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 four characters for Oriya and Malayalam in the BMP of the UCS**
**Source:** **Michael Everson and Peter Scharf**
**Status:** **Individual Contribution**
**Action:** **For consideration by JTC1/SC2/WG2 and UTC**
**Replaces:** N3235R section 10
**Date:** **2007-05-25**

**Introduction.** This document requests the addition to the UCS of one character for Malayalam and three characters for Oriya. These characters are needed to complete the set of vocalic liquids for these two scripts. Classical Sanskrit grammar gives four independent vowels ऋ *r̥*, ॠ *r̥̄*, ऌ *l̥*, ॡ *l̥̄*, and four dependent vowel matras ृ -*r̥*, ॄ -*r̥̄*, ॢ -*l̥*, ॣ -*l̥̄*. Oriya currently has only five of these eight encoded: ଋ *r̥*, ଌ *r̥̄*, ଢ଼ *l̥*, ୠ *l̥̄*, and ୃ -*r̥*. Malayalam has all encoded but one, ൣ -*l̥̄*.

ୄ    ORIYA VOWEL SIGN VOCALIC RR is used to mark a long vowel *r̥̄*. (Figure 1)
ୢ    ORIYA VOWEL SIGN VOCALIC L is used to mark a vocalic *l̥*. (Figure 1)
ୣ    ORIYA VOWEL SIGN VOCALIC LL is used to mark a long vocalic *l̥̄*. (Figure 2)
ൣ    MALAYALAM VOWEL SIGN VOCALIC LL is used to mark a long vocalic *l̥̄*. (Figure 3)

The current standard contains the independent vowel letters as well as vowel signs for most Brahmic scripts, particularly those which are still concerned with the Sanskrit language. In the table below, the independent vowel signs are given, along with the consonants *ra* and *la* for comparison.

| | r̥ | r̥̄ | l̥ | l̥̄ | -r̥ | -r̥̄ | -l̥ | -l̥̄ | ra | la |
|---|---|---|---|---|---|---|---|---|---|---|
| Devanagari | ऋ | ॠ | ऌ | ॡ | ृ | ॄ | ॢ | ॣ | र | ल |
| Bengali | ঋ | ৠ | ঌ | ৡ | ৃ | ৄ | ৢ | ৣ | র | ল |
| Gujarati | ઋ | ૠ | ઌ | ૡ | ૃ | ૄ | ૢ | ૣ | ર | લ |
| Oriya | ଋ | ଌ | ଢ଼ | ୠ | ୃ | ୄ | ୢ | ୣ | ର | ଲ |
| Telugu | ఋ | ౠ | ఌ | ౡ | ృ | ౄ | ౢ | ౣ | ర | ల |
| Kannada | ಋ | ೠ | ಌ | ೡ | ೃ | ೄ | ೢ | ೣ | ರ | ಲ |
| Malayalam | ഋ | ൠ | ഌ | ൡ | ൃ | ൄ | ൢ | ൣ | ര | ല |
| Sinhala | ඍa | ඎaa | ඏ | ඐ | ෘa | ෲaa | ෟ | ෳ | ර | ල |
| Myanmar | ၒ | ၓ | ၔ | ၕ | ၖ | ၗ | ၘ | ၙ | ရ | လ |
| Balinese | ᬋ | ᬌ | ᬍ | ᬎ | ᬺ | ᬻ | ᬼ | ᬽ | ᬭ | ᬮ |

**Unicode Character Properties.** Character properties are proposed here.

```
0B44;ORIYA VOWEL SIGN VOCALIC RR;Mn;0;NSM;;;;;N;;;;;
0B62;ORIYA VOWEL SIGN VOCALIC L;Mn;0;NSM;;;;;N;;;;;
0B63;ORIYA VOWEL SIGN VOCALIC LL;Mn;0;NSM;;;;;N;;;;;

0D63;MALAYALAM VOWEL SIGN VOCALIC LL;Mn;0;NSM;;;;;N;;;;;
```
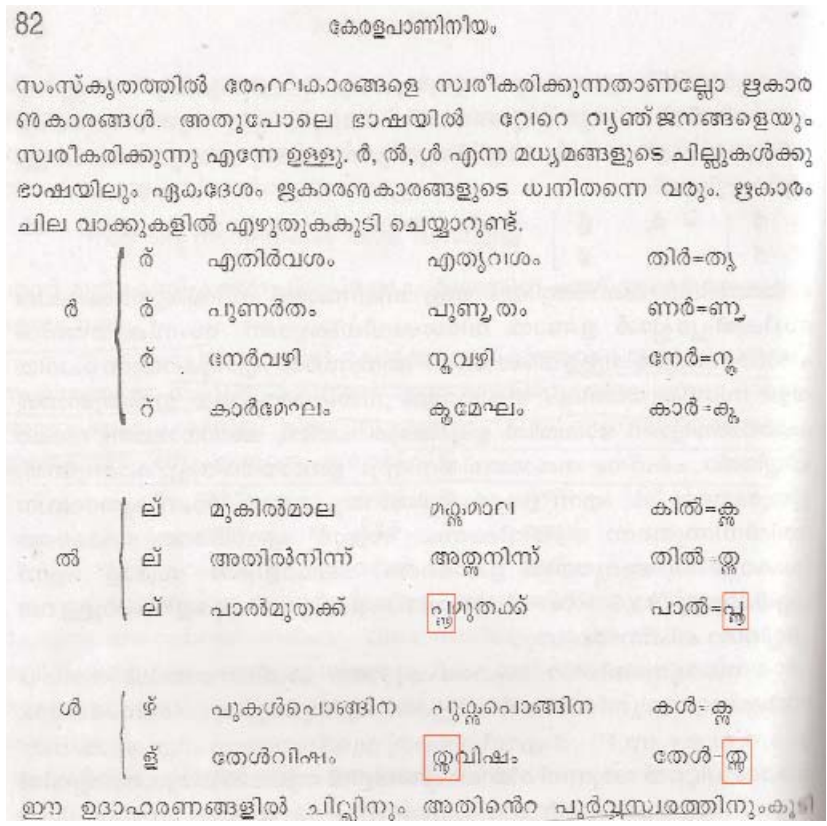
## Figures.

**Figure 1.** ORIYA VOWEL SIGN VOCALIC RR and ORIYA VOWEL SIGN VOCALIC L in Sir Hugh McPherson's "The Oriya Alphabet," *Journal of Bihar and Orissa Research Society*, Mar-Jun 1924. Table I shows vowels with entries of: Roman, Nāgarī, Oriya and Remarks.



**Figure 1**

**Figure 2.** ORIYA VOWEL SIGN VOCALIC LL We have as yet been unable to find an image of ORIYA VOWEL SIGN VOCALIC LL. As can be seen in the chart on page 1, the typical strategy for representing the VOWEL SIGN VOCALIC L and VOWEL SIGN VOCALIC LL in a number of scripts is to reduce and subscript LETTER VOCALIC L and LETTER VOCALIC LL. There is no question but that VOWEL SIGN VOCALIC LL must exist in Oriya script for transliteration of $\bar{l}$; if the glyph proves to be different from what is propose here it can be changed, as glyphs are informative.

**Figure 3.** MALAYALAM VOWEL SIGN VOCALIC LL. Sample from *Keralapanineeyam* by A. R. Rajaraja Varma, published 1896 (reprinted 1997 by DC books), showing the VOCALIC LL in a discussion of the phonetic properties of chillus.



**Figure 3**

## TABLE XX - Row 0B: ORIYA

| | 0B0 | 0B1 | 0B2 | 0B3 | 0B4 | 0B5 | 0B6 | 0B7 |
|---|---|---|---|---|---|---|---|---|
| 0 | | ଐ | ୦ | ର | ୀ | | ୠ | ✓ |
| 1 | ଁ | | ଡ | | ୁ | | ୡ | ଉ |
| 2 | ଂ | | ଢ | ଲ | ୂ | | ୢ | |
| 3 | ଃ | ଓ | ଣ | ଳ | ୃ | | ୣ | |
| 4 | | ଔ | ତ | | ୄ | | | |
| 5 | ଅ | କ | ଥ | ଵ | | | | |
| 6 | ଆ | ଖ | ଦ | ଶ | | ଁ | ୦ | |
| 7 | ଇ | ଗ | ଧ | ଷ | ୋ | ଀ | ୧ | |
| 8 | ଈ | ଘ | ନ | ସ | ୌ | | ୨ | |
| 9 | ଉ | ଙ | | ହ | | | ୩ | |
| A | ଊ | ଚ | ପ | | | | ୪ | |
| B | ଋ | ଛ | ଫ | | ୋ | | ୫ | |
| C | ଌ | ଜ | ବ | ଂ | ୌ | ଡ଼ | ୬ | |
| D | | ଝ | ଭ | ୄ | ୍ | ଢ଼ | ୭ | |
| E | | ଞ | ମ | ା | | | ୮ | |
| F | ଏ | ଟ | ଯ | ଁ | | ୟ | ୯ | |

G = 00
P = 00

## TABLE XX - Row 0B: ORIYA

| hex | Name | hex | Name |
|-----|------|-----|------|
| 00 | (This position shall not be used) | 59 | (This position shall not be used) |
| 01 | ORIYA SIGN CANDRABINDU | 5A | (This position shall not be used) |
| 02 | ORIYA SIGN ANUSVARA | 5B | (This position shall not be used) |
| 03 | ORIYA SIGN VISARGA | 5C | ORIYA LETTER RRA |
| 04 | (This position shall not be used) | 5D | ORIYA LETTER RHA |
| 05 | ORIYA LETTER A | 5E | (This position shall not be used) |
| 06 | ORIYA LETTER AA | 5F | ORIYA LETTER YYA |
| 07 | ORIYA LETTER I | 60 | ORIYA LETTER VOCALIC RR |
| 08 | ORIYA LETTER II | 61 | ORIYA LETTER VOCALIC LL |
| 09 | ORIYA LETTER U | 62 | ORIYA VOWEL SIGN VOCALIC L |
| 0A | ORIYA LETTER UU | 63 | ORIYA VOWEL SIGN VOCALIC LL |
| 0B | ORIYA LETTER VOCALIC R | 64 | (This position shall not be used) |
| 0C | ORIYA LETTER VOCALIC L | 65 | (This position shall not be used) |
| 0D | (This position shall not be used) | 66 | ORIYA DIGIT ZERO |
| 0E | (This position shall not be used) | 67 | ORIYA DIGIT ONE |
| 0F | ORIYA LETTER E | 68 | ORIYA DIGIT TWO |
| 10 | ORIYA LETTER AI | 69 | ORIYA DIGIT THREE |
| 11 | (This position shall not be used) | 6A | ORIYA DIGIT FOUR |
| 12 | (This position shall not be used) | 6B | ORIYA DIGIT FIVE |
| 13 | ORIYA LETTER O | 6C | ORIYA DIGIT SIX |
| 14 | ORIYA LETTER AU | 6D | ORIYA DIGIT SEVEN |
| 15 | ORIYA LETTER KA | 6E | ORIYA DIGIT EIGHT |
| 16 | ORIYA LETTER KHA | 6F | ORIYA DIGIT NINE |
| 17 | ORIYA LETTER GA | 70 | ORIYA ISSHAR |
| 18 | ORIYA LETTER GHA | 71 | ORIYA LETTER WA |
| 19 | ORIYA LETTER NGA | 72 | (This position shall not be used) |
| 1A | ORIYA LETTER CA | 73 | (This position shall not be used) |
| 1B | ORIYA LETTER CHA | 74 | (This position shall not be used) |
| 1C | ORIYA LETTER JA | 75 | (This position shall not be used) |
| 1D | ORIYA LETTER JHA | 76 | (This position shall not be used) |
| 1E | ORIYA LETTER NYA | 77 | (This position shall not be used) |
| 1F | ORIYA LETTER TTA | 78 | (This position shall not be used) |
| 20 | ORIYA LETTER TTHA | 79 | (This position shall not be used) |
| 21 | ORIYA LETTER DDA | 7A | (This position shall not be used) |
| 22 | ORIYA LETTER DDHA | 7B | (This position shall not be used) |
| 23 | ORIYA LETTER NNA | 7C | (This position shall not be used) |
| 24 | ORIYA LETTER TA | 7D | (This position shall not be used) |
| 25 | ORIYA LETTER THA | 7E | (This position shall not be used) |
| 26 | ORIYA LETTER DA | 7F | (This position shall not be used) |
| 27 | ORIYA LETTER DHA | | |
| 28 | ORIYA LETTER NA | | |
| 29 | (This position shall not be used) | | |
| 2A | ORIYA LETTER PA | | |
| 2B | ORIYA LETTER PHA | | |
| 2C | ORIYA LETTER BA | | |
| 2D | ORIYA LETTER BHA | | |
| 2E | ORIYA LETTER MA | | |
| 2F | ORIYA LETTER YA | | |
| 30 | ORIYA LETTER RA | | |
| 31 | (This position shall not be used) | | |
| 32 | ORIYA LETTER LA | | |
| 33 | ORIYA LETTER LLA | | |
| 34 | (This position shall not be used) | | |
| 35 | ORIYA LETTER VA | | |
| 36 | ORIYA LETTER SHA | | |
| 37 | ORIYA LETTER SSA | | |
| 38 | ORIYA LETTER SA | | |
| 39 | ORIYA LETTER HA | | |
| 3A | (This position shall not be used) | | |
| 3B | (This position shall not be used) | | |
| 3C | ORIYA SIGN NUKTA | | |
| 3D | ORIYA SIGN AVAGRAHA | | |
| 3E | ORIYA VOWEL SIGN AA | | |
| 3F | ORIYA VOWEL SIGN I | | |
| 40 | ORIYA VOWEL SIGN II | | |
| 41 | ORIYA VOWEL SIGN U | | |
| 42 | ORIYA VOWEL SIGN UU | | |
| 43 | ORIYA VOWEL SIGN VOCALIC R | | |
| 44 | ORIYA VOWEL SIGN VOCALIC RR | | |
| 45 | (This position shall not be used) | | |
| 46 | (This position shall not be used) | | |
| 47 | ORIYA VOWEL SIGN E | | |
| 48 | ORIYA VOWEL SIGN AI | | |
| 49 | (This position shall not be used) | | |
| 4A | (This position shall not be used) | | |
| 4B | ORIYA VOWEL SIGN O | | |
| 4C | ORIYA VOWEL SIGN AU | | |
| 4D | ORIYA SIGN VIRAMA | | |
| 4E | (This position shall not be used) | | |
| 4F | (This position shall not be used) | | |
| 50 | (This position shall not be used) | | |
| 51 | (This position shall not be used) | | |
| 52 | (This position shall not be used) | | |
| 53 | (This position shall not be used) | | |
| 54 | (This position shall not be used) | | |
| 55 | (This position shall not be used) | | |
| 56 | ORIYA AI LENGTH MARK | | |
| 57 | ORIYA AU LENGTH MARK | | |
| 58 | (This position shall not be used) | | |

## TABLE XX - Row 0D: MALAYALAM

| | E70 | E71 | E72 | E73 | E74 | 135 | 136 | 137 |
|---|---|---|---|---|---|---|---|---|
| 0 | | ഐ | ഠ | ര | ീ | | ജ്ജ | ധ |
| 1 | | | ഡ | റ | ു | | ങ | ൗ |
| 2 | ഁ | ഒ | ഢ | ല | ൂ | | ഞ്ഞ | ൻ |
| 3 | ഃ | ഓ | ണ | ള | ൃ | | ങ്ങ | ┌ |
| 4 | | ഔ | ത | ഴ | ൄ | | | ൽ |
| 5 | അ | ക | ഥ | വ | | | | ൺ |
| 6 | ആ | ഖ | ദ | ശ | �ൊ | | ഠ | |
| 7 | ഇ | ഗ | ധ | ഷ | ൊ | ൗ | ഫ | |
| 8 | ഈ | ഘ | ന | സ | ൈ | | ല | |
| 9 | ഉ | ങ | | ഹ | | | ന്ത | ഩ |
| A | ഊ | ച | പ | | ൊ | | ർ | ൝ |
| B | ഋ | ഛ | ഫ | | ോ | | റ | ൔ |
| C | ണ | ജ | ബ | | ൌ | | ന്ന | ൕ |
| D | | ഝ | ഭ | ∫ | ് | | ഈ | ൽ |
| E | എ | ഞ | മ | ാ | | | വ | ൖ |
| F | ഏ | ട | യ | ി | | | ൻ | ക്ക |

G = 00
P = 00

**6**

**Proposal for encoding four characters for Oriya and Malayalam in the UCS**

## TABLE XX - Row 0D: MALAYALAM

| hex | Name | hex | Name |
|-----|------|-----|------|
| 00 | (This position shall not be used) | 59 | (This position shall not be used) |
| 01 | (This position shall not be used) | 5A | (This position shall not be used) |
| 02 | MALAYALAM SIGN ANUSVARA | 5B | (This position shall not be used) |
| 03 | MALAYALAM SIGN VISARGA | 5C | (This position shall not be used) |
| 04 | (This position shall not be used) | 5D | (This position shall not be used) |
| 05 | MALAYALAM LETTER A | 5E | (This position shall not be used) |
| 06 | MALAYALAM LETTER AA | 5F | (This position shall not be used) |
| 07 | MALAYALAM LETTER I | 60 | MALAYALAM LETTER VOCALIC RR |
| 08 | MALAYALAM LETTER II | 61 | MALAYALAM LETTER VOCALIC LL |
| 09 | MALAYALAM LETTER U | 62 | *MALAYALAM VOWEL SIGN VOCALIC L* |
| 0A | MALAYALAM LETTER UU | 63 | *MALAYALAM VOWEL SIGN VOCALIC LL* |
| 0B | MALAYALAM LETTER VOCALIC R | 64 | (This position shall not be used) |
| 0C | MALAYALAM LETTER VOCALIC L | 65 | (This position shall not be used) |
| 0D | (This position shall not be used) | 66 | MALAYALAM DIGIT ZERO |
| 0E | MALAYALAM LETTER E | 67 | MALAYALAM DIGIT ONE |
| 0F | MALAYALAM LETTER EE | 68 | MALAYALAM DIGIT TWO |
| 10 | MALAYALAM LETTER AI | 69 | MALAYALAM DIGIT THREE |
| 11 | (This position shall not be used) | 6A | MALAYALAM DIGIT FOUR |
| 12 | MALAYALAM LETTER O | 6B | MALAYALAM DIGIT FIVE |
| 13 | MALAYALAM LETTER OO | 6C | MALAYALAM DIGIT SIX |
| 14 | MALAYALAM LETTER AU | 6D | MALAYALAM DIGIT SEVEN |
| 15 | MALAYALAM LETTER KA | 6E | MALAYALAM DIGIT EIGHT |
| 16 | MALAYALAM LETTER KHA | 6F | MALAYALAM DIGIT NINE |
| 17 | MALAYALAM LETTER GA | 70 | *MALAYALAM NUMBER TEN* |
| 18 | MALAYALAM LETTER GHA | 71 | *MALAYALAM NUMBER ONE HUNDRED* |
| 19 | MALAYALAM LETTER NGA | 72 | *MALAYALAM NUMBER ONE THOUSAND* |
| 1A | MALAYALAM LETTER CA | 73 | *MALAYALAM FRACTION ONE QUARTER* |
| 1B | MALAYALAM LETTER CHA | 74 | *MALAYALAM FRACTION ONE HALF* |
| 1C | MALAYALAM LETTER JA | 75 | *MALAYALAM FRACTION THREE QUARTERS* |
| 1D | MALAYALAM LETTER JHA | 76 | (This position shall not be used) |
| 1E | MALAYALAM LETTER NYA | 77 | (This position shall not be used) |
| 1F | MALAYALAM LETTER TTA | 78 | (This position shall not be used) |
| 20 | MALAYALAM LETTER TTHA | 79 | *MALAYALAM DATE MARK* |
| 21 | MALAYALAM LETTER DDA | 7A | *MALAYALAM LETTER CHILLU NN* |
| 22 | MALAYALAM LETTER DDHA | 7B | *MALAYALAM LETTER CHILLU N* |
| 23 | MALAYALAM LETTER NNA | 7C | *MALAYALAM LETTER CHILLU RR* |
| 24 | MALAYALAM LETTER TA | 7D | *MALAYALAM LETTER CHILLU L* |
| 25 | MALAYALAM LETTER THA | 7E | *MALAYALAM LETTER CHILLU LL* |
| 26 | MALAYALAM LETTER DA | 7F | *MALAYALAM LETTER CHILLU K* |
| 27 | MALAYALAM LETTER DHA | | |
| 28 | MALAYALAM LETTER NA | | |
| 29 | (This position shall not be used) | | |
| 2A | MALAYALAM LETTER PA | | |
| 2B | MALAYALAM LETTER PHA | | |
| 2C | MALAYALAM LETTER BA | | |
| 2D | MALAYALAM LETTER BHA | | |
| 2E | MALAYALAM LETTER MA | | |
| 2F | MALAYALAM LETTER YA | | |
| 30 | MALAYALAM LETTER RA | | |
| 31 | MALAYALAM LETTER RRA | | |
| 32 | MALAYALAM LETTER LA | | |
| 33 | MALAYALAM LETTER LLA | | |
| 34 | MALAYALAM LETTER LLLA | | |
| 35 | MALAYALAM LETTER VA | | |
| 36 | MALAYALAM LETTER SHA | | |
| 37 | MALAYALAM LETTER SSA | | |
| 38 | MALAYALAM LETTER SA | | |
| 39 | MALAYALAM LETTER HA | | |
| 3A | (This position shall not be used) | | |
| 3B | (This position shall not be used) | | |
| 3C | (This position shall not be used) | | |
| 3D | MALAYALAM SIGN AVAGRAHA | | |
| 3E | MALAYALAM VOWEL SIGN AA | | |
| 3F | MALAYALAM VOWEL SIGN I | | |
| 40 | MALAYALAM VOWEL SIGN II | | |
| 41 | MALAYALAM VOWEL SIGN U | | |
| 42 | MALAYALAM VOWEL SIGN UU | | |
| 43 | MALAYALAM VOWEL SIGN VOCALIC R | | |
| 44 | *MALAYALAM VOWEL SIGN VOCALIC RR* | | |
| 45 | (This position shall not be used) | | |
| 46 | MALAYALAM VOWEL SIGN E | | |
| 47 | MALAYALAM VOWEL SIGN EE | | |
| 48 | MALAYALAM VOWEL SIGN AI | | |
| 49 | (This position shall not be used) | | |
| 4A | MALAYALAM VOWEL SIGN O | | |
| 4B | MALAYALAM VOWEL SIGN OO | | |
| 4C | MALAYALAM VOWEL SIGN AU | | |
| 4D | MALAYALAM SIGN VIRAMA | | |
| 4E | (This position shall not be used) | | |
| 4F | (This position shall not be used) | | |
| 50 | (This position shall not be used) | | |
| 51 | (This position shall not be used) | | |
| 52 | (This position shall not be used) | | |
| 53 | (This position shall not be used) | | |
| 54 | (This position shall not be used) | | |
| 55 | (This position shall not be used) | | |
| 56 | (This position shall not be used) | | |
| 57 | MALAYALAM AU LENGTH MARK | | |
| 58 | (This position shall not be used) | | |

**Group 00**      **Plane 00**      **Row 0D**

## A. Administrative

1. Title

**Proposal to encode four characters for Oriya and Malayalam in the BMP of the UCS**

2. Requester's name

**Michael Everson and Peter Scharf**

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

**Individual contribution.**

4. Submission date

**2007-05-25**

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

**Oriya, Malayalam.**

2. Number of characters in proposal

**4 (3, 1).**

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 B.1.**

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, some of the characters have been proposed to the UTC by the Indian National Body.**

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?

**Michel Angot, R. Chandrashekar, Malcolm Hyman, Susan Rosenfield, B. V. Venkatakrishna Sastry, Michael Witzel**

2c. If YES, available relevant documents

**Specialists in Vedic Sanskrit**

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

**Indologists, Indo-Europeanists, teachers, students.**

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

**Rare; these are mostly used in Sanskrit dictionaries.**

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 Indic 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?