

Universal Multiple-Octet Coded Character Set
International Organization for Standardization
Organisation Internationale de Normalisation
Международная организация по стандартизации

Doc Type: Working Group Document
Title: Proposal to encode additional characters for Vedic in the UCS
Source: Michael Everson and Peter Scharf
Status: Individual Contribution
Date: 2007-08-21

This proposal requests the encoding of a number of characters for Vedic use. It also requests to move three characters currently on the ballot as PDAM 6.2 into different code positions. In order to make clear the changes we propose for the ballot, we will discuss the changes block by block.

U+0900..U+097F Devanagari

U+094E ◌ DEVANAGARI VOWEL SIGN PRISHTHAMATRA E. We reiterate our request from N3383R (2008-03-06) and N3366 (2007-10-18) to encode this character. We remain convinced that this single character used in combination with other vowel signs is all that is necessary to correctly represent *e*, *ai*, *o*, and *au* in prsthamatra orthography. Our view is that using U+0947 for this with a radical glyph difference for prishthamatra orthography would simply be shifting the spoofing concern to a far more dangerous place. Protocols could restrict the use of U+094E DEVANAGARI VOWEL SIGN PRISHTHAMATRA E; they can't do the same for U+0947 DEVANAGARI VOWEL SIGN E. In order to produce the dependent vowel signs for /e/, /o/, /ai/ and /au/ in *pr̥ṣṭhamātrā* orthography, font designers are requested to implement the following variant renderings for the characters U+0947 DEVANAGARI VOWEL SIGN E, U+0948 DEVANAGARI VOWEL SIGN AI, U+094B DEVANAGARI VOWEL SIGN O, and U+094C DEVANAGARI VOWEL SIGN AU:

- The character DEVANAGARI VOWEL SIGN E renders with *pr̥ṣṭhamātrā* to the left of the consonant cluster the character follows: ळ is the *pr̥ṣṭhamātrā* rendering of के *ke*.
- The character DEVANAGARI VOWEL SIGN AI renders with *pr̥ṣṭhamātrā* to the left and glyph for U+0947 DEVANAGARI VOWEL SIGN E above the consonant cluster the character follows: ळे is the *pr̥ṣṭhamātrā* rendering of कै *kai*.
- The character DEVANAGARI VOWEL SIGN O renders with *pr̥ṣṭhamātrā* to the left and glyph for U+093E DEVANAGARI VOWEL SIGN AA to the right of the consonant cluster the character follows: ळा is the *pr̥ṣṭhamātrā* rendering of को *ko*.
- The character DEVANAGARI VOWEL SIGN AU renders with *pr̥ṣṭhamātrā* to the left and glyph for U+093E DEVANAGARI VOWEL SIGN O to the right of the consonant cluster the character follows: ळौ is the *pr̥ṣṭhamātrā* rendering of कौ *kau*.

U+0973 ◌ DEVANAGARI SIGN PUSHPIKA. We recommend that this character be moved to U+A8F8.

U+0974 ◌ DEVANAGARI CARET. We recommend that this character be moved to U+A8FA.

U+1CD0..U+1CFF Vedic Extensions

U+1CD4 ◌ VEDIC TONE YAJURVEDIC KASHMIRI SVARITA. This character is described at length in N3493 (L2/08-219). In northern manuscripts of the Mādhyandina recension of the *Vājasaneyi-samhitā* to indicate a dependent svarita, which is a falling tone from high to low. It marks the tone on a vowel that occurs after a high-toned (udātta) vowel. In *Maitrāyaṇīśamhitā* its

occurrence is further limited in being either final or followed by monotone (ekasruti). In manuscripts it is marked in red by a horizontal line at mid-height at the right side of orthographic syllables.

U+1CE9 ॐ VEDIC SIGN ANUSVARA ANTARGOMUKHA (= *vaidika anusvaara antarmukha*) was described in N3366 and should be added to this position.

U+1CEA ॐ VEDIC SIGN ANUSVARA BAHIRGOMUKHA (= *vaidika anusvaara naagaphanna*) was described in N3366 and should be added to this position.

U+1CEB ॐ VEDIC SIGN ANUSVARA VAMAGOMUKHA (= *vaidika anusvaara vaamamukha*) was described in N3366 and should be added to this position.

U+1CEC ॐ VEDIC SIGN ANUSVARA VAMAGOMUKHA WITH TAIL (= *vaidika anusvaara vaamamukha savakra*) was described in N3366 and should be added to this position.

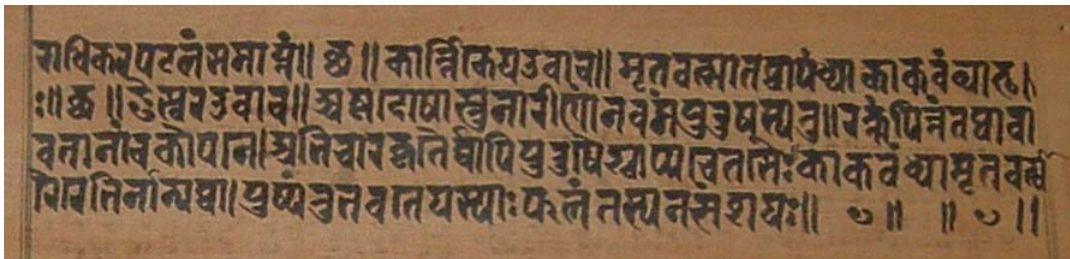
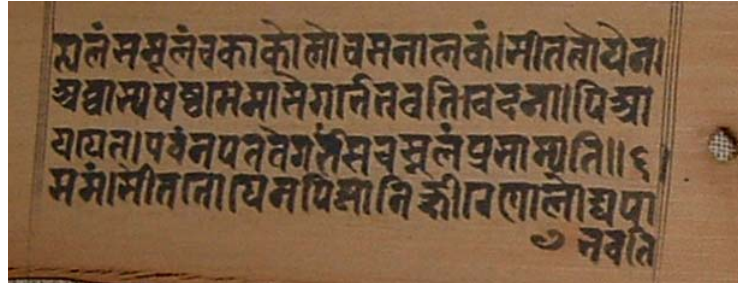
U+1CF1 ॐ VEDIC SIGN ARDHAVISARGA (= *vaidika jihvaamuliya upadhamaaniya*) should be moved down one position to U+1CF2.

U+1CF1 § VEDIC SIGN ANUSVARA UBHAYATO MUKHA (= *vaidika anusvaara ubhayato mukhaa*) shown in N3383R at U+A8F8 as DEVANAGARI SIGN ANUSVARA UBHAYATO MUKHA should be added to this position.

U+A8E0..U+A8FF Devanagari Extended

U+A8F8 ॐ DEVANAGARI SIGN PUSHPIKA should be added here, moved from U+0973.

U+A8F9 ̂ DEVANAGARI GAP FILLER should be added here. This character has not been previously proposed, It signifies any intentional gap in the space ordinarily occupied by text. Unlike the DEVANAGARI HEADSTROKE described below and used for missing or illegible akṣaras, the LINE FILLER signifies the opposite, namely, that the gap (or as shown below, the end of the text) is intentional and should not be taken as a lacuna in the text.



U+A8FA ॐ DEVANAGARI CARET should be added here, moved from U+0974.

U+A8FB ̂ DEVANAGARI HEADSTROKE (= *shirorekhaa*) should be added here. This character has not previously proposed, It is used in manuscripts copied from deteriorated originals to indicate small lacunae, that is, illegible gaps in the original due to obliteration of the text or destruction of the material on which it was written. For example, if the य *ya* in उभयतो *ubhayato* cannot be read, this character—which has a letter property—is used thus: उभतो *ubha_to*. The writer uses as many headstrokes as he estimates there to be orthographic

syllables to have occupied the illegible space. Many Devanāgarī fonts include such a character. While manuscripts typically make the headstroke for each orthographic syllable (akṣara) as a separate unit, modern printed and digital Devanāgarī runs the headstroke together in a continuous line. Since it is essential to the character to be discrete and countable so that the reader knows how many missing characters are represented by counting the number of discrete headstrokes, the headstroke character should be made short, that is, non-joining when placed in sequence with itself or with any other character that has a headstroke included.

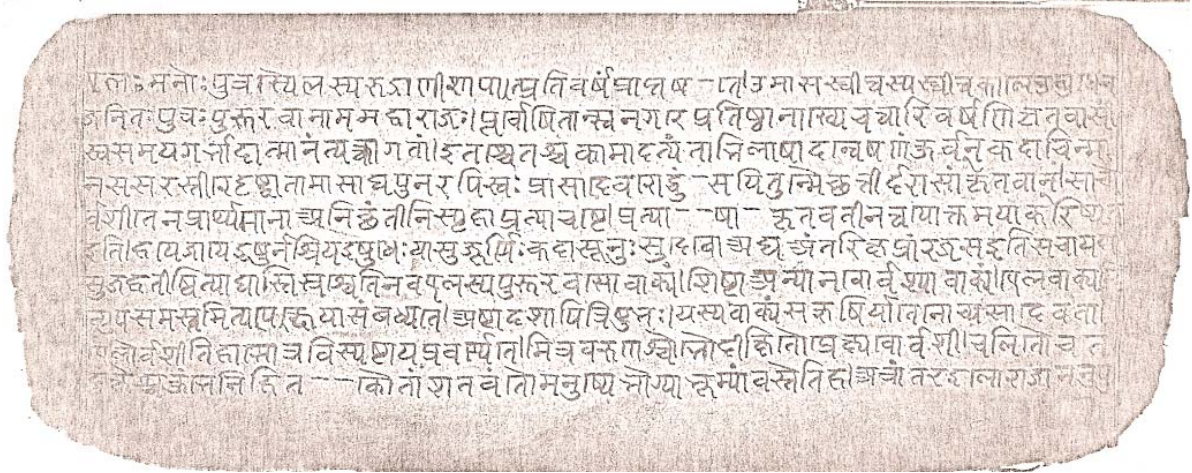


Figure 2 shows four examples, in lines 1, 4, 5, and 10 of the verso of folio 157 [Scharf photocopy p. 161 top] of the manuscript labelled by Macdonell (1886) as P1.

The code charts as affected by this proposal are attached.

10. Unicode Character Properties. Character properties are proposed here. These should be rigorously checked.

- 0900;DEVANAGARI SIGN INVERTED CANDRABINDU;Mn;0;NSM;;;;;N;;;;;
- 094E;DEVANAGARI VOWEL SIGN PRISHTHAMATRA E;Mc;0;L;;;;;N;;;;;
- 0955;DEVANAGARI VOWEL SIGN CANDRA LONG E;Mn;0;NSM;;;;;N;;;;;
- 0979;DEVANAGARI LETTER ZHA;Lo;0;L;;;;;N;;;;;
- 097A;DEVANAGARI LETTER HEAVY YA;Lo;0;L;;;;;N;;;;;
- 1CD0;VEDIC TONE KARSHANA;Mn;230;NSM;;;;;N;;;;;
- 1CD1;VEDIC TONE SHARA;Mn;230;NSM;;;;;N;;;;;
- 1CD2;VEDIC TONE PRENKHA;Mn;230;NSM;;;;;N;;;;;
- 1CD3;VEDIC TONE NIHSHVASA;Po;0;L;;;;;N;;;;;
- 1CD4;VEDIC TONE YAJURVEDIC KASHMIRI SVARITA;Mn;1;NSM;;;;;N;;;;;
- 1CD5;VEDIC TONE YAJURVEDIC AGGRAVATED INDEPENDENT SVARITA;Mn;220;NSM;;;;;N;;;;;
- 1CD6;VEDIC TONE YAJURVEDIC INDEPENDENT SVARITA;Mn;220;NSM;;;;;N;;;;;
- 1CD7;VEDIC TONE YAJURVEDIC KATHAKA INDEPENDENT SVARITA;Mn;220;NSM;;;;;N;;;;;
- 1CD8;VEDIC TONE CANDRA BELOW;Mn;220;NSM;;;;;N;;;;;
- 1CD9;VEDIC TONE YAJURVEDIC KATHAKA INDEPENDENT SVARITA SCHROEDER;Mn;220;NSM;;;;;N;;;;;
- 1CDA;VEDIC TONE DOUBLE SVARITA;Mn;230;NSM;;;;;N;;;;;
- 1CDB;VEDIC TONE TRIPLE SVARITA;Mn;230;NSM;;;;;N;;;;;
- 1CDC;VEDIC TONE KATHAKA ANUDATTA;Mn;220;NSM;;;;;N;;;;;
- 1CDD;VEDIC TONE DOT BELOW;Mn;220;NSM;;;;;N;;;;;
- 1CDE;VEDIC TONE TWO DOTS BELOW;Mn;220;NSM;;;;;N;;;;;
- 1CDF;VEDIC TONE THREE DOTS BELOW;Mn;220;NSM;;;;;N;;;;;
- 1CF0;VEDIC TONE RIGVEDIC KASHMIRI INDEPENDENT SVARITA;Mn;230;NSM;;;;;N;;;;;
- 1CF1;VEDIC TONE ATHARVAVEDIC INDEPENDENT SVARITA;Mc;0;L;;;;;N;;;;;
- 1CE2;VEDIC TONE VISARGA SVARITA;Mn;1;NSM;;;;;N;;;;;
- 1CE3;VEDIC TONE VISARGA UDATTA;Mn;1;NSM;;;;;N;;;;;
- 1CE4;VEDIC TONE REVERSED VISARGA UDATTA;Mn;1;NSM;;;;;N;;;;;
- 1CE5;VEDIC TONE VISARGA ANUDATTA;Mn;1;NSM;;;;;N;;;;;
- 1CE6;VEDIC TONE REVERSED VISARGA ANUDATTA;Mn;1;NSM;;;;;N;;;;;
- 1CE7;VEDIC TONE VISARGA UDATTA WITH TAIL;Mn;1;NSM;;;;;N;;;;;
- 1CE8;VEDIC TONE VISARGA ANUDATTA WITH TAIL;Mn;1;NSM;;;;;N;;;;;
- 1CE9;VEDIC SIGN ANUSVARA ANTARGOMUKHA;Lo;0;L;;;;;N;;;;;
- 1CEA;VEDIC SIGN ANUSVARA BAHIRGOMUKHA;Lo;0;L;;;;;N;;;;;
- 1CEB;VEDIC SIGN ANUSVARA VAMAGOMUKHA;Lo;0;L;;;;;N;;;;;
- 1CEC;VEDIC SIGN ANUSVARA VAMAGOMUKHA WITH TAIL;Lo;0;L;;;;;N;;;;;
- 1CED;VEDIC SIGN TIRYAK;Mn;220;NSM;;;;;N;;;;;

1CEE;VEDIC SIGN HEXIFORM LONG ANUSVARA;Lo;0;L;;;;N;;;;;
1CEF;VEDIC SIGN LONG ANUSVARA;Lo;0;L;;;;N;;;;;
1CF0;VEDIC SIGN RTHANG LONG ANUSVARA;Lo;0;L;;;;N;;;;;
1CF1;VEDIC SIGN ANUSVARA UBHAYATO MUKHA;Lo;0;L;;;;N;;;;;
1CF2;VEDIC SIGN ARDHAVISARGA;Mc;0;L;;;;N;;;;;
A8E0;COMBINING DEVANAGARI DIGIT ZERO;Mn;230;NSM;;;;N;;;;;
A8E1;COMBINING DEVANAGARI DIGIT ONE;Mn;230;NSM;;;;N;;;;;
A8E2;COMBINING DEVANAGARI DIGIT TWO;Mn;230;NSM;;;;N;;;;;
A8E3;COMBINING DEVANAGARI DIGIT THREE;Mn;230;NSM;;;;N;;;;;
A8E4;COMBINING DEVANAGARI DIGIT FOUR;Mn;230;NSM;;;;N;;;;;
A8E5;COMBINING DEVANAGARI DIGIT FIVE;Mn;230;NSM;;;;N;;;;;
A8E6;COMBINING DEVANAGARI DIGIT SIX;Mn;230;NSM;;;;N;;;;;
A8E7;COMBINING DEVANAGARI DIGIT SEVEN;Mn;230;NSM;;;;N;;;;;
A8E8;COMBINING DEVANAGARI DIGIT EIGHT;Mn;230;NSM;;;;N;;;;;
A8E9;COMBINING DEVANAGARI DIGIT NINE;Mn;230;NSM;;;;N;;;;;
A8EA;COMBINING DEVANAGARI LETTER A;Mn;230;NSM;;;;N;;;;;
A8EB;COMBINING DEVANAGARI LETTER U;Mn;230;NSM;;;;N;;;;;
A8EC;COMBINING DEVANAGARI LETTER KA;Mn;230;NSM;;;;N;;;;;
A8ED;COMBINING DEVANAGARI LETTER NA;Mn;230;NSM;;;;N;;;;;
A8EE;COMBINING DEVANAGARI LETTER PA;Mn;230;NSM;;;;N;;;;;
A8EF;COMBINING DEVANAGARI LETTER RA;Mn;230;NSM;;;;N;;;;;
A8F0;COMBINING DEVANAGARI LETTER VI;Mn;230;NSM;;;;N;;;;;
A8F1;COMBINING DEVANAGARI SIGN AVAGRAHA;Mn;230;NSM;;;;N;;;;;
A8F2;DEVANAGARI SIGN SPACING CANDRABINDU;Lo;0;L;;;;N;;;;;
A8F3;DEVANAGARI SIGN CANDRABINDU VIRAMA;Lo;0;L;;;;N;;;;;
A8F4;DEVANAGARI SIGN DOUBLE CANDRABINDU VIRAMA;Lo;0;L;;;;N;;;;;
A8F5;DEVANAGARI SIGN CANDRABINDU TWO;Lo;0;L;;;;N;;;;;
A8F6;DEVANAGARI SIGN CANDRABINDU THREE;Lo;0;L;;;;N;;;;;
A8F7;DEVANAGARI SIGN CANDRABINDU AVAGRAHA;Lo;0;L;;;;N;;;;;
A8F8;DEVANAGARI SIGN PUSHPIKA;Po;0;L;;;;N;;;;;
A8F9;DEVANAGARI GAP FILLER;Po;0;L;;;;N;;;;;
A8FA;DEVANAGARI CARET;Mn;0;NSM;;;;N;;;;;
A8FB;DEVANAGARI HEADSTROKE;Lo;0;L;;;;N;;;;;

	090	091	092	093	094	095	096	097
0	ै 0900	ऐ 0910	ठ 0920	र 0930	ी 0940	ॐ 0950	ऋ 0960	० 0970
1	ँ 0901	ऑ 0911	ड 0921	र 0931	ु 0941	ं 0951	ॠ 0961	ॱ 0971
2	ं 0902	ओ 0912	ढ 0922	ल 0932	्र 0942	्र 0952	ॡ 0962	ँ 0972
3	ः 0903	ओ 0913	ण 0923	ळ 0933	ृ 0943	े 0953	ॢ 0963	
4	ऐ 0904	औ 0914	त 0924	ळ 0934	ृ 0944	े 0954	। 0964	
5	अ 0905	क 0915	थ 0925	व 0935	ँ 0945	ँ 0955	॥ 0965	
6	आ 0906	ख 0916	द 0926	श 0936	े 0946		० 0966	
7	इ 0907	ग 0917	ध 0927	ष 0937	े 0947		१ 0967	
8	ई 0908	घ 0918	न 0928	स 0938	ै 0948	ऋ 0958	२ 0968	
9	उ 0909	ङ 0919	न 0929	ह 0939	ॉ 0949	ख 0959	३ 0969	ज़ 0979
A	ऊ 090A	च 091A	प 092A		ो 094A	ग 095A	४ 096A	ष 097A
B	ऋ 090B	छ 091B	फ 092B		ो 094B	ज 095B	५ 096B	ग 097B
C	ॠ 090C	ज 091C	ब 092C	्र 093C	ौ 094C	ड 095C	६ 096C	ज 097C
D	ँ 090D	झ 091D	भ 092D	ऽ 093D	्र 094D	ढ 095D	७ 096D	२ 097D
E	ऐ 090E	ञ 091E	म 092E	ा 093E	ि 094E	फ़ 095E	८ 096E	ड 097E
F	ए 090F	ट 091F	य 092F	ि 093F		य 095F	९ 096F	ब 097F

Based on ISCII 1988**Various signs**

0900	ॐ	DEVANAGARI SIGN INVERTED CANDRABINDU = vaidika adhomukha candrabindu
0901	ँ	DEVANAGARI SIGN CANDRABINDU = anunasika → 0310 ॐ combining candrabindu
0902	ं	DEVANAGARI SIGN ANUSVARA = bindu
0903	ः	DEVANAGARI SIGN VISARGA

Independent vowels

0904	ॐ	DEVANAGARI LETTER SHORT A
0905	अ	DEVANAGARI LETTER A
0906	आ	DEVANAGARI LETTER AA
0907	इ	DEVANAGARI LETTER I
0908	ई	DEVANAGARI LETTER II
0909	उ	DEVANAGARI LETTER U
090A	ऊ	DEVANAGARI LETTER UU
090B	ऋ	DEVANAGARI LETTER VOCALIC R
090C	ॠ	DEVANAGARI LETTER VOCALIC L
090D	ॡ	DEVANAGARI LETTER CANDRA E
090E	ॢ	DEVANAGARI LETTER SHORT E for transcribing Dravidian short e
090F	ए	DEVANAGARI LETTER E
0910	ऐ	DEVANAGARI LETTER AI
0911	ऑ	DEVANAGARI LETTER CANDRA O
0912	औ	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 GH
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 NNNA for transcribing Dravidian alveolar n ≡ 0928 न 093C ॠ
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	ॠ	DEVANAGARI LETTER RRA for transcribing Dravidian alveolar r half form is represented as “Eyelash RA” ≡ 0930 र 093C ॠ
0932	ल	DEVANAGARI LETTER LA
0933	ळ	DEVANAGARI LETTER LLA
0934	ॡ	DEVANAGARI LETTER LLLA for transcribing Dravidian l ≡ 0933 ळ 093C ॠ
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	ऽ	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

Sign

094D	◌̣̣	DEVANAGARI SIGN VIRAMA = halant (the preferred Hindi name) suppresses inherent vowel
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Archaic dependent vowel sign

094E	◌̣̣̣	DEVANAGARI VOWEL SIGN PRISHTHAMATRA E character has historic use only
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Various signs

0950	ॐ	DEVANAGARI OM
0951	◌̣̣̣̣	DEVANAGARI STRESS SIGN UDATTA mostly used for Rigvedic svarita, with rare use for Yajurvedic udatta
0952	◌̣̣̣̣̣	DEVANAGARI STRESS SIGN ANUDATTA

0953	◌̄	DEVANAGARI GRAVE ACCENT
0954	◌̆	DEVANAGARI ACUTE ACCENT
0955	◌̇	DEVANAGARI VOWEL SIGN CANDRA LONG E used in transliteration of Avestan

Additional consonants

0958	क़	DEVANAGARI LETTER QA ≡ 0915 क़093C ◌̣
0959	ख़	DEVANAGARI LETTER KHHA ≡ 0916 ख़093C ◌̣
095A	ग़	DEVANAGARI LETTER GHHA ≡ 0917 ग़093C ◌̣
095B	ज़	DEVANAGARI LETTER ZA ≡ 091C ज़093C ◌̣
095C	ड़	DEVANAGARI LETTER DDDHA ≡ 0921 ढ़093C ◌̣
095D	ढ़	DEVANAGARI LETTER RHA ≡ 0922 ढ़093C ◌̣
095E	फ़	DEVANAGARI LETTER FA ≡ 092B फ़093C ◌̣
095F	य़	DEVANAGARI LETTER YYA ≡ 092F य़093C ◌̣

Additional vowels for Sanskrit

0960	ठ	DEVANAGARI LETTER VOCALIC RR
0961	ड	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	अँ	DEVANAGARI LETTER CANDRA A Marathi
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Additional consonants

0979	ज़	DEVANAGARI LETTER ZHA used in transliteration of Avestan
097A	य़	DEVANAGARI LETTER HEAVY YA used for an affricated glide → 09AF য bengali letter ya

Sindhi implosives

These are added from Amendment 3 to 10646:2003.

097B	ग़	DEVANAGARI LETTER GGA
097C	ज़	DEVANAGARI LETTER JJA

















































Glottal stop

097D	◌̥	DEVANAGARI LETTER GLOTTAL STOP used for writing Limbu in Devanagari a glyph variant has the connecting top bar
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Sindhi implosives

These are added from Amendment 3 to 10646:2003.

097E	ड़	DEVANAGARI LETTER DDDA
097F	ब़	DEVANAGARI LETTER BBA

	1CD	1CE	1CF
0	 1CD0	 1CE0	 1CF0
1	 1CD1	 1CE1	 1CF1
2	 1CD2	 1CE2	 1CF2
3	 1CD3	 1CE3	
4	 1CD4	 1CE4	
5	 1CD5	 1CE5	
6	 1CD6	 1CE6	
7	 1CD7	 1CE7	
8	 1CD8	 1CE8	
9	 1CD9	 1CE9	
A	 1CDA	 1CEA	
B	 1CDB	 1CEB	
C	 1CDC	 1CEC	
D	 1CDD	 1CED	
E	 1CDE	 1CEE	
F	 1CDF	 1CEF	

Tone marks for the Samaveda

- 1CD0 ◌̇ VEDIC TONE KARSHANA
= vaidika saamasvara karshanna
- 1CD1 ◌̆ VEDIC TONE SHARA
= vaidika svarita uurdhva shara
- 1CD2 ◌̄ VEDIC TONE PRENKHA
indicates vibrato
= vaidika saamasvara prenkha
- 1CD3 〰 VEDIC SIGN NIHSHVASA
= vaidika saamagaana yogakaala

Signs for Yajurvedic

- 1CD4 ◌̈ VEDIC SIGN YAJURVEDIC KASHMIRI SVARITA
also used in the Vajasaneyi Madhyandina Samhita
- 1CD5 ◌̈ VEDIC TONE YAJURVEDIC AGGRAVATED INDEPENDENT SVARITA
= vaidika svarita adho nyubja
- 1CD6 ◌̈ VEDIC TONE YAJURVEDIC INDEPENDENT SVARITA
= vaidika svarita adhah konna
- 1CD7 ◌̈ VEDIC TONE YAJURVEDIC KATHAKA INDEPENDENT SVARITA
= vaidika svarita adho vakra rekhaa
- 1CD8 ◌̈ VEDIC TONE CANDRA BELOW
= vaidika svarita adho'rdha vakra
- 1CD9 ◌̈ VEDIC TONE YAJURVEDIC KATHAKA INDEPENDENT SVARITA SCHROEDER
= vaidika svarita adhah samyukta rekhaa
- 1CDA ◌̈ VEDIC TONE DOUBLE SVARITA
= vaidika svarita uurdhva dvi rekhaa
- 1CDB ◌̈ VEDIC TONE TRIPLE SVARITA
= vaidika svarita uurdhva tri rekhaa
- 1CDC ◌̈ VEDIC TONE KATHAKA ANUDATTA
= vaidika svarita adho rekhaa
- 1CDD ◌̈ VEDIC TONE DOT BELOW
= vaidika svarita adho bindu

Tone marks for the Satapathabrahmana

- 1CDE ◌̈ VEDIC TONE TWO DOTS BELOW
= vaidika svarita adho dvi bindu
- 1CDF ◌̈ VEDIC TONE THREE DOTS BELOW
= vaidika svarita adhas tri bindu

Tone mark for the Rigveda

- 1CE0 ◌̈ VEDIC TONE RIGVEDIC KASHMIRI INDEPENDENT SVARITA
= vaidika uurdhva vakra rekhaa

Tone mark for the Atharvaveda

- 1CE1 ◌̈ VEDIC TONE ATHARVAVEDIC INDEPENDENT SVARITA
= vaidika svarita dvi vakra khaanda

Diacritics for visarga

- 1CE2 ◌̈ VEDIC SIGN VISARGA SVARITA
= vaidika madhyarekhaa
- 1CE3 ◌̈ VEDIC SIGN VISARGA UDATTA
= vaidika visarga dakshinnatah uurdhvaga
- 1CE4 ◌̈ VEDIC SIGN REVERSED VISARGA UDATTA
= vaidika visarga vaamatah uurdhvaga

- 1CE5 ◌̈ VEDIC SIGN VISARGA ANUDATTA
= vaidika visarga vaamatah adhoga

- 1CE6 ◌̈ VEDIC SIGN REVERSED VISARGA ANUDATTA
= vaidika visarga dakshinnatah adhoga

- 1CE7 ◌̈ VEDIC SIGN VISARGA UDATTA WITH TAIL
= vaidika visarga dakshinnatah uurdhva vakra

- 1CE8 ◌̈ VEDIC SIGN VISARGA ANUDATTA WITH TAIL
= vaidika visarga vaamatah adho vakra

Marks of nasalization

- 1CE9 ◌̈ VEDIC SIGN ANUSVARA ANTARGOMUKHA
= vaidika anusvaara antarmukha
- 1CEA ◌̈ VEDIC SIGN ANUSVARA BAHIRGOMUKHA
= vaidika anusvaara naagaphanna
- 1CEB ◌̈ VEDIC SIGN ANUSVARA VAMAGOMUKHA
= vaidika anusvaara vaamamukha
- 1CEC ◌̈ VEDIC SIGN ANUSVARA VAMAGOMUKHA WITH TAIL
= vaidika anusvaara vaamamukha sa-vakra
- 1CED ◌̈ VEDIC SIGN TIRYAK
= vaidika tiryak
- 1CEE ◌̈ VEDIC SIGN HEXIFORM LONG ANUSVARA
= vaidika anusvaara anugamii
- 1CEF ◌̈ VEDIC SIGN LONG ANUSVARA
= vaidika anusvaara dakshinnamukha
- 1CF0 ◌̈ VEDIC SIGN RTHANG LONG ANUSVARA
= vaidika anusvaara ttha-sadrisha
- 1CF1 ◌̈ VEDIC SIGN ANUSVARA UBHAYATO MUKHA
= vaidika anusvaara ubhayato mukha

Ardhavisarga

- 1CF2 ◌̈ VEDIC SIGN ARDHAVISARGA
= vaidika jihvaamuuliiya upadhmaaniya

	A8E	A8F
0	० A8E0	ॠ A8F0
1	ॡ A8E1	ॡ A8F1
2	ॢ A8E2	ॢ A8F2
3	ॣ A8E3	ॣ A8F3
4	। A8E4	। A8F4
5	॥ A8E5	॥ A8F5
6	० A8E6	० A8F6
7	१ A8E7	१ A8F7
8	ॡ A8E8	ॡ A8F8
9	ॢ A8E9	ॢ A8F9
A	अ A8EA	अ A8FA
B	उ A8EB	उ A8FB
C	क A8EC	
D	न A8ED	
E	प A8EE	
F	र A8EF	

Cantillation marks for the Samaveda

A8E0	◌̐	COMBINING DEVANAGARI DIGIT ZERO = vaidika saamasvara anka shuunya
A8E1	◌̑	COMBINING DEVANAGARI DIGIT ONE = vaidika saamasvara anka eka udaatta
A8E2	◌̒	COMBINING DEVANAGARI DIGIT TWO = vaidika saamasvara anka dvi svarita
A8E3	◌̓	COMBINING DEVANAGARI DIGIT THREE = vaidika saamasvara anka tri anudaatta
A8E4	◌̔	COMBINING DEVANAGARI DIGIT FOUR = vaidika saamasvara anka chatur
A8E5	◌̕	COMBINING DEVANAGARI DIGIT FIVE = vaidika saamasvara anka pancha
A8E6	◌̖	COMBINING DEVANAGARI DIGIT SIX = vaidika saamasvara anka shatt
A8E7	◌̗	COMBINING DEVANAGARI DIGIT SEVEN = vaidika saamasvara anka sapta
A8E8	◌̘	COMBINING DEVANAGARI DIGIT EIGHT = vaidika saamasvara anka ashta
A8E9	◌̙	COMBINING DEVANAGARI DIGIT NINE = vaidika saamasvara anka nava
A8EA	◌̚	COMBINING DEVANAGARI LETTER A = vaidika saamasvara abhinihita
A8EB	◌̛	COMBINING DEVANAGARI LETTER U = vaidika saamasvara u
A8EC	◌̜	COMBINING DEVANAGARI LETTER KA = vaidika saamasvara ka
A8ED	◌̝	COMBINING DEVANAGARI LETTER NA = vaidika saamasvara namana
A8EE	◌̞	COMBINING DEVANAGARI LETTER PA = vaidika saamasvara prannatam
A8EF	◌̟	COMBINING DEVANAGARI LETTER RA = vaidika saamasvara ra
A8F0	◌̠	COMBINING DEVANAGARI LETTER VI = vaidika saamasvara vinata
A8F1	◌̡	COMBINING DEVANAGARI SIGN AVAGRAHA = vaidika saamasvara diirghiibhaava

A8F9	◌̢	DEVANAGARI GAP FILLER used to indicate that a gap in a manuscript or text is not a lacuna
A8FA	◌̣	DEVANAGARI CARET = vaidika trutikaa zero-advance character centred on the point between two orthographic syllables
A8FB	◌̤	DEVANAGARI HEADSTROKE = shirorekhaa used to indicate uncertain manuscript readings

Marks of nasalization

A8F2	◌̥	DEVANAGARI SIGN SPACING CANDRABINDU = vaidika candrabindu
A8F3	◌̦	DEVANAGARI SIGN CANDRABINDU VIRAMA = vaidika anusvaara candrabindu tiryak
A8F4	◌̧	DEVANAGARI SIGN DOUBLE CANDRABINDU VIRAMA = vaidika anusvaara dvi candrabindu tiryak
A8F5	◌̨	DEVANAGARI SIGN CANDRABINDU TWO = vaidika anusvaara candrabindu sa-dvi
A8F6	◌̩	DEVANAGARI SIGN CANDRABINDU THREE = vaidika anusvaara candrabindu sa-tri
A8F7	◌̪	DEVANAGARI SIGN CANDRABINDU AVAGRAHA = vaidika anusvaara candrabindu sa-avagraha

Editorial marks

A8F8	◌̫	DEVANAGARI SIGN PUSHPIKA = vaidika pushpikaa used as a placeholder or “filler” often flanked by double dandas
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A. Administrative

1. Title

Proposal to encode additional characters for Vedic in the UCS

2. Requester's name

Michael Everson and Peter Scharf

3. Requester type (Member body/Liaison/Individual contribution)

Individual contribution.

4. Submission date

2007-08-21

5. Requester's reference (if applicable)

6. Choose one of the following:

6a. This is a complete proposal

Yes.

6b. More information will be provided later

No.

B. Technical – General

1. Choose one of the following:

1a. This proposal is for a new script (set of characters)

No.

1b. Proposed name of script

1c. The proposal is for addition of character(s) to an existing block

Yes

1d. Name of the existing block

Devanagari, Vedic Extensions, Devanagari Extended

2. Number of characters in proposal

8 new characters.

3. Proposed category (A-Contemporary; B.1-Specialized (small collection); B.2-Specialized (large collection); C-Major extinct; D-Attested extinct; E-Minor extinct; F-Archaic Hieroglyphic or Ideographic; G-Obscure or questionable usage symbols)

Category A.

4a. Is a repertoire including character names provided?

Yes.

4b. If YES, are the names in accordance with the "character naming guidelines" in Annex L of P&P document?

Yes.

4c. Are the character shapes attached in a legible form suitable for review?

Yes.

5a. Who will provide the appropriate computerized font (ordered preference: True Type, or PostScript format) for publishing the standard?

Michael Everson.

5b. If available now, identify source(s) for the font (include address, e-mail, ftp-site, etc.) and indicate the tools used:

Michael Everson, Fontographer.

6a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided?

Yes.

6b. Are published examples of use (such as samples from newspapers, magazines, or other sources) of proposed characters attached?

Yes.

7. Does the proposal address other aspects of character data processing (if applicable) such as input, presentation, sorting, searching, indexing, transliteration etc. (if yes please enclose information)?

Yes.

8. Submitters are invited to provide any additional information about Properties of the proposed Character(s) or Script that will assist in correct understanding of and correct linguistic processing of the proposed character(s) or script. Examples of such properties are: Casing information, Numeric information, Currency information, Display behaviour information such as line breaks, widths etc., Combining behaviour, Spacing behaviour, Directional behaviour, Default Collation behaviour, relevance in Mark Up contexts, Compatibility equivalence and other Unicode normalization related information. See the Unicode standard at <http://www.unicode.org> for such information on other scripts. Also see Unicode Character Database <http://www.unicode.org/Public/UNIDATA/UnicodeCharacterDatabase.html> and associated Unicode Technical Reports for information needed for consideration by the Unicode Technical Committee for inclusion in the Unicode Standard.

See above.

C. Technical – Justification

1. Has this proposal for addition of character(s) been submitted before? If YES, explain.

Yes; cf. N3366 and 3383R.

2a. Has contact been made to members of the user community (for example: National Body, user groups of the script or characters, other experts, etc.)?

Yes.

2b. If YES, with whom?

Peter Scharf (editor), Michel Angot, R. Chandrashekar, Malcolm Hyman, Susan Rosenfield, B. V. Venkatakrisna Sastry, Michael Witzel

2c. If YES, available relevant documents

3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included?

Sanskritists and other scholars.

4a. The context of use for the proposed characters (type of use; common or rare)

Used historically and in modern editions.

4b. Reference

5a. Are the proposed characters in current use by the user community?

Yes.

5b. If YES, where?

Scholarly publications.

6a. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP?

Yes.

6b. If YES, is a rationale provided?

Yes.

6c. If YES, reference

Accordance with the Roadmap. Keep with other similar characters.

7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)?

No.

8a. Can any of the proposed characters be considered a presentation form of an existing character or character sequence?

No.

8b. If YES, is a rationale for its inclusion provided?

8c. If YES, reference

9a. Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters?

No.

9b. If YES, is a rationale for its inclusion provided?

9c. If YES, reference

10a. Can any of the proposed character(s) be considered to be similar (in appearance or function) to an existing character?

No.

10b. If YES, is a rationale for its inclusion provided?

10c. If YES, reference

11a. Does the proposal include use of combining characters and/or use of composite sequences (see clauses 4.12 and 4.14 in ISO/IEC 10646-1: 2000)?

Yes.

11b. If YES, is a rationale for such use provided?

No.

11c. If YES, reference

11d. Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided?

No.

11e. If YES, reference

12a. Does the proposal contain characters with any special properties such as control function or similar semantics?

No.

12b. If YES, describe in detail (include attachment if necessary)

13a. Does the proposal contain any Ideographic compatibility character(s)?

No.

13b. If YES, is the equivalent corresponding unified ideographic character(s) identified?