

Draft

Proposal for Encoding of Vaidika Character & Symbols in Unicode

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The Draft Proposal dated 10th October 2007 is prepared by Prof. R. K. Joshi, Dr. Alka Irani and her team of LCG, C-DAC Mumbai and in collaboration with Scholars, for Department of Ministry of Communications & IT, Government of India; for consideration and submission to Unicode Technical Committee.

Opening remarks:

This draft proposal is in continuation with the proposals submitted by Govt. of India in February 2003, Document No.L2/03-066, Submission Date: 26-02-2003 and in May 2006, Document No.L2/06-185, Submission Date: 10-06-2006. This draft proposal also takes into account the proposal ISO/IECJTC1/SC2/WG2 N3235 Document No.L2/07-095 dated 13-04-2006 and ISO/IECJTC1/SC2/WG2 N3290 Document No.L2/07-230 dated 26-07-2007.

This draft proposal has been discussed and consolidated with the help of many Vedic Sanskrit scholars, Sanskrit academicians, linguists, technologists from various academic research institutions and Government of India officials. Their valuable contributions are duly acknowledged.

In this present draft proposal 79 character codes have been identified under the block entitled Vaidika extensions and requested for its inclusion in the suitable slot in the BMP of UCS. 79 characters include 2 Vowel Letters, 2 Vowel *Maatra* signs, 3 Consonant Letters that are needed for Vedic Sanskrit text as well as for Indo-Iranian Avesta text using Devanagari script. Under *Vaidika* extensions, 23 *Svaraadi Chihnas*, 20 *Vaidika Svraankana Chihnas*, 25 *Vaidika Saamasvara Chihnas* and 4 *Vaidika* Symbols and *Chihnas* have been identified.

Introduction

The ancient holy text in India is known by the name of the *Veda*. The word *Veda* is derived from the root verb “*vid*”- *to know, to attain the knowledge*. There are 4 *Vedas* namely *RigVeda*, *YajurVeda*, *SaamaVeda* and *AtharvaVeda*. Composed in verse format using Sanskrit language, the contents of these *Vedas* are of spiritual, philosophical and practical nature and are to be vocalized in terms of recitation, chanting, singing, etc. The collections of the *Mantras* (the compositions in poetry and prose form) of the four *Vedas* were further divided into *Shaakhaas* (branches). The classes of reciters known as Vaidikas belonging to individual branches have retained their chanting characteristics while vocalizing the *Mantras*. This oral mode acquired a great significance in ancient India in terms of Teacher-students tradition (*guru-shishya parampara*). At later stage such oral recitations had to be written down by *Pandits* in order to retain the knowledge in the written mode. To write such Vedic text with vocal nuances, various signs (*svaraankana-paddhati*) were devised and placed around syllables. These are called Vedic accent and tonal signs. It is interesting to note that a single chant if vocalised by the *Vaidikas* of different branches, would have slight variation in terms of nasalization, intonation, continuum, stress etc. And to indicate these differences, many variants of a single sign have been developed. For example, there are 15 variations of *Anusvaara* indicated by 15 graphic signs with slight variations in their visual forms. The selective usage of these signs indicates that the particular text is from a particular branch of *Veda*.

It is observed that there is a *Vaidika* tradition of hand movements (*Hasta-Mudraas*) to suggest the proper way of intonation while chanting the *Mantras*.

Sanskrit is one of the most ancient languages of the world, which has moulded the culture and the thought systems not only of India but also of many other countries in Asia. Sanskrit is not a dead language. Sanskrit was for over a millennium, a living spoken language with a considerable literature of its own. Besides works of literary value, there was a long philosophical and grammatical tradition.

Many Universities in India and abroad are involved in the Vedic studies as a specialized subject. Traditional *Vaidika Paathashaalaas* in various parts of India are involved in imparting the practice and knowledge of *Vaidika* oral tradition. Temples and *Mathas* are providing support for learning and teaching Vedic texts. Various research institutes are actively involved in bringing out critical editions of the Vedic texts and various research activities in this field.

1. The range of Vedic texts

The Vedic texts refer to the four groups of *Vedas* namely *RigVeda*, *YajurVeda* (*Shukla and Krishna*), *SaamaVeda* and *AtharvaVeda*. The range of Vedic texts extend to their respective *Shaakhaas*, *Upashaakhaas* (branches-subbranches),

Samhitaas, Braahmannas, Aarannyakas, Upanishads, Shrautasuutras, Praatishaakhyas and *Shikshaas*. Originally, the Vedic text (mostly in verse form) – *Samhitaas* along with their respective *Padapaathas* exist in the oral mode and were passed on from *Guru* to *Shishya* through various processes such as *Shravanna* (listening), *Anuchchaaranna* (repetition), *Arthabodha* (understanding of the meaning), *Kannthasthiikaranna* (memorisation), *Charchaa-Samvaada* (discussion) and *Prashnottara* (Questions & Answers).

Later on when these texts were written (with appropriate methodologies and materials, the need was felt to introduce *Vaidika Svaaankana Chihnas* (accent/tonal marks, signs and symbols) as a guide for proper pronunciation (and hence proper reading) of such texts.

The *Shikshaas* cover the study of the terms such as *Varna* (letters of alphabet), *Svara* - (accents like *Udaatta, Anudaatta* and *Svarita*), *Maatraa* (the time measurement required for the pronunciation), *Bala* (stress - in context to *sthaana* and *prayatna*) etc.

The *Praatishaakhyas* constitute studies on phonetics, which prevailed in ancient India in different schools of the *Vedas*. Each *Praatishaakhya* with the ancient phonetic system was applicable to a particular school of each *Veda*. Some of the *Praatishaakhyas* such as *Taittiriya* covered subjects like *Uchchaaranna-kalpa* - formation of articulate sounds and more of their production.

2. Vaidika texts with Svaaankana Chihnas

One of the most significant characteristics of Vedic language is its proper accentuation system in utterances of its words, sentences as well as prose and versified compositions.

Vedic text with *Svaaankana Chihnas* is available in various groups of Vedic literature such as *Samhitaas, Braahmannas, Aarannyakas* and *Upanishads*. Besides, various *Praatishaakhyas* and *Shikshaagranthas* have discussed the theoretical as well as grammatical and practical aspects of '*Uchchaaranna*' (accentology) supported by examples of *Svaaankana Chihnas* (accentography) as well as their contextual rules.

Various branches of *RigVeda, YajurVeda, SaamaVeda* and *AtharvaVeda* are marked with '*Svaras*'. It is observed that the Vedic text and its accent marks vary in their application and presentation as per its branch, sub-branch, tradition and location.

For example:

In *RigVeda*, the *Udaatta Svara* is left unmarked. In *Rigveda* and *YajurVeda* the *Svarita Svara* is marked with short vertical line on the top of a syllable. The same sign appears as *Anudaatta* mark below a syllable in *AtharvaVeda (Paippalaada Shaakhaa)*.

3. The importance of Svaaankana Chihnas

Svaaankana Chihnas are very useful devices in more than one way. On one hand these marks represent nuances of pronunciation and on the other hand these marks are used for semantic differentiation as well.

3a. *Svaraankana Chihnas* are used in each *Pada* (word) as to help to understand the proper meaning (*Arthabodha*) of a *Mantra*.

3a.1 The knowledge of the kind of *Samaasapada*

इन्द्रशत्रुः

- The killer of *Indra*
Tatpurusha samaas

इन्द्रशत्रुः

- The one for whom *Indra* is an enemy
Bahuvrihi samaas

3a.2 For Gender classification

मिहः

- Adjective, Feminine Gender

मिहः

- Adjective, Masculine Gender

3b *Svaraankana Chihnas* are useful in context of deciding the grammatical status of a *pada*.

अपस्

- Noun

अपस्

- Adjective

3c *Svaraankana Chihnas* are used in context to sentence classification. Some words in a sentence are accented and some are not, creating the correct meaning.

3c1. The verb in the principle clause is unaccented whereas in the subordinate clause it is accented.

3c2. In a given sentence, if a speaker does not give any stress on the *pada*, then it is marked as a *Sarvaanudaatta*. Whereas, if a speaker wants to give a stress in the beginning of the word then that is accented.

- 3c.3 If there is a concept of addressing someone (vocative) in the beginning of a sentence then the first syllable of the *pada* will be accented.

4. The Contextual aspect of Svvaraankana Chihnas

The *Svvaraankana Chihnas* of Vedic Sanskrit are not independent signs. They do not behave as punctuation marks. The *Svvaraankana Chihnas* are positioned all around the syllable. Some of them are of zero width and some have positive widths. However these marks with positive widths cannot be termed as letters. Most of these marks are dependent on the context i.e. preceding syllable and or following syllable. Further these positive width marks can take zero width marks above or below of them and are governed by linguistic rules as per grammar.

- 4.1 In *Samhitaa* text and in the *Padapaatha*, different signs are noticed in case of the same *pada*. (*Vaajasaneyi Maadhyandina Shukla YajurVeda Samhitaa* pg102/5.27).

दृं ह

- *Samhitaa*

दृः ह

- *Padapaatha*

- 4.2 Vedic *Anusvaara*, when it occurs in the *Samhitaa* is affected by the pronunciation of the subsequent sound. When *Samhitaa* is split into *padapaatha*, due to the pause that follows after the *Anusvaara*, the *Anusvaara* sounds differently so it is shown with two different signs in the *Samhitaa* and *Padapaatha*.

व रुं थ् स्वाहा

- *Samhitaa*

| वरुथम् | स्वाहा |

- *Padapaatha*

Here the *Anusvaara* is changed to 'M' in the *Padapaatha*.
Vaajasaneyi Maadhyandina Shukla YajurVeda Samhitaa (pg106/5.35).

- 4.3 The *Anusvaara*, which is inside the *pada* remains as it is. This *Anusvaara* is not caused by any factor outside of that word itself, but is there in the process of the formation of the *pada*.

Vaajasaneeyi Maadhyandina Shukla YajurVeda Samhitaa (pg129).

प्रशंसिषो

- Samhitaa

प्र । शंसिषः

- Padapaatha

All these and similar cases of an *Svaraankana Chihna* are appropriately reflected in the property data provided in this draft proposal.

5. The identified range, positioning and compositions of *Svaraankana Chihnas*

- 5a. The total number of 32 Vedic Sanskrit signs were identified in the 'Extended character set for Vedic' in the ISCII document Annex-G (IS13194: 1991). The extension character (EXT), defined in ISCII, was to be followed by another character in the range of A1 Hex to EE Hex, to yield additional 32 characters needed for Vedic Sanskrit text with such accent marks.
- 5b. The codes for 42 Vedic signs were provided in the *Vividha* codes while enabling Vedic Sanskrit text at the National Centre for Software Technology (Formerly NCST, now CDAC Mumbai), Bombay in 1985.
- 5c. The Task was undertaken at NCST in Aug 2000, to identify the full range (as used) of Vedic Sanskrit accent marks. The identified 66 signs were divided into 6 groups as follows:
 - Group A - Vedic signs appearing at the top of a syllable
 - Group B- Vedic signs appearing below the syllable
 - Group C- Vedic signs, indicating vibration
 - Group D- Vedic signs - *Visarga* appearing in the linear way after a syllable
 - Group E- Vedic signs - *Anusvaara* appearing in the linear way after a syllable
 - Group F- Vedic signs - Misc. appearing in the linear way- after a syllable
- 5d. Further, the additional Vedic accent signs (*Svaraankana Chihnas*) were observed from various sources- manuscripts/printed texts.

These signs were discussed and debated regarding their multiple usages, redundancies, earlier technology restrains, multiple shapes and usability factors. From the total of identified 102 Vedic signs, the codes

for 79 Vedic signs have been chosen and recommended as candidates for Unicode in this draft proposal.

One of the *Shaakhaas* viz. *Jaiminiya*, have different system of syllables to be used as accent marks. These marks need to be handled through a separate soft tool.

6. The compositional rules

The *Vaidika Swaraadi Chihnas*, *Vaidika Svvaraankana Chihnas*, *Vaidika Saamasvara Chihnas* are to be rendered above, below and/or right side of the syllable.

The types of *Svvaraankana Chihnas* and their compositional rules are given separately

7. The help in preparation of this draft proposal from all quarters is gratefully acknowledged.

VAIDIKA EXTENTIONS






(15TH AUGUST 2007) C

Vowels and Consonants		
0880	अँ	INDO IRANIAN AVESTA LETTER SAREKHA CANDRA LONG A
0881	ँ	INDO IRANIAN AVESTA VOWEL SIGN SAREKHA CANDRA LONG A
0882	ओ	INDO IRANIAN AVESTA LETTER LONG AAOO
0883	ो	INDO IRANIAN AVESTA VOWEL SIGN LONG AAOO
0884	ज़	INDO IRANIAN AVESTA LETTER ZH
0885	य्	VAIDIKA LETTER YY
0886	ळ्ह	VAIDIKA LETTER LLH
0887	Ⓜ	RESERVED (This code point shall not be used)
0888	Ⓜ	RESERVED (This code point shall not be used)





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Vaidika Svaraadi Chihna		
0889	◌ँ	VAIDIKA ANUSVAARA CANDRA TIRYAK
088A	◌ं	VAIDIKA ANUSVAARA CANDRA SADVI
088B	◌ँ	VAIDIKA ANUSVAARA CANDRA SATRI
088C	◌ँ	VAIDIKA ANUSVAARA CANDRA SAAVAGRAHA
088D	◌ँ	VAIDIKA ANUSVAARA DVI CANDRA TIRYAK
088E	◌ँ	VAIDIKA ANUSVAARA ANTARMUKHA
088F	◌ँ	VAIDIKA ANUSVAARA VAAMAMUKHA
0890	◌ँ	VAIDIKA ANUSVAARA VAAMAMUKHA SACANDRA
0891	◌ँ	VAIDIKA ANUSVAARA VAAMAMUKHA SAVAKRA
0892	◌ँ	VAIDIKA ANUSVAARA DAKSHINNAMUKHA
0893	◌ँ	VAIDIKA ANUSVAARA NAAGAPHANNA
0894	◌ँ	VAIDIKA ANUSVAARA NAAGAPHANNA SACANDRA
0895	◌ँ	VAIDIKA ANUSVAARA CANCEMUKHA
0896	◌ँ	VAIDIKA ANUSVAARA TTHASADRISHA
0897	◌ँ	VAIDIKA ANUSVAARA DVI BINDU AVAGRAHA
0898	◌ँ	VAIDIKA VISARGA MADHYEREKHA
0899	◌ँ	VAIDIKA VISARGA VAAMATAH UURDHVAGA
089A	◌ँ	VAIDIKA VISARGA VAAMATAH ADHOGA
089B	◌ँ	VAIDIKA VISARGA DAKSHINNATAH UURDHVAGA
089C	◌ँ	VAIDIKA VISARGA DAKSHINNATAH UURDHVA VAKRA
089D	◌ँ	VAIDIKA VISARGA VAAMATAH ADHO VAKRA
089E	◌ँ	VAIDIKA JIHVAAMULIYA VAJRA
089F	◌ँ	VAIDIKA UPADHAMAANIYA GAJAKUMBHA

Vaidika Svaramkana Chihna		
08A0		VAIDIKA SVARITA UURDHVA REKHA
08A1		VAIDIKA SVARITA ADHO DVI REKHA
08A2		VAIDIKA SVARITA DVI VAKRA KHANDA
08A3		VAIDIKA SVARITA UURDHVA SHARA
08A4		VAIDIKA SVARITA UURDHVA DVI REKHA
08A5		VAIDIKA SVARITA UURDHVA TRI REKHA
08A6		VAIDIKA SVARITA ADHAH ARDHA VAKRA
08A7		VAIDIKA SVARITA ADHO NYUBJA
08A8		VAIDIKA SVARITA ADHAH KONNA
08A9		VAIDIKA SVARITA ADHO VAKRA REKHA
08AA		VAIDIKA SVARITA URASI REKHA
08AB		VAIDIKA SVARITA ADHO REKHAA
08AC		VAIDIKA SVARITA ADHO BINDU
08AD		VAIDIKA SVARITA ADHO DVI BINDU
08AE		VAIDIKA SVARITA ADHAS TRI BINDU
08AF		VAIDIKA SVARITA ADHAS SHATT BINDU
08B0		VAIDIKA SVARITA HRASVA KAMPA
08B1		VAIDIKA SVARITA DEERGHYA KAMPA
08B2		VAIDIKA SVARITA HRASVA KAMPA ADHOREKHA
08B3		VAIDIKA SVARITA HRASVA DEERGHYA KAMPA ADHOREKHA

Vaidika Saamasvara Chihna		
08B4		VAIDIKA SAAMASVARA ANKA SHUUNYA
08B5		VAIDIKA SAAMASVARA ANKA EKA
08B6		VAIDIKA SAAMASVARA ANKA DVI
08B7		VAIDIKA SAAMASVARA ANKA TRI
08B8		VAIDIKA SAAMASVARA ANKA CHATUR

08B9		VAIDIKA SAAMASVARA ANKA PANCHA
08BA		VAIDIKA SAAMASVARA ANKA SHATT
08BB		VAIDIKA SAAMASVARA ANKA SAPTA
08BC		VAIDIKA SAAMASVARA ABHINIHITA
08BD		VAIDIKA SAAMASVARA NAMANA
08BE		VAIDIKA SAAMASVARA KAMPA
08BF		VAIDIKA SAAMASVARA RA
08C0		VAIDIKA SAAMASVARA EKA RA
08C1		VAIDIKA SAAMASVARA DVI RA
08C2		VAIDIKA SAAMASVARA TRI RA
08C3		VAIDIKA SAAMASVARA CHATUR RA
08C4		VAIDIKA SAAMASVARA PANCHA RA
08C5		VAIDIKA SAAMASVARA DVI U
08C6		VAIDIKA SAAMASVARA TRI KA
08C7		VAIDIKA SAAMASVARA KARSHANNA
08C8		VAIDIKA SAAMASVARA AVAGRAHA
08C9		VAIDIKA SAAMASVARA PRENKHA
08CA		VAIDIKA SAAMASVARA VINIITA
08CB		VAIDIKA SAAMASVARA PRANNATAM
08CC		VAIDIKA PARVASUUCHAKA

Vaidika Chihna		
08CD		VAIDIKA BODHA SVASTIKA
08CE		VAIDIKA APUURNNAANKA PAADA • 1/4 of a Maatraa Kaala
08CF		VAIDIKA APUURNNAANKA ARDHA • 1/2 of a Maatraa Kaala
08D0		VAIDIKA TIRYAK

Reserved Code Points		
08D1 to 08FF	R	RESERVED (These code points shall not be used)

Unicode Data Properties

0880;INDO IRANIAN AVESTA LETTER SAREKHA CANDRA LONG A;Lo;0;L;;;;N;;;;;
0881;INDO IRANIAN AVESTA VOWEL SIGN SAREKHA CANDRA LONG A;Mn;230;NSM;;;;;N;;;;;
0882;INDO IRANIAN AVESTA LETTER LONG AAOO;Lo;0;L;;;;N;;;;;
0883;INDO IRANIAN AVESTA VOWEL SIGN LONG AAOO ;Mc;0;L;;;;N;;;;;
0884;INDO IRANIAN AVESTA LETTER ZH;Lo;0;L;;;;N;;;;;
0885;VAIDIKA LETTER YY;Lo;0;L;;;;N;;;;;
0886;VAIDIKA LETTER LLH;Lo;0;L;;;;N;;;;;
0889;VAIDIKA ANUSVAARA CANDRA TIRYAK ;Mc;0;L;;;;N;;;;;
088A;VAIDIKA ANUSVAARA CANDRA SADVI ;Mc;0;L;;;;N;;;;;
088B;VAIDIKA ANUSVAARA CANDRA SATRI;Mc;0;L;;;;N;;;;;
088C;VAIDIKA ANUSVAARA CANDRA SAAVAGRAHA;Mc;0;L;;;;N;;;;;
088D;VAIDIKA ANUSVAARA DVI CANDRA TIRYAK;Mc;0;L;;;;N;;;;;
088E;VAIDIKA ANUSVAARA ANTARMUKHA;Mc;0;L;;;;N;;;;;
088F;VAIDIKA ANUSVAARA VAAMAMUKHA;Mc;0;L;;;;N;;;;;
0890;VAIDIKA ANUSVAARA VAAMAMUKHA SACANDRA;Mc;0;L;;;;N;;;;;
0891;VAIDIKA ANUSVAARA VAAMAMUKHA SAVAKRA;Mc;0;L;;;;N;;;;;
0892;VAIDIKA ANUSVAARA DAKSHINNAMUKHA;Mc;0;L;;;;N;;;;;
0893;VAIDIKA ANUSVAARA NAAGAPHANNA ;Mc;0;L;;;;N;;;;;
0894;VAIDIKA ANUSVAARA NAAGAPHANNA SACANDRA;Mc;0;L;;;;N;;;;;
0895;VAIDIKA ANUSVAARA CANCUMUKHA;Mc;0;L;;;;N;;;;;
0896;VAIDIKA ANUSVAARA TTHASADRISHA;Mc;0;L;;;;N;;;;;
0897;VAIDIKA ANUSVAARA DVI BINDU AVAGRAHA;Mc;0;L;;;;N;;;;;
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089A;VAIDIKA VISARGA VAAMATAH ADHOGA ;Mc;0;L;;;;N;;;;;
089B;VAIDIKA VISARGA DAKSHINNATAH UURDHVAGA;Mc;0;L;;;;N;;;;;
089C;VAIDIKA VISARGA DAKSHINNATAH UURDHVA VAKRA;Mc;0;L;;;;N;;;;;
089D;VAIDIKA VISARGA VAAMATAH ADHO VAKRA;Mc;0;L;;;;N;;;;;
089E;VAIDIKA JIHVAAMULIYA VAJRA;Mc;0;L;;;;N;;;;;
089F;VAIDIKA UPADHAMAANIYA GAJAKUMBHA;Mc;0;L;;;;N;;;;;
08A0;VAIDIKA SVARITA UURDHVA REKHA;Mn;230;NSM;;;;;N;;;;;
08A1;VAIDIKA SVARITA ADHO DVI REKHA;Mn;220;NSM;;;;;N;;;;;
08A2;VAIDIKA SVARITA DVI VAKRA KHANDA;Mc;0;L;;;;N;;;;;
08A3;VAIDIKA SVARITA UURDHVA SHARA ;Mn;230;NSM;;;;;N;;;;;
08A4;VAIDIKA SVARITA UURDHVA DVI REKHA;Mn;230;NSM;;;;;N;;;;;
08A5;VAIDIKA SVARITA UURDHVA TRI REKHA;Mn;230;NSM;;;;;N;;;;;
08A6;VAIDIKA SVARITA ADHAH ARDHA VAKRA;Mn;220;NSM;;;;;N;;;;;
08A7;VAIDIKA SVARITA ADHO NYUBJA;Mn;220;NSM;;;;;N;;;;;
08A8;VAIDIKA SVARITA ADHAH KONNA;Mn;220;NSM;;;;;N;;;;;
08A9;VAIDIKA SVARITA ADHO VAKRA REKHA;Mn;220;NSM;;;;;N;;;;;
08AA;VAIDIKA SVARITA URASI REKHA;Mn;0;NSM;;;;;N;;;;;
08AB;VAIDIKA SVARITA ADHO REKHAA;Mn;220;NSM;;;;;N;;;;;
08AC;VAIDIKA SVARITA ADHO BINDU;Mn;220;NSM;;;;;N;;;;;
08AD;VAIDIKA SVARITA ADHO DVI BINDU;Mn;220;NSM;;;;;N;;;;;
08AE;VAIDIKA SVARITA ADHAS TRI BINDU;Mn;220;NSM;;;;;N;;;;;
08AF;VAIDIKA SVARITA ADHAS SHATT BINDU;Mn;220;NSM;;;;;N;;;;;
08B0;VAIDIKA SVARITA HRASVA KAMPA ;Mc;0;L;;;;N;;;;;
08B1;VAIDIKA SVARITA DEERGA KAMPA;Mc;0;L;;;;N;;;;;
08B2;VAIDIKA SVARITA HRASVA KAMPA ADHOREKHA;Mc;0;L;;;;N;;;;;
08B3;VAIDIKA SVARITA HRASVA DEERGA KAMPA ADHOREKHA;Mc;0;L;;;;N;;;;;
08B4;VAIDIKA SAAMASVARA ANKA SHUUNYA;Mn;230;NSM;;;;;N;;;;;
08B5;VAIDIKA SAAMASVARA ANKA EKA;Mn;230;NSM;;;;;N;;;;;
08B6;VAIDIKA SAAMASVARA ANKA DVI ;Mn;230;NSM;;;;;N;;;;;

08B7;VAIDIKA SAAMASVARA ANKA TRI;Mn;230;NSM;;;N;;;;
 08B8;VAIDIKA SAAMASVARA ANKA CHATUR ;Mn;230;NSM;;;N;;;;
 08B9;VAIDIKA SAAMASVARA ANKA PANCHA ;Mn;230;NSM;;;N;;;;
 08BA;VAIDIKA SAAMASVARA ANKA SHATT;Mn;230;NSM;;;N;;;;
 08BB;VAIDIKA SAAMASVARA ANKA SAPTA;Mn;230;NSM;;;N;;;;
 08BC;VAIDIKA SAAMASVARA ABHINIHITA;Mn;230;NSM;;;N;;;;
 08BD;VAIDIKA SAAMASVARA NAMANA;Mn;230;NSM;;;N;;;;
 08BE;VAIDIKA SAAMASVARA KAMPA;Mn;230;NSM;;;N;;;;
 08BF;VAIDIKA SAAMASVARA RA;Mn;230;NSM;;;N;;;;
 08C0;VAIDIKA SAAMASVARA EKA RA;Mn;230;NSM;;;N;;;;
 08C1;VAIDIKA SAAMASVARA DVI RA;Mn;230;NSM;;;N;;;;
 08C2;VAIDIKA SAAMASVARA TRI RA;Mn;230;NSM;;;N;;;;
 08C3;VAIDIKA SAAMASVARA CHATUR RA;Mn;230;NSM;;;N;;;;
 08C4;VAIDIKA SAAMASVARA PANCHA RA;Mn;230;NSM;;;N;;;;
 08C5;VAIDIKA SAAMASVARA DVI U;Mn;230;NSM;;;N;;;;
 08C6;VAIDIKA SAAMASVARA TRI KA;Mn;230;NSM;;;N;;;;
 08C7;VAIDIKA SAAMASVARA KARSHANNA;Mn;230;NSM;;;N;;;;
 08C8;VAIDIKA SAAMASVARA AVAGRAHA;Mn;230;NSM;;;N;;;;
 08C9;VAIDIKA SAAMASVARA PRENKHA;Mn;230;NSM;;;N;;;;
 08CA;VAIDIKA SAAMASVARA VINIITA;Mn;230;NSM;;;N;;;;
 08CB;VAIDIKA SAAMASVARA PRANNATAM;Mn;230;NSM;;;N;;;;
 08CC;VAIDIKA PARVASUUCHAKA;Mn;230;NSM;;;N;;;;
 08CD;VAIDIKA BODHA SVASTIKA;So;0;L;;;N;;;;
 08CE;VAIDIKA APUURNNAANKA PAADA ;Mc;0;L;;;N;;;;
 08CF;VAIDIKA APUURNNAANKA ARDHA ;Mc;0;L;;;N;;;;
 08D0;VAIDIKA TIRYAK;Mn;220;NSM;;;N;;;;

Vaidika Marks Rendering Rules:

The following text is to be added at the end of present text in R 10 of Devanagari

“The Vaidika Swaraadi Chihnas, Vaidika Svaramkan Chihnas, Vaidika Saamasvara Chihnas are to be rendered above, below and/or right side of the syllable”

Proposed text for R10

R 10: Other modifying marks, in particular bindus and svaras, apply to the orthographic syllable as a whole and should follow (in the memory representation) all other characters that constitute the syllable. The bindus should follow any vowel signs, and the svaras should come last. The relative placement of these marks is horizontal rather than vertical; the horizontal rendering order may vary according to typographic concerns.

$KA_n + AA_{VS} + CANDRABINDU_n$

क + ा + ँ → काँ

The Vaidika Swaraadi Chihnas, Vaidika Svaramkan Chihnas, Vaidika Saamasvara Chihnas are to be rendered above, below and/or right side of the syllable.

Examples of Vaidika Swaraadi Chihna:

Class A: Single vowel syllable:

$AA_n + VAIDIKAVISARGA_n$

आ + ः → आः

Class B: Single consonant syllable:

$KA_n + I_{VS} + VAIDIKANUSVAARA_n$

क + ि + ॠ → किॠ

Class C: Multiple consonant syllable:

$TA_n + VIRAMA_n + VA_n + VAIDIKANUSVAARA_n$

त + ्र + व + ॠ → त्व्रॠ

Examples of Vaidika Svaram Chihna:

Class A: Single vowel syllable:

AA_n + VAIDIKA SVARITA_n

आ + ँ → आ

Class B: Single consonant syllable:

MA_n + VISARGA_n + VAIDIKA SVARITA_n

म + ः + ँ → मः

Class C: Multiple consonant syllable:

SA_n + VIRAMA_n + TA_n + U_{vs} + VAIDIKA SVARITA_n

स + ष् + त + उ + ँ → स्तु

Examples of Vaidika Saamasvara Chihna:

Class A: Single vowel syllable:

O_n + VAIDIKA SAAMASVARA_n

ओ + ऌ → ओ

Class B: Single consonant syllable:

THA_n + AA_{vs} + VAIDIKA SAAMASVARA_n

थ + ा + ऌ → था

Class C: Multiple consonant syllable:

TA_n + VIRAMA_n + SA_n + U_{vs} + VAIDIKA SAAMASVARA_n

त + ष् + स + उ + ऌ → त्सु

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