|-----------------------------|
| अ | DEVANĀGARĪ LETTER A |
| आ | DEVANĀGARĪ LETTER AA |
| इ | DEVANĀGARĪ LETTER I |
| ई | DEVANĀGARĪ LETTER II |
| उ | DEVANĀGARĪ LETTER U |
| ऊ | DEVANĀGARĪ LETTER UU |
| ऋ | DEVANĀGARĪ LETTER VOCALIC R |
| ॠ | DEVANĀGARĪ LETTER VOCALIC L |

| | |
|----|----------------------------|
| ए | DEVANĀGARĪ LETTER E |
| अँ | DEVANĀGARĪ LETTER CANDRA A |
| ऐ | DEVANĀGARĪ LETTER AI |
| ओ | DEVANĀGARĪ LETTER O |
| औ | DEVANĀGARĪ LETTER CANDRA O |
| औ | DEVANĀGARĪ LETTER AU |

As per expert recommendations the character set should be written as under:

अ आ इ ई उ ऊ ऋ ॠ ए अँ ऐ ओ
औ औ

The vowel ॠ is retained for display purposes, although in principle it is only the Mātrā form which is used

6.3.1.3. The Mātrā Set

The Mātrā (Vowel Modifier Set) of Marathi is as under:

| Mātrās Names | Mātrās Sign | Where is it used ? | Consonant Shapes formed |
|--|-------------|--|-------------------------|
| 1. Devanāgarī sign AA | ा | आ | क् + आ = का |
| 2. Devanāgarī sign I (stands to the left of the consonat) | ि | इ | क् + इ = कि |
| 3. Devanāgarī sign II | ी | ई | क् + ई = की |
| 4. Devanāgarī sign U | ु | उ | क् + उ = कु |
| 5. Devanāgarī sign UU | ू | ऊ | क् + ऊ = कू |
| 6. Devanāgarī sign vocalic R | ृ | ऋ | क् + ऋ = कृ |
| 7. Devanāgarī sign vocalic L | ॠ | ॠ | क् + ॠ = कृ |
| 8. Devanāgarī sign E | े | ए (There can not be any matra on this) | क् + ए = के |

| | | | |
|------------------------------|---|--|--------------|
| 9. Devanāgarī sign AI | ै | ऐ (There can not be any matra on this) | क् + ऐ = कै |
| 10. Devanāgarī sign O | ो | ओ | क् + ओ = को |
| 11. Devanāgarī sign AU | ौ | औ | क् + औ = कौ |
| 12. Devanāgarī sign Candra E | ँ | अँ | क् + अँ = कै |
| 13. Devanāgarī sign Candra O | ॉ | आँ | क् + आँ = कौ |

As per expert recommendations the character set should be written as under:

ा ि िी ु ू ृ ॄ े ँ ै ो ॉ
ौ

The vowel modifier ॄ is used in one word only: कृमी

6.3.1.4. Displaced Catenators

Under normal circumstances Vowel Modifiers also known as catenators (since they concatenate to the preceding consonant) in Brahmi based scripts are written from left to right in linear order (with the exception of Consonant stacks). However certain modifiers are displaced and are placed to the left of the consonant to which they concatenate. As a general rule in all Devanāgarī script driven languages there is only one displaced catenator: ि

| CATENATOR | POSITION | EXAMPLE |
|-----------|----------------------|------------|
| ि | To left of character | कि, रि, पि |

6.3.1.5. Shape of the combination of ra (rakar, repha)

The र takes a variety of shapes known as rakar and repha (rafar) depending on its position. When conjoined before a consonant by means of the halanta, it changes shape and is placed on top of the consonant or consonant clusters to which it relates. This is called a repha or rafar. Marathi admits a special repha known as eyelash ra. When it is conjoined after a consonant with the help of a halanta, it appends to the consonant in the shape of a slanting stroke attached to the stem (side rakar) or in the case of consonants which have no stem such as ट, it is appended in the shape of a ^ to the bottom of the character (bottom rakar). Marathi has the following combinations of ra:

RAFARS

Top rafar: र्क र्त Example.

| | | |
|--------|--------|-------|
| आर्कता | स्वर्ग | पूर्व |
|--------|--------|-------|

RAKARS

1. Bottom rakar ढ्र ङ्र
2. Side rakar क्र च्र
3. Eyelash RA ऱ ऱ्हय

The eyelash ra is appended only to two consonants: य and ह

Examples of words where Rakars are used in Marathi language are given below:

| | |
|--------------|-------------------|
| Bottom rakar | महाराष्ट्र, ड्रम, |
| Side rakar | क्रमांक, प्रशांत, |
| Eyelash RA | वाय्यावर, तऱ्हा |

6.3.1.6. Diacritics

These are as under in the case of Marathi:

ंः - Anuswar

्ः - Halant

ः - Visarga

ः - For extra length with long vowels e.g. / उपदेशेऽ जनुनासिक इत्/

Chandrabindu is not part of the Marathi character set and is used only to denote a अँ + ं and औ + ं as in बैँक

6.3.1.7. Numerals

Following are the numbers used in Marathi language. Use of English numerals occurs in handwritten text as well as some of the official documents. The English (Latino-Arabic set: 0,1,2,3,4,5,6,7,8,9) is used only in books on mathematics where complicated equations and computations have to be shown. Here also, a few primary school books use the Devanāgarī set.

| Numeral Shapes | Alternate Numeral Shapes-1 | Alternate Numeral Shape-2 | Explanation |
|----------------|----------------------------|---------------------------|-----------------------|
| ० | ० | ० | Devanāgarī Digit Zero |
| १ | १ | १ | Devanāgarī Digit One |
| २ | २ | २ | Devanāgarī Digit Two |

| | | | |
|---|---|---|------------------------|
| ३ | ३ | ३ | Devanāgarī Digit Three |
| ४ | ४ | ४ | Devanāgarī Digit Four |
| ५ | ५ | ५ | Devanāgarī Digit Five |
| ६ | ६ | ६ | Devanāgarī Digit Six |
| ७ | ७ | ७ | Devanāgarī Digit Seven |
| ८ | ८ | ८ | Devanāgarī Digit Eight |
| ९ | ९ | ९ | Devanāgarī Digit Nine |

The shapes of some of these numbers vary depending upon the user.

6.3.1.8. Punctuation Markers

Marathi uses punctuation markers from the Latin set. such as . , ; : “ ‘ () [] etc.

However the abbreviation marker is often used in Devanāgarī .

Purna and Deergha Virama (full-stop/danda) Devanāgarī code block: 0964, 0965 ।,॥ are used in poetry alone.

ॐ नमो जी आद्या| वेद प्रतिपाद्या| जय जय स्वसंवेद्या| आत्मरूपा ||१||
 देवा तूंचि गणेशु| सकलार्थमतिप्रकाशु| म्हणे निवृत्तिदासु| अवधारिजो जी ||२||
 ज्ञानेश्वरी भावार्थदीपिका अध्याय १.

A list of punctuations is provided below:

| Sr. No. | Name of the marker | Marker Shape |
|---------|-----------------------|--------------|
| 01 | Full Stop or Period | . |
| 02 | Question Mark | ? |
| 03 | Exclamation Mark | ! |
| 04 | Apostrophe | , |
| 05 | Semi Colon | ; |
| 06 | Colon | : |
| 07 | Hyphen | - |
| 08 | Dash | -- |
| 09 | Ellipsis mark | ... |
| 10 | Oblique | / |
| 11 | Double quotation mark | " " |

| | | |
|----|-------------------------|---------|
| 12 | Single quotation mark | ‘ ’ |
| 13 | Cross | XXX |
| 14 | As Above | -- " -- |
| 15 | Round Brackets | () |
| 16 | Square Brackets | [] |
| 17 | Curly Brackets | { } |
| 18 | Abbreviation Sign | (°) |
| 19 | Devanāgarī Danda | |
| 20 | Devanāgarī Double Danda | |

6.3.1.9 Other Symbols

These are religious, currency markers etc. included in Unicode:

ॐ: Om (as written in Marathi)

₹: Rupee Sign as mandated by Government of India.

6.3.2. Consonant Mātrā Combinations.

These refer to the shapes generated when a Mātrā is adjoined to the Consonant. The layout of these is in the shape of a matrix where the first horizontal row refers to the active consonant and the first vertical column refers to the vowel-modifier.

Due to constraints of space and also clarity, for each class a series of 3 tables are provided.

Table 1: क ख ग घ ङ च छ ज झ ञ

Table 2: ट ठ ड ढ ण त थ द ध न

Table 3: प फ ब भ म य र ल व श
ष स ह ळ⁷

Wherever there is an X it implies that the combination does not exist. For the font developer this is an indication that for this particular combination which is not possible in the language but needs to be accommodated in the font table, a simple linear combination be provided.

e.g. Although the combination of ड + Mātrā is theoretically not possible it needs to be handled at the font level in the anticipation that a user could type this combination. The font would show the following: डा

⁷ ळ is not included in the list since it can occur only in combinations with य & ह and cannot constitute a stand-alone consonant

The classes are as under:

6.3.2.1. refers to a simple concatenation of Consonant and Mātrā combinations.

6.3.2.2. refers to a concatenation of Consonant and Mātrā + Nasal marker combinations. Other diacritics such as avagraha and visarga have been avoided, since these are linear in nature, are adjoined to the combination and do not in any way modify the structure of the shapes.

6.3.2.1 Consonant and Mātrā combinations.

This set refers to a simple concatenation of Consonant and Mātrā.

Consonant and Mātrā combinations Set 1

| | क | ख | ग | घ | ङ | च | छ | ज | झ | ञ |
|---|-----|-----|-----|-----|---|-----|-----|-----|-----|---|
| ा | का | खा | गा | घा | X | चा | छा | जा | झा | X |
| ि | कि | खि | गि | घि | X | चि | छि | जि | झि | X |
| ी | की | खी | गी | घी | X | ची | छी | जी | झी | X |
| ु | कु | खु | गु | घु | X | चु | छु | जु | झु | X |
| ू | कू | खू | गू | घू | X | चू | छू | जू | झू | X |
| ृ | कृ | खृ | गृ | घृ | X | चृ | छृ | जृ | झृ | X |
| ॠ | कृ | X | X | X | X | X | X | X | X | X |
| े | के | खे | गे | घे | X | चे | छे | जे | झे | X |
| ै | कै | खै | गै | घै | X | चै | छै | जै | झै | X |
| ो | को | खो | गो | घो | X | चो | छो | जो | झो | X |
| ॉ | काँ | खाँ | गाँ | घाँ | X | चाँ | छाँ | जाँ | झाँ | X |
| ौ | कौ | खौ | गौ | घौ | X | चौ | छौ | जौ | झौ | X |

Remark 1- ङ and ञ are rarely used only as the first members of clusters and mostly as परसवर्ण or alternatives of अनुस्वारऽ

Remark 2 - ॠ is used only with कृ in the combination कृप्ति which means युक्ती, रचना सिद्धी, समृद्धी शकल, but primarily the meaning युक्ती is implied

Consonant and Mātrā combinations Set 2

This set is in continuation of set 1 which shows consonant and Matra combinations.

| | | | | | | | | | | |
|---|----|----|----|----|----|----|----|----|----|----|
| | ट | ठ | ड | ढ | ण | त | थ | द | ध | न |
| ा | टा | ठा | डा | ढा | णा | ता | था | दा | धा | ना |
| ि | टि | ठि | डि | ढि | णि | ति | थि | दि | धि | नि |
| ी | टी | ठी | डी | ढी | णी | ती | थी | दी | धी | नी |
| ु | टु | ठु | डु | ढु | णु | तु | थु | दु | धु | नु |
| ू | टू | ठू | डू | ढू | णू | तू | थू | दू | धू | नू |
| ृ | टृ | ठृ | डृ | ढृ | णृ | तृ | थृ | दृ | धृ | नृ |
| ॄ | X | X | X | X | X | X | X | X | X | X |
| े | टे | ठे | डे | ढे | णे | ते | थे | दे | धे | ने |
| ै | टै | ठै | डै | ढै | णै | तै | थै | दै | धै | नै |
| ो | टो | ठो | डो | ढो | णो | तो | थो | दो | धो | नो |
| ॉ | टॉ | ठॉ | डॉ | ढॉ | णॉ | तॉ | थॉ | दॉ | धॉ | नॉ |
| ौ | टौ | ठौ | डौ | ढौ | णौ | तौ | थौ | दौ | धौ | नौ |

Remark: The Long ॄ is used only with त and in a Sanskrit Loan नेतृन्

Consonant and Mātrā combinations Set 3

This set is in continuation of set 2 which shows consonant and Matra combinations.

| | प | फ | ब | भ | म | य | र | ल | व | श | ष | स | ह | ळ |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| ा | पा | फा | बा | भा | मा | या | रा | ला | वा | शा | षा | सा | हा | ळा |
| ि | पि | फि | बि | भि | मि | यि | रि | लि | वि | शि | षि | सि | हि | ळि |
| ी | पी | फी | बी | भी | मी | यी | री | ली | वी | शी | षी | सी | ही | ळी |
| ु | पु | फु | बु | भु | मु | यु | रु | लु | वु | शु | षु | सु | हु | ळु |
| ू | पू | फू | बू | भू | मू | यू | रू | लू | वू | शू | षू | सू | हू | ळू |
| ृ | पृ | फृ | बृ | भृ | मृ | X | X | X | वृ | शृ | X | सृ | हृ | X |
| ्र | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| े | पे | फे | बे | भे | मे | ये | रे | ले | वे | शे | षे | से | हे | ळे |
| ै | पै | फै | बै | भै | मै | यै | रै | लै | वै | शै | षै | सै | है | ळै |
| ो | पो | फो | बो | भो | मो | यो | रो | लो | वो | शो | षो | सो | हो | ळो |
| ौ | पौ | फौ | बौ | भौ | मौ | यौ | रौ | लौ | वौ | शौ | षौ | सौ | हौ | ळौ |

6.3.2.2 Consonant and Mātrā +Nasal combinations.

This set refers to a Consonant and Mātrā + Nasal marker combinations.

Consonant and Mātrā + Nasal combinations - Set 1

| | | | | | | | | | | |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | क | ख | ग | घ | ङ | च | छ | ज | झ | ञ |
| ं | कं | खं | गं | घं | ङं | चं | छं | जं | झं | ञं |
| ां | कां | खां | गां | घां | ङां | चां | छां | जां | झां | जां |
| िं | किं | खिं | गिं | घिं | ङिं | चिं | छिं | जिं | झिं | ञिं |
| ीं | कीं | खीं | गीं | घीं | ङीं | चीं | छीं | जीं | झीं | जीं |
| ृं | कृं | खृं | गृं | घृं | ङृं | चृं | छृं | जृं | झृं | ञृं |
| ूं | X | X | X | X | X | X | X | X | X | X |
| ुं | कुं | खुं | गुं | घुं | ङुं | चुं | छुं | जुं | झुं | जुं |
| ूं | कूं | खूं | गूं | घूं | ङूं | चूं | छूं | जूं | झूं | जूं |
| ें | कें | खें | गें | घें | ङें | चें | छें | जें | झें | जें |
| ैं | कैं | खैं | गैं | घैं | ङैं | चैं | छैं | जैं | झैं | जैं |
| ों | कों | खों | गों | घों | ङों | चों | छों | जों | झों | जों |
| ौं | कौं | खौं | गौं | घौं | ङौं | चौं | छौं | जौं | झौं | जौं |
| ौं | कौं | खौं | गौं | घौं | ङौं | चौं | छौं | जौं | झौं | जौं |

Consonant and Mātrā +Nasal combinations - Set 2

This set is in continuation of set 1 above which shows combinations of Consonant and Mātrā + Nasal marker

| | ट | ठ | ड | ढ | ण | त | थ | द | ध | न |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ं | टं | ठं | डं | ढं | णं | तं | थं | दं | धं | नं |
| ां | टां | ठां | डां | ढां | णां | तां | थां | दां | धां | नां |
| िं | टिं | ठिं | डिं | ढिं | णिं | तिं | थिं | दिं | धिं | निं |
| ीं | टीं | ठीं | डीं | ढीं | णीं | तीं | थीं | दीं | धीं | नीं |
| ूं | टूं | ठूं | डूं | ढूं | णूं | तूं | थूं | दूं | धूं | नूं |
| ्रं | X | X | X | X | X | X | X | X | X | X |
| ुं | टुं | ठुं | डुं | ढुं | णुं | तुं | थुं | दुं | धुं | नुं |
| ूं | टूँ | ठूँ | डूँ | ढूँ | णूँ | तूँ | थूँ | दूँ | धूँ | नूँ |
| ेँ | टेँ | ठेँ | डेँ | ढेँ | णेँ | तेँ | थेँ | देँ | धेँ | नेँ |
| ैँ | टैँ | ठैँ | डैँ | ढैँ | णैँ | तैँ | थैँ | दैँ | धैँ | नैँ |
| ोँ | टोँ | ठोँ | डोँ | ढोँ | णोँ | तोँ | थोँ | दोँ | धोँ | नोँ |
| ॉँ | टाँ | ठाँ | डाँ | ढाँ | णाँ | ताँ | थाँ | दाँ | धाँ | नाँ |
| ौँ | टौँ | ठौँ | डौँ | ढौँ | णौँ | तौँ | थौँ | दौँ | धौँ | नौँ |

Consonant and Mātrā +Nasal combinations - Set 3

This set is in continuation of set 2 above which shows combinations of Consonant and Mātrā + Nasal marker

| | प | फ | ब | भ | म | य | र | ल | व | श | ष | स | ह | ळ |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ं | पं | फं | बं | भं | मं | यं | रं | लं | वं | शं | षं | सं | हं | ळं |
| ां | पां | फां | बां | भां | मां | यां | रां | लां | वां | शां | षां | सां | हां | ळां |
| िं | पिं | फिं | बिं | भिं | मिं | यिं | रिं | लिं | विं | शिं | षिं | सिं | हिं | ळिं |
| ीं | पीं | फीं | बीं | भीं | मीं | यीं | रीं | लीं | वीं | शीं | षीं | सीं | हीं | X |
| ृं | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| ्रं | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| ुं | पुं | फुं | बुं | भुं | मुं | युं | रुं | लुं | वुं | शुं | षुं | सुं | हुं | ळुं |
| ूं | पूं | फूं | बूं | भूं | मूं | यूं | रूं | लूं | वूं | शूं | षूं | सूं | हूं | ळूं |
| ें | पें | फें | बें | भें | में | यें | रें | लें | वें | शें | षें | सें | हें | ळें |
| ैं | पैं | फैं | बैं | भैं | मैं | यैं | रैं | लैं | वैं | शैं | षैं | सैं | हैं | X |
| ौं | पौं | फौं | बौं | भौं | मौं | यौं | रौं | लौं | वौं | शौं | षौं | सौं | हौं | X |
| ॉं | पाँ | फाँ | बाँ | भाँ | माँ | याँ | राँ | लाँ | वाँ | शाँ | षाँ | साँ | हाँ | ळाँ |
| ौं | पौं | फौं | बौं | भौं | मौं | यौं | रौं | लौं | वौं | शौं | षौं | सौं | हौं | ळौं |

6.3.3. The Ligature Set of Marathi.

Marathi has a large set of ligatural forms. These are combinations of Consoanant+Halanta+Consonant (CHC) or CHCHC or even rarer CHCHCHC. The CHC combinations which are the most frequent are arranged in the shape of a matrix: the abscissa or horizontal axis refers to the Consonant which constitutes the ligature and the ordinate or vertical axis shows the consonant which forms the ligature and which is followed by a halanta.

As in 6.3.2. the ligature sets are divided into the following

6.3.3.1 CHC (in a matrix)

6.3.3.2 CHCHC

6.3.3.3.CHCHCHC

6.3.3.1. CHC (combination of two consonanats)

These ligatures are presented as in the earlier case of Consonant+Mātrā combinations in three sets. A lot of “slots” have an X marked, showing that the experts have deemed that such a ligature is not possible in the language. However in these cases, the font developer is to assume that the ligature is linear in nature.

The following set shows a combination of two consonants. To know how particular combinations forms, select one consonant from the first column and second from first row. For eg. Combination of consonant “क” and “क” is ligature “क्क”.

| CHC(combination of two consonanats) - Set 1 | | | | | | | | | | |
|--|-----|-----|-----|-----|---|-----|-----|----|----|-----|
| | क | ख | ग | घ | ङ | च | छ | ज | झ | ञ |
| क् | क्क | क्ख | क्ग | क्घ | X | क्च | क्छ | X | X | X |
| ख् | खक् | ख्ख | खग | खघ | X | खच | खछ | खज | खझ | खञ |
| ग् | गक् | गख | गग | गघ | X | गच | गछ | गज | गझ | गञ |
| घ् | घक् | घख | घग | घघ | X | घच | घछ | घज | घझ | घञ |
| ङ् | ङक् | ङख | ङग | ङघ | X | X | X | X | X | X |
| च् | चक् | चख | चा | चघ | X | च्च | चछ | चज | चझ | चञ |
| छ् | छक् | छख | छग | छघ | X | छच | छछ | छज | छझ | छञ |
| ज् | जक् | जख | जा | जघ | X | जच | जछ | जज | जझ | ज्ञ |
| झ् | झक् | झख | झग | झघ | X | झच | झछ | झज | झझ | झञ |
| ञ् | X | X | X | X | X | ञच | ञछ | ञज | ञझ | X |
| ट् | टक् | टख | X | X | X | X | X | X | X | X |
| ट् | टक् | टख | टग | टघ | X | X | X | टज | टझ | X |
| ड् | डक् | डख | ङ | डघ | X | X | X | डज | X | X |

| | | | | | | | | | | |
|----|-----|-------|-----|-----|---|-----|------|-----|-----|-----|
| ढ् | ढक | ढ्र | ढग | ढघ | X | X | X | ढज | ढझ | X |
| ण् | णक | ण्र | णग | णघ | X | X | X | णज | णझ | X |
| त् | त्क | त्र | तग | तघ | X | त्व | तृ | तज | तझ | X |
| थ् | थक | थ्र | था | थघ | X | थ्व | थृ | थज | थझ | X |
| द् | दक | द्र | दग | दघ | X | द्व | दृ | दज | दझ | X |
| ध् | धक | ध्र | धा | धघ | X | ध्व | धृ | धज | धझ | X |
| न् | नक | न्र | नग | नघ | X | न्व | नृ | नज | नझ | X |
| प् | पक | प्र | पग | पघ | X | प्व | पृ | पज | पझ | X |
| फ् | फक | फ्र | फग | फघ | X | फ्व | फृ | फज | फझ | X |
| ब् | बक | ब्र | बग | बघ | X | ब्व | बृ | बज | बझ | X |
| भ् | भक | भ्र | भग | भघ | X | भ्व | भृ | भज | भझ | भज |
| म् | मक | म्र | मग | मघ | X | म्व | मृ | मज | मझ | मज |
| य् | यक | य्र | यग | यघ | X | य्व | यृ | यज | यझ | यज |
| र् | र्क | र्ख | र्ग | र्घ | ई | र्च | ई | र्ज | ई | X |
| ऱ् | X | X | X | X | X | X | X | X | X | X |
| ल् | लक | ल्र | लग | लघ | X | ल्व | लृ | लज | लझ | लज |
| ळ् | ळक | ळ्र | ळग | ळघ | X | ळ्व | ळृ | ळज | ळझ | ळज |
| व् | वक | व्र | वग | वघ | X | व्व | वृ | वज | वझ | वज |
| श् | श्क | श्त्र | श्ग | श्घ | X | श्च | श्चृ | श्ज | श्झ | श्ज |
| ष् | ष्क | ष्त्र | ष्ग | ष्घ | X | ष्च | ष्चृ | ष्ज | ष्झ | ष्ज |
| स् | स्क | स्त्र | सग | सघ | X | स्व | स्वृ | सज | सझ | सज |
| ह् | हक | ह्र | हग | हघ | X | ह्व | हृ | हज | हझ | हज |

The following set shows a combination of two consonants. To know how particular combinations forms, select one consonant from the first column and second from first row. For eg. Combination of consonant “क” and “ट” is ligature “कट”.

| CHC(combination of two consonanats) - Set 2 | | | | | | | | | | |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| | ट | ठ | ड | ढ | ण | त | थ | द | ध | न |
| क् | कट | कठ | कड | कढ | कण | क्त | कथ | कद | कध | क्र |
| ख् | खट | खठ | खड | खढ | खण | ख्त | खथ | खद | खध | ख्न |
| ग् | गट | गठ | गड | गढ | गण | गत | गथ | गद | गध | ग्न |
| घ् | घट | घठ | घड | घढ | घण | घ्त | घथ | घद | घध | घ्न |
| ङ् | ङट | ङठ | ङड | ङढ | ङण | ङ्त | ङथ | ङद | ङध | ङ्न |
| च् | चट | चठ | चड | चढ | चण | च्त | चथ | चद | चध | च्न |
| छ् | छट | छठ | छड | छढ | छण | छ्त | छथ | छद | छध | छ्न |
| ज् | जट | जठ | जड | जढ | जण | ज्त | जथ | जद | जध | ज्न |
| झ् | झट | झठ | झड | झढ | झण | झ्त | झथ | झद | झध | झ्न |
| ञ् | ञट | ञठ | ञड | ञढ | ञण | ञ्त | ञथ | ञद | ञध | ञ्न |
| ट् | ट्ट | ट्ठ | ट्ड | ट्ढ | ट्ण | ट्त | ट्थ | ट्द | ट्ध | ट्न |
| ठ् | ठट | ठठ | ठड | ठढ | ठण | ठ्त | ठथ | ठद | ठध | ठ्न |
| ड् | डट | डठ | ड्ड | ड्ढ | ड्ण | ड्त | ड्थ | ड्द | ड्ध | ड्न |
| ढ् | ढट | ढठ | ढड | ढढ | ढण | ढ्त | ढथ | ढद | ढध | ढ्न |
| ण् | णट | णठ | णड | णढ | ण्ण | ण्त | णथ | णद | णध | ण्न |
| त् | त्त | त्ठ | त्ड | त्ढ | त्ण | त्त | त्थ | त्द | त्ध | त्न |
| थ् | थट | थठ | थड | थढ | थण | थ्त | थथ | थद | थध | थ्न |
| द् | दट | दठ | दड | दढ | दण | द्त | दथ | द्व | द्व | द्व्न |
| ध् | धट | धठ | धड | धढ | धण | ध्त | धथ | ध्द | ध्ध | ध्न |
| न् | न्त | न्ठ | न्ड | न्ढ | न्ण | न्त | न्थ | न्द | न्ध | न्न |
| प् | पट | पठ | पड | पढ | प्ण | प्त | पथ | पद | पध | प्न |
| फ् | फट | फठ | फड | फढ | फण | फ्त | फथ | फद | फध | फ्न |
| ब् | बट | बठ | बड | बढ | ब्ण | ब्त | बथ | ब्द | ब्ध | ब्न |
| भ् | भट | भठ | भड | भढ | भण | भ्त | भथ | भ्द | भ्ध | भ्न |
| म् | मट | मठ | मड | मढ | म्ण | म्त | मथ | मद | मध | म्व |
| य् | यट | यठ | यड | यढ | यण | य्त | यथ | य्द | य्ध | य्न |

| | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ਰੁ | ਟ | ਠ | ਡ | ਢ | ਣ | ਤ | ਥ | ਦ | ਧ | ਨ |
| ੜ | X | X | X | X | X | X | X | X | X | X |
| ਲੁ | ਲਟ | ਲਠ | ਲਡ | ਲਢ | ਲਣ | ਲਤ | ਲਥ | ਲਦ | ਲਧ | ਲਨ |
| ਲ਼ | ਲ਼ਟ | ਲ਼ਠ | ਲ਼ਡ | ਲ਼ਢ | ਲ਼ਣ | ਲ਼ਤ | ਲ਼ਥ | ਲ਼ਦ | ਲ਼ਧ | ਲ਼ਨ |
| ਵੁ | ਵਟ | ਵਠ | ਵਡ | ਵਢ | ਵਣ | ਵਤ | ਵਥ | ਵਦ | ਵਧ | ਵਨ |
| ਸ਼ੁ | ਸ਼ਟ | ਸ਼ਠ | ਸ਼ਡ | ਸ਼ਢ | ਸ਼ਣ | ਸ਼ਤ | ਸ਼ਥ | ਸ਼ਦ | ਸ਼ਧ | ਸ਼ਨ |
| ਷ੁ | ਷ਟ | ਷ਠ | ਷ਡ | ਷ਢ | ਷ਣ | ਷ਤ | ਷ਥ | ਷ਦ | ਷ਧ | ਷ਨ |
| ਸ਼ੁ | ਸ਼ਟ | ਸ਼ਠ | ਸ਼ਡ | ਸ਼ਢ | ਸ਼ਣ | ਸ਼ਤ | ਸ਼ਥ | ਸ਼ਦ | ਸ਼ਧ | ਸ਼ਨ |
| ਹੁ | ਹਟ | ਹਠ | ਹਡ | ਹਢ | ਹਣ | ਹਤ | ਹਥ | ਹਦ | ਹਧ | ਹਨ |

| CHC(combination of two consonanats) - Set 3 | | | | | | | | | | | | | | |
|--|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| | प | फ | ब | भ | म | य | र | ल | व | श | ष | स | ह | ळ |
| क् | क्प | क्फ | क्ब | क्भ | क्म | क्य | क्र | कु | क्व | क्श | क्ष | क्स | क्ह | क्ळ |
| ख् | खप | खफ | खब | खभ | खम | ख्य | ख्र | खल | खव | खश | खष | खस | खह | खळ |
| ग् | गप | गफ | गब | गभ | गम | ग्य | ग्र | गु | ग्व | गश | गष | गस | गह | गळ |
| घ् | घप | घफ | घब | घभ | घम | घ्य | घ्र | घु | घ्व | घश | घष | घस | घह | घळ |
| ङ् | ङप | ङफ | ङब | ङभ | ङम | ङ्य | X | ङल | ङव | ङश | ङष | ङस | ङह | ङळ |
| च् | चप | चफ | चब | चभ | चम | च्य | च्र | चु | च्व | चश | चष | चस | चह | चळ |
| छ् | छप | छफ | छब | छभ | छम | छ्य | छ्र | छु | छ्व | छश | छष | छस | छह | छळ |
| ज् | जप | जफ | जब | जभ | जम | ज्य | ज्र | जु | ज्व | जश | जष | जस | जह | जळ |
| झ् | झप | झफ | झब | झभ | झम | झ्य | झ्र | झु | झ्व | झश | झष | झस | झह | झळ |
| ञ् | ञप | ञफ | ञब | ञभ | ञम | ञ्य | X | ञल | ञव | ञश | ञष | ञस | ञह | ञळ |
| ट् | टप | टफ | टब | टभ | टम | ट्य | ट्र | टु | ट्व | टश | टष | टस | टह | टळ |
| ठ् | ठप | ठफ | ठब | ठभ | ठम | ठ्य | ठ्र | ठु | ठ्व | ठश | ठष | ठस | ठह | ठळ |
| ड् | डप | डफ | डब | डभ | डम | ड्य | ड्र | डु | ड्व | डश | डष | डस | डह | डळ |
| ढ् | ढप | ढफ | ढब | ढभ | ढम | ढ्य | ढ्र | ढु | ढ्व | ढश | ढष | ढस | ढह | ढळ |
| ण् | णप | णफ | णब | णभ | णम | ण्य | ण्र | णु | ण्व | णश | णष | णस | णह | णळ |
| त् | तप | तफ | तब | तभ | तम | त्य | त्र | तु | त्व | तश | तष | तस | तह | तळ |
| थ् | थप | थफ | थब | थभ | थम | थ्य | थ्र | थु | थ्व | थश | थष | थस | थह | थळ |
| द् | दप | दफ | दब | दभ | दम | द्य | द्र | दु | द्व | दश | दष | दस | दह | दळ |
| ध् | धप | धफ | धब | धभ | धम | ध्य | ध्र | धु | ध्व | धश | धष | धस | धह | धळ |
| न् | नप | नफ | नब | नभ | नम | न्य | न्र | नु | न्व | नश | नष | नस | नह | नळ |
| प् | पप | पफ | पब | पभ | पम | प्य | प्र | पु | प्व | पश | पष | पस | पह | पळ |
| फ् | फप | फफ | फब | फभ | फम | फ्य | फ्र | फु | फ्व | फश | फष | फस | फह | फळ |
| ब् | बप | बफ | बब | बभ | बम | ब्य | ब्र | बु | ब्व | बश | बष | बस | बह | बळ |
| भ् | भप | भफ | भब | भभ | भम | भ्य | भ्र | भु | भ्व | भश | भष | भस | भह | भळ |
| म् | मप | मफ | मब | मभ | मम | म्य | म्र | मु | म्व | मश | मष | मस | मह | मळ |
| य् | यप | यफ | यब | यभ | यम | य्य | य्र | यु | य्व | यश | यष | यस | यह | यळ |
| र् | प | फ | ब | भ | म | य | र | ल | व | श | ष | स | ह | ळ |
| ऋ | X | X | X | X | X | य | X | X | X | X | X | X | ह | X |
| ल् | लप | लफ | लब | लभ | लम | ल्य | ल्र | लु | ल्व | लश | लष | लस | लह | लळ |
| ळ् | ळप | ळफ | ळब | ळभ | ळम | ळ्य | ळ्र | ळु | ळ्व | ळश | ळष | ळस | ळह | ळळ |
| व् | वप | वफ | वब | वभ | वम | व्य | व्र | वु | व्व | वश | वष | वस | वह | वळ |
| श् | शप | शफ | शब | शभ | शम | श्य | श्र | शु | श्व | शश | शष | शस | शह | शळ |
| ष् | षप | षफ | षब | षभ | षम | ष्य | ष्र | षु | ष्व | षश | षष | षस | षह | षळ |
| स् | सप | सफ | सब | सभ | सम | स्य | स्र | सु | स्व | सश | सष | सस | सह | सळ |
| ह् | हप | हफ | हब | हभ | हम | ह्य | ह्र | हु | ह्व | हश | हष | हस | हह | हळ |

6.3.3.2 CHCHC (combination of three consonants)

These are not as frequent as the CHC combinations. Only the major are listed below.

| | |
|-----------------|---------------|
| क्+त्+य = क्त्य | ष्+ट्+य=ष्ट्य |
|-----------------|---------------|

| | |
|--|---|
| क्+त्+र=क्त्र | त्+त्+व=त्व |
| र्+त्+र=र्त्र | र्+घ्+य=र्घ्य |
| ङ्+क्+त=ङ्क्त्त | ष्+ट्+व=ष्ट्व |
| र्+च्+छ्=च्छ | र्+थ्+य=र्थ्य |
| र्+ष्+य=र्ष्य | क्+ष्+य=क्ष्य |
| ल्+ल्+य= ल्ल्य (alternative form ल्ल्य) | ष्+ट्+र=ष्ट्र |
| च्+छ्+र=च्छ्र | द्+र्+य=द्र्य |
| न्+द्+र=न्द्र | न्+द्+य=न्द्य |
| र्+द्+र=र्द्र | द्+न्+य=ज्ञ ⁸ |
| स्+त्+र=स्त्र | ञ्+द्+न=ञ्दन |
| क्+ष्+म=क्ष्म | न्+द्+व=न्द्र |
| क्+ष्+ण=क्ष्ण | त्+क्+र=क्त्र |
| त्+त्+य= त्य | र्+म्+य=र्म्य |
| त्+स्+न=त्स्न | ट्+ट्+य= ट्ट्य |
| द्+भ्+य= द्भ्य | द्+ध्+य= द्ध्य (alternative form= द्ध्य) |
| च्+छ्+व=च्छ्व | र्+ल्+य=र्ल्य |
| ज्+ज्+व=ज्ज्व | द्+व्+य= द्व्य (alternative form= द्व्य) |
| ह्+म्+य= ह्म्य (alternative form= ह्म्य) | र्+क्+य=र्क्य |
| न्+ध्+य=न्ध्य | द्+ ध्+ य= द्ध्य |
| र्+ ह्+य= र्ह्य | र्+ ध्+ व= र्ह्व |
| त्+र्+य=र्त्य | |

⁸ The combination द्+न्+य is used in Maharashtra to represent Sanskrit ज्ञ

6.3.3.3.CHCHCHC (Combination of four Consonanats)

This is rare and is found only in the following:

र्+ष्+ट्+य=ष्ट्य

र्+त्+स्+न्+य=त्स्य as in the Sanskrit word: कात्स्य used in Marathi

6.3.4 The Collation Order of Marathi.

The collation order refers to the order in which the characters in a given language are sorted. In the case of Marathi the following is the traditional sort order as determined by the experts. Unlike Hindi, Marathi treats क्ष, ज्ञ as individual characters and these come at the end of the list. The order as given below is pertinent to sorting by a computer program and is compliant with CLDR as laid down by Unicode and W3C.

| | | | | | | | | | |
|-----|-----|---|---|---|---|---|---|---|---|
| ं | ः | अ | आ | इ | ई | उ | ऊ | ऋ | ॠ |
| ए | ऐ | ओ | ऑ | औ | 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 | ळ |
| क्ष | ज्ञ | ा | ि | ी | ु | ू | ृ | ॄ | े |
| ँ | ै | ो | ॉ | ौ | ७ | | | | |

6.3.5 Cardinal Numbers used in Marathi language

Cardinal Numbers are listed out in the following table :

| | | | |
|---------|--------------|-------------|-----------------|
| ०-शून्य | २८- अठ्ठावीस | ५६- छपन्न | ८४ -चौऱ्याऐंशी |
| १- एक | २९- एकोणतीस | ५७- सत्तावन | ८५ -पंच्याऐंशी |
| २-दोन | ३०- तीस | ५८ -अठ्ठावन | ८६ -शाऐंशी |
| ३-तीन | ३१- एकतीस | ५९- एकोणसाठ | ८७ -सत्त्याऐंशी |
| ४- चार | ३२- बत्तीस | ६०- साठ | ८८ -अड्ड्याऐंशी |
| ५ -पाच | ३३- तेहतीस | ६१ -एकसष्ट | ८९ -एकोणनव्वद |
| ६ -सहा | ३४- चौतीस | ६२- बासष्ट | ९० -नव्वद |

| | | | |
|--------------|-----------------|-----------------|------------------------|
| ७ -सात | ३५- पस्तीस | ६३ -त्रेसष्ट | ९१- एक्याण्णव |
| ८ -आठ | ३६- छत्तीस | ६४ -चौसष्ट | ९२ -ब्याण्णव |
| ९- नऊ | ३७ -सदतीस | ६५ -पासष्ट | ९३ -त्र्याण्णव |
| १० -दहा | ३८ -अडतीस | ६६ -सहासष्ट | ९४- चौऱ्याण्णव |
| ११ -आकरा | ३९- एकोणचाळीस | ६७ -सदुसष्ट | ९५ -पंचाण्णव |
| १२ -बारा | ४० -चाळीस | ६८ -अडुसष्ट | ९६ -शहाण्णव |
| १३ -तेरा | ४१ -एकेचाळीस | ६९- एकोणसत्तर | ९७ -सत्याण्णव |
| १४ -चौदा | ४२ -बेचाळीस | ७० -सत्तर | ९८ -अड्याण्णव |
| १५- पंधरा | ४३- त्रेचाळीस | ७१ -एकाहत्तर | ९९- नव्याण्णव |
| १६ -सोळा | ४४- चव्वेचाळीस* | ७२ -बाहत्तर | १००- शंभर |
| १७ -सतरा | ४५- पंचेचाळीस | ७३- त्र्याहत्तर | १००० -हजार |
| १८ -अठरा | ४६ -शेहेचाळीस | ७४- चौऱ्याहत्तर | १,००,०००- लाख |
| १९ -एकोणीस | ४७ -सत्तेचाळीस | ७५- पंचाहत्तर | १०,००,०००- दहा लाख |
| २०-वीस | ४८ -अड्डेचाळीस | ७६ -शाहत्तर | १,००,००,०००- कोटी |
| २१- एकवीस | ४९ -एकोणपन्नास | ७७ -सत्याहत्तर | १०,००,००,००० -दहा कोटी |
| २२- बावीस | ५०- पन्नास | ७८ -अड्याहत्तर | १,००,००,००,००० -अब्ज |
| २३- तेवीस | ५१- एकावन्न | ७९ -एकोणऐंशी | |
| २४ -चोवीस | ५२- बावन्न | ८० -ऐंशी | |
| २५- पंचवीस | ५३- त्रेपन्न | ८१ -एक्याऐंशी | |
| २६ -सव्वीस | ५४- चौपन्न* | ८२ -ब्याऐंशी | |
| २७ -सत्तावीस | ५५- पंचावन | ८३ -त्र्याऐंशी | |

English numerals/ digits are used in Marathi language but in mathematics books.

* This indicates that there are differences of opinion on this.

7. REFERENCES

1. <http://www.unicode.org>
2. ISCII'91

8. ANNEXURES

Annexure 1: Names of experts who have contributed to the script grammar

Annexure 2: Unicode Table of Devanāgarī ⁹

0900

Devanagari

097F

| | 090 | 091 | 092 | 093 | 094 | 095 | 096 | 097 |
|---|-----|-----|-----|-----|-----|-----|-----|-----|
| 0 | | ऐ | ठ | र | ी | ॐ | ॠ | ॡ |
| 1 | ॐ | ऑ | ड | र | ॐ | ॐ | ॐ | ॐ |
| 2 | ॐ | ओ | ढ | ल | ॐ | ॐ | ॐ | अँ |
| 3 | ॐ | ओ | ण | ळ | ॐ | ॐ | ॐ | |
| 4 | ऐ | औ | त | ळ | ॐ | ॐ | ॐ | |
| 5 | अ | क | थ | व | ॐ | | ॥ | |
| 6 | आ | ख | द | श | ॐ | | ॐ | |
| 7 | इ | ग | घ | ष | ॐ | | ॐ | |
| 8 | ई | घ | न | स | ॐ | क | ॐ | |
| 9 | उ | ड | न | ह | ॐ | ख | ॐ | |
| A | ऊ | च | प | | ॐ | ग | ॐ | |
| B | ॠ | ॡ | फ | | ॐ | ज | ॐ | ग |
| C | ॠ | ज | व | ॐ | ॐ | ॐ | ॐ | ज |
| D | ॐ | झ | भ | ॐ | ॐ | ॐ | ॐ | ॐ |
| E | ॐ | ॐ | म | ॐ | | फ | ॐ | ॐ |
| F | ॐ | ॐ | य | ॐ | | य | ॐ | ॐ |

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⁹ The Unicode chart provided is for version 5.1 since the Script Grammar was prepared at that time. No considerable change in the script grammar can be seen in the updated versions of Unicode, with the possible addition of the Rupee Sign U+02B9

Based on ISCII 1988

Various signs

| | | |
|------|----|---|
| 0901 | ◌ं | DEVANAGARI SIGN CANDRABINDU = anusaka → 0310 ◌ं combining candrabindu |
| 0902 | ◌ः | DEVANAGARI SIGN ANUSVARA = bindu |
| 0903 | ◌ः | DEVANAGARI SIGN VISARGA |

Independent vowels

| | | |
|------|---|---|
| 0904 | अ | DEVANAGARI LETTER SHORT A |
| 0905 | आ | DEVANAGARI LETTER A |
| 0906 | इ | DEVANAGARI LETTER AA |
| 0907 | ई | DEVANAGARI LETTER I |
| 0908 | उ | DEVANAGARI LETTER II |
| 0909 | ऊ | DEVANAGARI LETTER U |
| 090A | ऋ | DEVANAGARI LETTER UU |
| 090B | ॠ | DEVANAGARI LETTER VOCALIC R |
| 090C | ॡ | DEVANAGARI LETTER VOCALIC L |
| 090D | ए | DEVANAGARI LETTER CANDRA E |
| 090E | ऐ | DEVANAGARI LETTER SHORT E • for transcribing Dravidian short e |
| 090F | ऑ | DEVANAGARI LETTER E |
| 0910 | ऋ | DEVANAGARI LETTER AI |
| 0911 | ॠ | DEVANAGARI LETTER CANDRA O |
| 0912 | ॡ | DEVANAGARI LETTER SHORT O • for transcribing Dravidian short o |
| 0913 | ओ | DEVANAGARI LETTER O |
| 0914 | औ | DEVANAGARI LETTER AU |

Consonants

| | | |
|------|----|---|
| 0915 | क | DEVANAGARI LETTER KA |
| 0916 | ख | DEVANAGARI LETTER KHA |
| 0917 | ग | DEVANAGARI LETTER GA |
| 0918 | घ | DEVANAGARI LETTER GHA |
| 0919 | ङ | DEVANAGARI LETTER NGA |
| 091A | च | DEVANAGARI LETTER CA |
| 091B | छ | DEVANAGARI LETTER CHA |
| 091C | ज | DEVANAGARI LETTER JA |
| 091D | झ | DEVANAGARI LETTER JHA |
| 091E | ञ | DEVANAGARI LETTER NYA |
| 091F | ट | DEVANAGARI LETTER TTA |
| 0920 | ठ | DEVANAGARI LETTER TTHA |
| 0921 | ड | DEVANAGARI LETTER DDA |
| 0922 | ढ | DEVANAGARI LETTER DDHA |
| 0923 | ण | DEVANAGARI LETTER NNA |
| 0924 | त | DEVANAGARI LETTER TA |
| 0925 | थ | DEVANAGARI LETTER THA |
| 0926 | द | DEVANAGARI LETTER DA |
| 0927 | ध | DEVANAGARI LETTER DHA |
| 0928 | न | DEVANAGARI LETTER NA |
| 0929 | न् | DEVANAGARI LETTER NNA • for transcribing Dravidian alveolar n = 0928 ण 093C ◌ |
| 092A | प | DEVANAGARI LETTER PA |
| 092B | फ | DEVANAGARI LETTER PHA |
| 092C | ब | DEVANAGARI LETTER BA |
| 092D | भ | DEVANAGARI LETTER BHA |
| 092E | म | DEVANAGARI LETTER MA |
| 092F | य | DEVANAGARI LETTER YA |
| 0930 | र | DEVANAGARI LETTER RA |

| | | |
|------|---|---|
| 0931 | ऌ | DEVANAGARI LETTER RRA • for transcribing Dravidian alveolar r • half form is represented as "Eyelash RA" = 0930 र 093C ◌ |
| 0932 | ल | DEVANAGARI LETTER LA |
| 0933 | ळ | DEVANAGARI LETTER LLA |
| 0934 | ॢ | DEVANAGARI LETTER LLLA • for transcribing Dravidian l = 0933 ळ 093C ◌ |
| 0935 | व | DEVANAGARI LETTER VA |
| 0936 | श | DEVANAGARI LETTER SHA |
| 0937 | ष | DEVANAGARI LETTER SSA |
| 0938 | स | DEVANAGARI LETTER SA |
| 0939 | ह | DEVANAGARI LETTER HA |

Various signs

| | | |
|------|----|--|
| 093C | ◌् | DEVANAGARI SIGN NUKTA • for extending the alphabet to new letters |
| 093D | ◌ः | DEVANAGARI SIGN AVAGRAHA |

Dependent vowel signs

| | | |
|------|----|--|
| 093E | ◌ः | DEVANAGARI VOWEL SIGN AA |
| 093F | ◌ः | DEVANAGARI VOWEL SIGN I • stands to the left of the consonant |
| 0940 | ◌ः | DEVANAGARI VOWEL SIGN II |
| 0941 | ◌ः | DEVANAGARI VOWEL SIGN U |
| 0942 | ◌ः | DEVANAGARI VOWEL SIGN UU |
| 0943 | ◌ः | DEVANAGARI VOWEL SIGN VOCALIC R |
| 0944 | ◌ः | DEVANAGARI VOWEL SIGN VOCALIC RR |
| 0945 | ◌ः | DEVANAGARI VOWEL SIGN CANDRA E = candra |
| 0946 | ◌ः | DEVANAGARI VOWEL SIGN SHORT E • for transcribing Dravidian vowels |
| 0947 | ◌ः | DEVANAGARI VOWEL SIGN E |
| 0948 | ◌ः | DEVANAGARI VOWEL SIGN AI |
| 0949 | ◌ः | DEVANAGARI VOWEL SIGN CANDRA O |
| 094A | ◌ः | DEVANAGARI VOWEL SIGN SHORT O • for transcribing Dravidian vowels |
| 094B | ◌ः | DEVANAGARI VOWEL SIGN O |
| 094C | ◌ः | DEVANAGARI VOWEL SIGN AU |

Various signs

| | | |
|------|----|---|
| 094D | ◌ः | DEVANAGARI SIGN VIRAMA = halant (the preferred Hindi name) • suppresses inherent vowel |
| 094E | ◌ः | <reserved> |
| 094F | ◌ः | <reserved> |
| 0950 | ◌ः | DEVANAGARI OM |
| 0951 | ◌ः | DEVANAGARI STRESS SIGN UDATTA = Vedic tone svarita • mostly used for Rigvedic svarita, with rare use for Yajurvedic udatta • used also in Vedic texts written in other scripts |
| 0952 | ◌ः | DEVANAGARI STRESS SIGN ANUDATTA = Vedic tone anudatta • used also in Vedic texts written in other scripts |
| 0953 | ◌ः | DEVANAGARI GRAVE ACCENT |
| 0954 | ◌ः | DEVANAGARI ACUTE ACCENT |

Additional consonants

| | | |
|------|----|---|
| 0958 | ◌ः | DEVANAGARI LETTER QA = 0915 क 093C ◌ |
| 0959 | ◌ः | DEVANAGARI LETTER KHHA = 0916 ख 093C ◌ |

095A

Devanagari

097F

| | | |
|------|---|--|
| 095A | ग | DEVANAGARI LETTER GHHA = 0917 ग 093C ◌ |
| 095B | झ | DEVANAGARI LETTER ZA = 091C ञ 093C ◌ |
| 095C | ढ | DEVANAGARI LETTER DDDHA = 0921 ढ 093C ◌ |
| 095D | ण | DEVANAGARI LETTER RHA = 0922 ण 093C ◌ |
| 095E | फ | DEVANAGARI LETTER FA = 092B फ 093C ◌ |
| 095F | य | DEVANAGARI LETTER YYA = 092F य 093C ◌ |

Additional vowels for Sanskrit

| | | |
|------|----|----------------------------------|
| 0960 | ॠ | DEVANAGARI LETTER VOCALIC RR |
| 0961 | ॡ | DEVANAGARI LETTER VOCALIC LL |
| 0962 | ◌ॢ | DEVANAGARI VOWEL SIGN VOCALIC L |
| 0963 | ◌ॣ | DEVANAGARI VOWEL SIGN VOCALIC LL |

Generic punctuation for scripts of India

These punctuation marks are for common use for the scripts of India despite being named "DEVANAGARI".

| | | |
|------|--|---|
| 0964 | | DEVANAGARI DANDA = purna viram • phrase separator |
| 0965 | | DEVANAGARI DOUBLE DANDA = deergh viram |

Digits

| | | |
|------|---|------------------------|
| 0966 | ० | DEVANAGARI DIGIT ZERO |
| 0967 | १ | DEVANAGARI DIGIT ONE |
| 0968 | २ | DEVANAGARI DIGIT TWO |
| 0969 | ३ | DEVANAGARI DIGIT THREE |
| 096A | ४ | DEVANAGARI DIGIT FOUR |
| 096B | ५ | DEVANAGARI DIGIT FIVE |
| 096C | ६ | DEVANAGARI DIGIT SIX |
| 096D | ७ | DEVANAGARI DIGIT SEVEN |
| 096E | ८ | DEVANAGARI DIGIT EIGHT |
| 096F | ९ | DEVANAGARI DIGIT NINE |

Devanagari-specific additions

| | | |
|------|---|----------------------------------|
| 0970 | = | DEVANAGARI ABBREVIATION SIGN |
| 0971 | ˙ | DEVANAGARI SIGN HIGH SPACING DOT |

Additional vowel for Marathi

| | | |
|------|---|---|
| 0972 | ॢ | DEVANAGARI LETTER CANDRA A • Marathi |
|------|---|---|

Sindhi implosives

| | | |
|------|---|-----------------------|
| 097B | Ƀ | DEVANAGARI LETTER GGA |
| 097C | Ƀ | DEVANAGARI LETTER JJA |

Glottal stop

| | | |
|------|---|--|
| 097D | ʔ | DEVANAGARI LETTER GLOTTAL STOP • used for writing Limbu in Devanagari • a glyph variant has the connecting top bar |
|------|---|--|

Sindhi implosives

| | | |
|------|---|------------------------|
| 097E | Ƀ | DEVANAGARI LETTER DDDA |
| 097F | Ƀ | DEVANAGARI LETTER BBBA |