

Proposal to encode JIHVAMULIYA and UPADHMANIYA in Devanagari



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

March 2, 2025

1 Introduction

This is a proposal to encode following two Devanagari characters in Unicode.

Glyph	Codepoint	Character name
	U+11B0B	DEVANAGARI SIGN JIHVAMULIYA
	U+11B0C	DEVANAGARI SIGN UPADHMANIYA

2 Background documents

These signs were briefly discussed in the earlier document [L2/17-095](#). However, in [L2/17-319](#) based on evidence it was decided to use glyphs based on Bengali manuscripts for the characters. 1CF5  and 1CF6  are mainly used in Bengali records and couple of Devanagari books from Calcutta, Bengal. Since unique characters are documented in primary sources such as Devanagari manuscripts and inscriptions, the proposed Devanagari forms exhibit distinct glyphs and behaviour with consonants, differing from the predominantly Bengali forms encoded in Vedic Extensions.

3 Description

Jihvāmūliya represents a voiceless velar fricative and appears before the unvoiced velar letters *ka* and *kha*, while Upadhmāniya represents a voiceless bilabial fricative and occurs before the unvoiced labial letters *pa* and *pha*. The signs for these two consonants are documented in Devanagari inscriptions, handwritten manuscripts, and printed books of Sanskrit from native Devanagari regions such as Western and Northern India. Jihvāmūliya and Upadhmāniya have been encoded in scripts like Kannada, Brahmi, Sharada, Newa, Mongolian, Soyombo, and Tibetan. Since these characters have been encoded on a per-script basis, it is proposed to encode them independently in Devanagari as well.

Jihvamuliya/Upadhmāniya + consonant should automatically be presented as the stack/ligature. These representations can be mentioned in Devanagari chapter of Core Specification.

Jihvamuliya ङ + ka क → क
Upadhmaniya ए + pa प → ए

Jihvamuliya ङ + kha ख → ख
Upadhmaniya ए + pha फ → फ

4 Character Data

Character properties In the format of UnicodeData.txt:

11B0B; DEVANAGARI SIGN JIHVAMULIYA;Lo;0;L;;;;N;;;;;

11B0C; DEVANAGARI SIGN UPADHMANIYA;Lo;0;L;;;;N;;;;;

Linebreaking In the format of LineBreak.txt:

11B0B.. 11B0C; AL # Lo [2] DEVANAGARI SIGN JIHVAMULIYA.. DEVANAGARI SIGN UPADHMANIYA

Syllabic categories In the format of IndicSyllabicCategory.txt:

Indic_Syllabic_Category=Consonant_With_Stacker

11B0B.. 11B0C; Consonant_With_Stacker # Lo [2] DEVANAGARI SIGN JIHVAMULIYA .. DEVANAGARI SIGN UPADHMANIYA

Other properties are like corresponding characters in Kannada and Brahmi.

5 Attestations

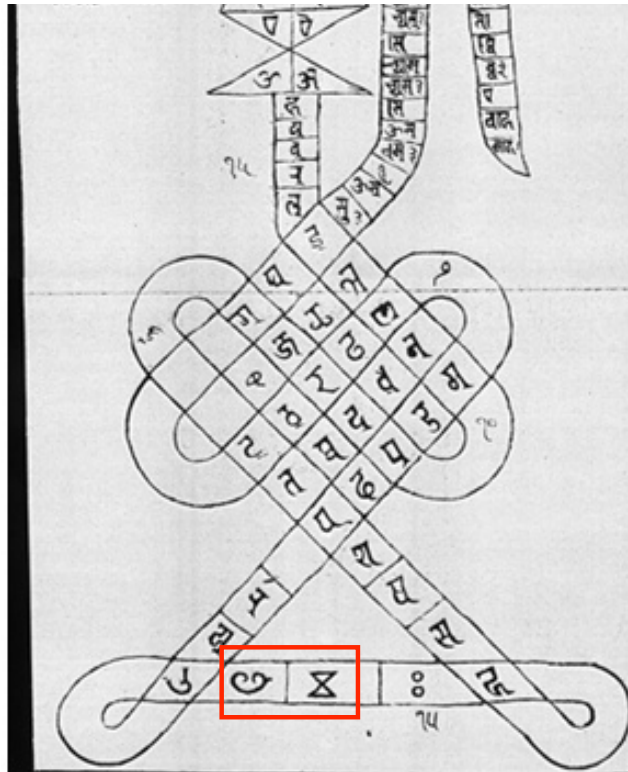
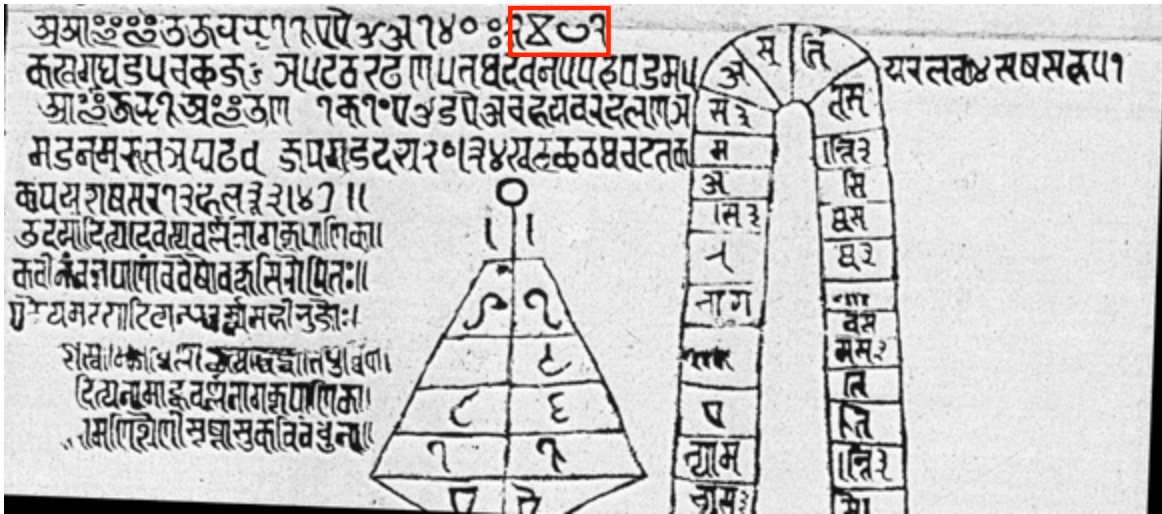


Figure 1. Mahākāleśvara Temple Inscription of Ujjain, Madhya Pradesh of 12th century showing Varnamala including Jihvamuliya and Upadhmaniya.



Figure 2. Another similar inscription from Udayeśvara temple, Udaypur, Madhya Pradesh. (From Singh, Saarthak).

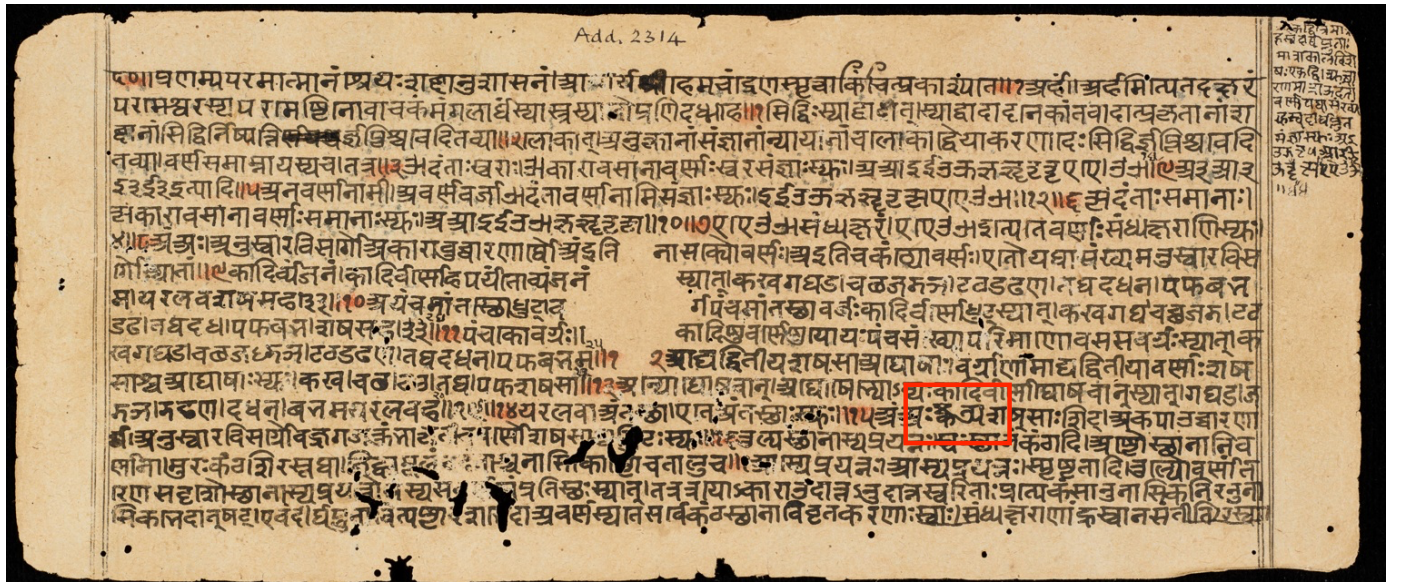



Figure 3. The two signs  in the manuscript Śabdānuśāsanalaghuvṛtti. The manuscript was copied in 1529 Vikrama / 1472 CE. (from MS Add.2314 Cambridge University Library <https://cudl.lib.cam.ac.uk/view/MS-ADD-02314>)

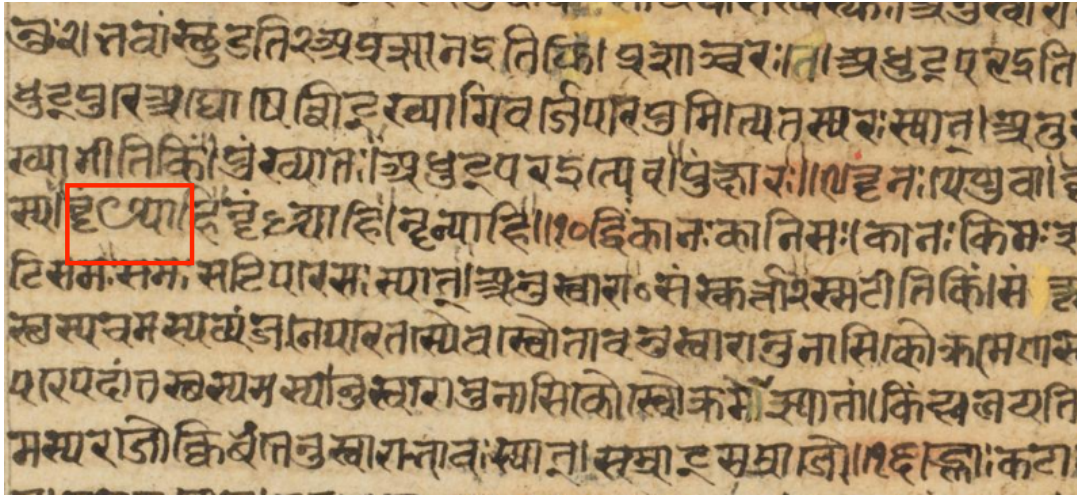
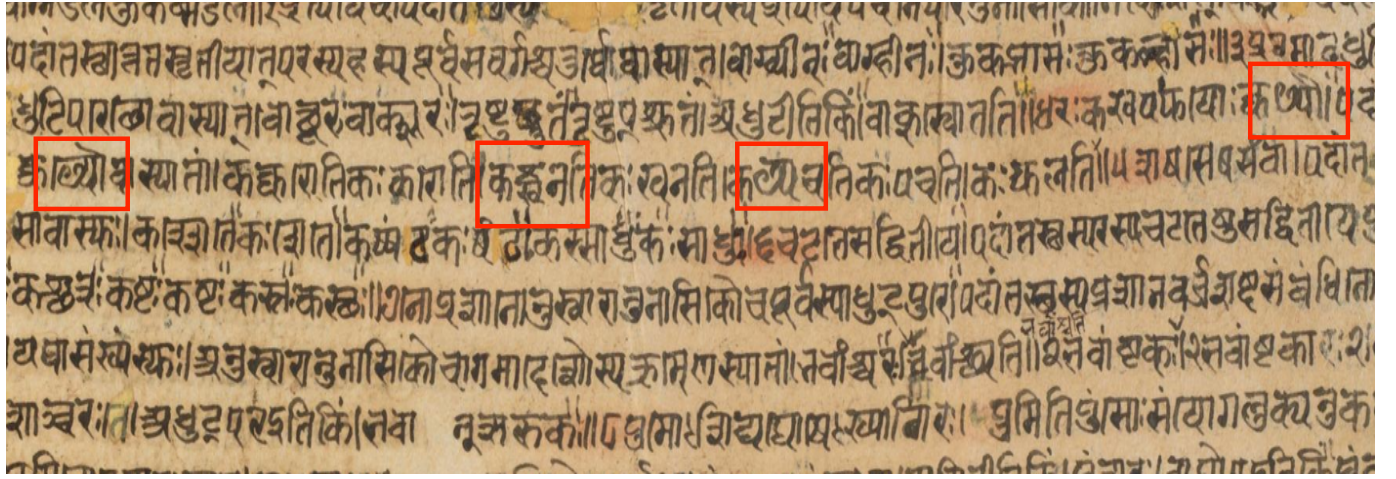


Figure 4. Use of Jihvamuliya and Upadhmaniya in Śabdānuśāsanalaghuvṛtti.

Place of Origin: Gujarat. Date: 1521 Vikrama / 1464 CE.

(from MS Add.2313 Cambridge University Library <https://cudl.lib.cam.ac.uk/view/MS-ADD-02313>)

- L. 6. दिव्य[भू]षं सुरसदनसमं मंदिरं चंद्रमौलिः
कोन्यो गोविंदराजावरपतिरमलो मर्त्यलोके चकार ॥ ३२ ॥^{३१}
न(ब्र)ह्मज्ञानामृतांतर्निभृतवरसरोराजहंसोमलांगो^{३२}
राजश्रीचारुकान्तादयिततर[त]-
7. नु७पुण्य^{३३} मूलं ।
धात्रा सृष्टोयमेको जगति नरपतिः सज्जनानन्दकारो
शैवध्यानासिभिस्त्वह्मदयजतमोहन्तिगोविन्दराजः ॥ ३३ ॥
[च]^{३४}तर्मीनावताराद्यभिनवतनुभिर्विष्णुरूपैरूपे-
8. तं
चक्रे सिद्धेशनाथावसथमतिमहत्सर्वभोगोपपन्नं ।
सर्वेषां पार्थिवानां तृ(त्रि)दिवपतिपुरारोहनिश्रेणिभृतं
गोविन्दो भूमिपालस्त्वमलनृपगुणैरनितक्कीर्त्तिकामः ॥ ३४ ॥
वार्पिं च-
9. कार सुविमलोपलगाढव(ब)हसोपानप[ङ्क्ति]सुरवेश्मनिविष्टदेवा ।
शश्वजलोर्मिव(ब)[हु]श[भ]जलप्रवाहसंज्ञापिताभिःपनामघनाशदत्ताम् ॥ ३५ ॥^{३५}
रूपनंदांकतुल्ये तु ८८१
10. शककालस्य भूपती [१^x]
सौम्यसंवत्सराषाढरविप्रहणपर्वणि ॥ १ ॥^{३६}
महामंडलनाथस्तु श्रीमान्सेउणभूपतिः ।
सिद्धेश्वराय प्रददौ ग्रामद्वयमुदारधीः ॥ २ ॥
निजेन राजभोगेन संग[मी]^{३७}
11. म[धु]वाटिकाम् ॥ ३ ॥
गोविंदराजोपि ददौ ग्रा[म]यो[र्मा]न्य[भो]गकं ।
मेलकं देवपूजार्थं घ्राणकं दीपसिद्धये ॥ ४ ॥
पाटकं गीतनृत्यार्थं विलासिणिसमन्वितं^{३८} ।
तृष्कालं^{३९} देवभोगार्थं गच्छकानां च भूमि — [॥ ५ ॥^x]
12. विप्राणां भोजनार्थाय सत्र(त्र)सुहृदय शश्वतं ।
विद्याभ्यासरतानां च^{४०} छात्रा(त्रा)णां भोजनाय च ॥ ६ ॥
क्षेत्राणि यानि भूपालो ददौ तानि लिखाम्यतः ।
वगलकस्यतभूमे[ः]^{४१} पूर्वसीमा तु भंभि —

Figure 6. Usage of Jihvamuliya and Upadhmaniya in a transcription of Devanagari inscription dated 11th century at Waghali, Maharashtra (from Burgess and Führer, Volume II).

- L. 8. भुजः
प्राप्तानन्तयशा बभूव नृपतिर्गाङ्गियदेवस्ततः ।
पृथ्वी धेन विधाय मेरुमतुलं कल्पद्रुमेण[रि]यनां
स्वर्गादूर्ध्वमधःस्थितापि विबुधाधारे [स?]मापादिता ॥¹⁹—[9].
पुण्यास्यतेन संसिक्ता शुद्धसत्त्वप्रवर्धि-
9. [त]र ।
यत्कीर्त्तिव्रततिः सर्व्व व्याप त्र(त्र)प्राण्डमण्डपम(म्) ॥²⁰—[10].
तेनाजनि मङ्गीपालङ्करणं; स्वर्णेन कुर्व्वता ।
पूर्णतृष्णापूर्णवानार्थसाधनार्थितकीर्त्तिना ॥ —[11].
पाण्ड्यखण्डिमताम्यमोच सुरलस्तत्याज गर्व्व[य]ह²¹
10. [कु]ङ्कः²² सन्नतिमाजगाम चकपे²³वङ्कः कलिङ्गैः सह ।
कीरः कीरवदास पञ्चरगद²⁴ हण²⁵प्रहृष्य जहौ
यस्मिन्नाजनि शौर्यविभ्रमभर बिभ्रत्यपूर्व्वप्रभे ॥²⁴—[12].
अस्मद्भर्त्तृपराभवेन सकला-
11. भुंक्ते [भुव] यामसौ
तामेतान्तनवामहै तनुतराकारामितीव स्त्रियः ।
यत्प्रत्यर्थिमङ्गीभुजाक्षयनजैर्व्वीथीः पयोधीन्वराधुः
स्फारान्नमङ्गीभिः पुनरमी तं वर्द्ध[याञ्च]-²⁵
12. क्रिरे ॥ —[13].
चम्पारण्यविदारणोद्गतयशःशुभांशना भासय-
न्नाशाचक्रमवक्रभावहृदयः क्षमापालचूडामणिः ।
तस्माज्जन्म समाससाद विशदं श्रीमान्यशःकरणं इ-
त्यौदार्याह[निकी]-²⁶
13. चकार विबुधान्यः प्रेक्ष्य सर्व्वानपि ॥ —[14].
तस्मादशेषगुणरत्ननिधिरगाधाङ्गवक्त्रभः समभवद्भयकण्ठदेवः ।
यस्य प्रतापतपनोप्यरिसुन्दरीणां शोकाण्णवीदयनिदानपदं प्रपेदे ॥²⁷—[15].
14. द्युतिजितहरितालः शीलताकल्पशालः पृथुतरगुणमालः शङ्खवर्गेककालः ।
विमलितरणभालः कान्तकीर्त्त्या श(स)टालः शिततरकरवालः सोभवद्भूमिपालः ॥²⁸—[16].
अस्ति

Figure 7. Usage of Upadhmaniya in a transcription of Devanagari inscription dated 12th century at Bhedaghat, Madhya Pradesh (from Burgess and Führer, Volume II).

TEXT.⁹

- L. 1. श्री¹⁰ नमः वेदाराय ॥
 गङ्गातरङ्गतरलीकृतसर्पराजवे[ष्टा]य चारुसि(शि)खविभूषणाय ।
 कन्दर्पदर्पशमनाय सुरार्चिताय वेदारूपवि[ष्ट]ताय¹¹ नमः शिषाय ॥ १ ॥¹²
 भूटत्रिंशतिः¹³ करणकर्म्मनिवासपूता आसम्पुरः परमसौख्यगुणातिरिक्ताः ।
 तन्मध्यगा विवु(वु)धलोकमता वरिष्ठा टक्कारिका समजनि सृष्टणीयकल्या ॥ २ ॥
 सर्वो[प]कारकरणै-
2. कनिधेः स्वकीयवंशस्य पात्रसुभगस्य द्विजाश्रयस्य ।
 कल्याणानसमयस्थितये पु[रि]¹⁴ यां वास्तुः स्वयं समधिगम्य समाससाद ॥ ३ ॥
 तस्यां श्रुतेर्निन्दसङ्गनिनादितायां वास्तव्यवंशभविनङ्गरणास्त आसन् ।
 आशाः समस्तभवनानि यदीयकीर्त्या पूर्णानि हंसधवलानि विशेषयन्त्या ॥ ४ ॥
 विद्याश्चतुर्दश कलाः सकलाः समायु¹⁵पद्माभिरा-
3. समिव वल्लभमायताम्बः ।
 यं गर्भसंस्थमविलम्बितमहितीयं दुःखं वियोगजमसंघतमुद्वहन्त्यः ॥ ५ ॥
 तद्वंशतः स उदपादि नरेश्वरेण गण्डाङ्गयेन¹⁶ युधि दुर्कयतां गतेन ।
 जाजूकसंघ इति ठक्कर[ध]र्मीयुक्तः सर्वोधिकारकरणेभु सदा नियुक्तः ॥ ६ ॥
 आराध्य¹⁶ तं नृपतिमण्डलमण्डनैकं देवं गदाधरमिवाश्रुतवासमाद्यम् ।
4. कायस्ववंशनलिनीगणतादिनेशो ग्रामं दुर्गौडमपि तान्मकमासु(शु) लेभे ॥ ७ ॥
 तन्मन्ततौ सकलवाङ्मयपारद(दृ)ष्ट्वा¹⁷ भूभूषणं निशिपतेरिव कान्तिभर्ता ।
 मोहान्मकारकुहरेषु निपातहर्ता माहेश्वरः समभवत्सुक्ताभिसर्त्ता ॥ ८ ॥
 यः पीतसै(शै)लविषयेषु महीपतीनां चूडामणिं समनु[सि]व्य समार्जयच्च ।
 श्रीकीर्त्तिवर्धननृपतिं वि-
5. शिषाभिधानं कालञ्जरस्य पिपलाहिकया समेतम्¹⁸ ॥ ९ ॥
 तस्मिन्कुले महति सज्जनलोककुटे गङ्गाधरः समुदभूत्सचि[वो]भिरामः ।
 नूनं विचार्य परमर्हिनरेश्वरेण युक्तः स [कञ्चुकि]तया¹⁹ परया तु धीरः ॥ १० ॥
 जीणाधरस्तदनुजः सहकर्मचारी सदा रतः समरकर्मणि मोक्षकारी ।
 तौ वीरमार्गमनुसृत्य गिरौ गरिष्ठे
6. कालञ्जरे युयुधतुर्विशिखा[कु]लेन²⁰ ॥ ११ ॥
 तथैव मालाधरनामधेयस्तस्य द्वितीयो ऽजनि वीरसुख्यः ।
 सुरैः सदा कल्पतरुप्रशू(सू)नैरभ्यर्चितो यः समरेषु रेमे ॥ १२ ॥²¹
 क्रमेण तस्मिन्प्रबभूव धीर आलू प्रतोलीरुचिराधिकारः [।*]

Figure 8. Usage of Upadhmaniya in a transcription of Devanagari inscription dated 13th century at Ajaigarh , Madhya Pradesh (from Burgess and Führer, Volume I).

9. वणिकनागाकेन चण्डूसुतेनापरिमितमूख्येन क्रीत्वा कुम्भकारदैवैकचन्द्रागा[न्दू]कलिभाका-
दीनां अक्षयनीमिका देवस्य समर्पिता ॥ ६ ॥ तथा समस्तकल्लपालानां मध्ये यस्य यस्य सत्कमद्यभाण्डं
नि७पद्यते विक्रयं याति स^{४३} च स चाचन्द्रार्कं यावद्द्विग्रहपालसत्कद्रवार्धिका^{४४} ताली दातव्या ॥ यच्च^{४५}चित्प-
रिपत्यना करोति स नरकं व्रजति स्थानीयभूमौ ये भूये भूता^{४६} ये भविष्यन्ति कुम्भकारखलपालाश्च^{४७} तैरक्षय-
नीमिका पालनी -

10. या ॥ ॥ तथा वारप्रमुखस्थानसम्बद्धकन्दुकानां पार्श्वीत् कन्दुक[ना]इलभोइलतिकूदेगू[प]-
स[नू]कादीनां पार्श्वीत् वणिकनागाकेन चाण्डूसुतेन सम्मार्जनविलेपनधूपप्रदीपनैवेद्यार्थं अपरिमितमूख्येन
क्रीत्वा कन्दुकानां प्रतिवराहकयविंसोपकैकं प्रतिदिनं वि १ याद्वमाचन्द्रार्कं यावद्भोक्तव्यं यच्च^{४५}चित्परिपत्य-
नाख्यमात्पादयति स च महापातकपञ्चकैर्लिप्यति ॥ खहस्तोय ४४४४^{४८} मिति ॥

11. तथा सम्बत्सरसतेषु नव[स]त सप्त[ष*]ष्ट्यधिकेषु फाल्गुनमास^{४९} अमावास्यां सम्बत् ९६७
फाल्गुन वदि १५ सीयडोण्यां वारप्रमुखस्थाने अश्वत्थानर^{५०}सिंघयोर्व्वारे यथा नेमकवणिकचाण्डूकेन
प्रतिष्ठापितश्रीविष्णुभट्टारकपश्चिमाभिमुखमुलाइतणदक्षिणदिग्विभागे नेमकवणिकवासुदेवेन प्रतिष्ठाप्य श्री-
विष्णुभट्टारकं उत्तराभिमुखं महान्तधर्मार्थहेतोः पूजापनसम्मार्जनधूपप्रदीपार्थं

12. दोसिहटे पूर्वाभिमुखावलिसाच्छ्रवा उवटकसहिता देवस्य समर्पिता ॥ अस्याद्याघाटानि
लिख्यन्ते पूर्व्वेण हट्टरप्या^{५१} दक्षिणेन वामनसत्कवीथी पश्चिमेन स्त्रीलिकार्पतमुत्तरेण^{५२} श्रीविष्णुभट्टारकवीथी
मर्यादा एवं चतुराघाटविशुद्धा प्रदत्ता ॥ तथा वैस्वान्दर^{५३}पूजनार्थं वासुदे[वे*]न स्वकीयगृहं पूर्वाभिमुखं
उवटकसहितं प्रदत्तं अस्याद्याघाटानि पूर्व्वेण प्रसन्नदेवियारकमर्यादा दक्षिणेन

13. वासुदेवगृहमिति७पश्चिमेन रथ्या उत्तरेण श्रीप्रसन्नवीथी मर्यादा एवं चतुराघाटविशुद्धं
देवस्य प्रदत्तं यच्च^{५४}खड्गविधारणविधारणा^{५५} करोति स च नरकं व्रजति न संशयः^{५६} ॥ ॥ तथा वणिकचण्डू-

Figure 11. Transcription of Siyadoni Inscription of Lalitpur District, Uttar Pradesh (from Burgess and Führer, Volume I).



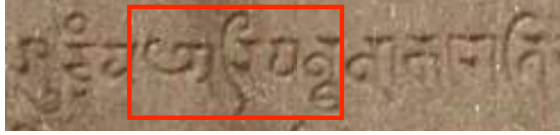
Line 5



Line 9



Line 13



Line 26

Figure 12. Occurrences of Upadhmaniya in the above Siyadoni Inscription.

References

Burgess, James, and Alois Anton Führer. *Epigraphia Indica: A Collection of Inscriptions Supplementary to the Corpus Inscriptionum Indicarum of the Archaeological Survey*. 1894

Burgess, James, and Bhagvānlal Indrājī. *Inscriptions from the Cave-temples of Western India: With Descriptive Notes, &c.* Indian India, 1976.

Singh, Saarthak. *A serpentine scimitar of letters from Udaypur, district Vidisha, MP.* Studies in Indian Epigraphy (Bhāratīya Purābhilēkha Patrikā), Volume XLVII, 2022. [Link](#)

ISO/IEC JTC 1/SC 2/WG 2

PROPOSAL SUMMARY FORM TO ACCOMPANY SUBMISSIONS

FOR ADDITIONS TO THE REPERTOIRE OF ISO/IEC 10646¹.

Please fill all the sections A, B and C below.

Please read Principles and Procedures Document (P & P) from <http://std.dkuug.dk/JTC1/SC2/WG2/docs/principles.html> for guidelines and details before filling this form.

Please ensure you are using the latest Form from <http://std.dkuug.dk/JTC1/SC2/WG2/docs/summaryform.html>.

See also <http://std.dkuug.dk/JTC1/SC2/WG2/docs/roadmaps.html> for latest Roadmaps.

A. Administrative

1. Title:	Proposal to encode JIHVAMULIYA and UPADHMANIYA in Devanagari
2. Requester's name:	Srinidhi A and Sridatta A
3. Requester type (Member body/Liaison/Individual contribution):	Individual Contribution
4. Submission date:	March 2, 2025
5. Requester's reference (if applicable):	
6. Choose one of the following:	
This is a complete proposal:	Yes
(or) More information will be provided later:	

B. Technical – General

1. Choose one of the following:	
a. This proposal is for a new script (set of characters):	
Proposed name of script:	
b. The proposal is for addition of character(s) to an existing block:	Yes
Name of the existing block:	Devanagari Extended- A
2. Number of characters in proposal:	2
3. Proposed category (select one from below - see section 2.2 of P&P document):	

¹. Form number: N4502-F (Original 1994-10-14; Revised 1995-01, 1995-04, 1996-04, 1996-08, 1999-03, 2001-05, 2001-09, 2003-11, 2005-01, 2005-09, 2005-10, 2007-03, 2008-05, 2009-11, 2011-03, 2012-01)

A-Contemporary	<input type="checkbox"/>	B.1-Specialized (small collection)	<input type="checkbox"/>	B.2-Specialized (large collection)	<input checked="" type="checkbox"/>
C-Major extinct	<input type="checkbox"/>	D-Attested extinct	<input type="checkbox"/>	E-Minor extinct	<input type="checkbox"/>
F-Archaic Hieroglyphic or Ideographic	<input type="checkbox"/>			G-Obscure or questionable usage symbols	<input type="checkbox"/>

4. Is a repertoire including character names provided?

Yes

a. If YES, are the names in accordance with the “character naming guidelines” in Annex L of P&P document?

Yes

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

Yes

5. Fonts related:

a. Who will provide the appropriate computerized font to the Project Editor of 10646 for publishing the standard?

The glyphs are taken from Tiro Devanagari Sanskrit which is an opensource font.

b. Identify the party granting a license for use of the font by the editors (include address, e-mail, ftp-site, etc.):

The designers of Tiro Devanagari Sanskrit. Link to download <https://fonts.google.com/specimen/Tiro+Devanagari+Sanskrit>

6. References:

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

Yes

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

Yes

7. Special encoding issues:

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

See the text of the proposal

8. Additional Information:

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/reports/tr44/>) and associated Unicode Technical Reports for information needed for consideration by the Unicode Technical Committee for inclusion in the Unicode Standard.

C. Technical - Justification

1. Has this proposal for addition of character(s) been submitted before?	No
If YES explain	
2. 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
If YES, with whom?	<i>The authors themselves part of Devanagari user community</i>
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?	N/A
Reference:	
4. The context of use for the proposed characters (type of use; common or rare)	common
Reference:	<i>See the text of the proposal</i>
5. Are the proposed characters in current use by the user community?	Yes
If YES, where? Reference:	<i>Used by epigraphists and manuscript scholars for transliteration</i>
6. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP?	N/A
If YES, is a rationale provided?	
If YES, reference:	
7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)?	Yes
8. Can any of the proposed characters be considered a presentation form of an existing character or character sequence?	No
If YES, is a rationale for its inclusion provided?	
If YES, reference:	
9. Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters?	No

If YES, is a rationale for its inclusion provided?	
If YES, reference:	
10. Can any of the proposed character(s) be considered to be similar (in appearance or function) to, or could be confused with, an existing character?	Yes
If YES, is a rationale for its inclusion provided?	Yes
If YES, reference:	See the text of proposal
11. Does the proposal include use of combining characters and/or use of composite sequences?	No
If YES, is a rationale for such use provided?	
If YES, reference:	
Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided?	
If YES, reference:	
12. Does the proposal contain characters with any special properties such as control function or similar semantics?	No
If YES, describe in detail (include attachment if necessary)	
13. Does the proposal contain any Ideographic compatibility characters?	No
If YES, are the equivalent corresponding unified ideographic characters identified?	
If YES, reference:	