

## 9.2 Unicode for Devanagari

Unicode is an encoding scheme, which provides a unique number for every character of every script of the world. The Unicode code is independent of the platform, the program, and the language. The Unicode Standard specifies a numeric value (code point) and a name for each of its characters. Also in addition to character codes and names, other information such as, a character's case, directionality, and alphabetic properties are also provided in the standard.

Unicode Standard includes standard code sets for Indian scripts based on ISCII-1988 document whereas present national standard is ISCII:1991 (Indian Script Code for Information Interchange-ISCII-IS13194:1991). Some modifications were necessary to incorporate in the Unicode Standard for adequate representation of Indian Scripts. Department of Information Technology, Ministry of Communications & IT, is the voting member of the Unicode Consortium. Department of Information Technology finalized and proposed required changes in the existing Unicode Standards, in consultation with respective State Government, Indian IT Industry & Linguists. The Unicode Technical Committee (UTC) recommended some of the proposed changes and these have been included in the current version of Unicode Standards i.e. Unicode 4.0. The Unicode Standard for Devanagari script is presented here in the chart. There is a need to add some characters, the shape of some characters need to be modified and at certain places the annotations/ explanations is to be modified. Summary of the proposed modification in Devanagari are mentioned in the chart.

In the Unicode code set for all the Indian script the HAL or HALANT sign is named as VIRAM, which is wrong. In the Unicode 4.0, annotation has been provided for this code point. This highlighted with yellow color.

In Devanagari script, which is used for writing Sanskrit, Hindi, Marathi, Nepali, Konkani and Sindhi there is a need to add Devanagari Anuswara, Devanagari Jivhamuliya, Yajurvedic Anuswara [Sanskrit], Devanagari Letters Implosive GA, JA, DA, BA [Sindhi] Devanagari Letters SHA(श), Soft RA, LA(ल) [Marathi], Devanagari letters KSHA(क्ष), JNYA(ज्), SHRA (श्र) [Hindi, Marathi] and Devanagari Sign REPH(ॠ). These characters are highlighted with the blue color. In the "Laukik Sanskrit" the Samvedic Anuswara, Jivhamuliya, Yajurvedic Anuswara are very commonly used.

In Hindi the letters KSHA(क्ष), JNYA(ज्), SHRA (श्र) are considered to be the consonant conjuncts but in some of the languages these are considered as consonants. The glyph of these consonant conjuncts is totally different from their constituting consonants. Hence these letters should be added in the Devanagari code block. The consonants LA and SHA has different glyphs in Marathi. It will be easier for transliteration from one language to other if these consonants are added in the code block. Unicode 4.0 have the description about these Marathi allographs.

The glyph of the consonants are NNNA(U+0929), RRA(U+0931) and LLLA(U+0934) need to be changed as the phonetic values of these consonants differ. These character are highlighted with pink color.

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	090	091	092	093	094	095	096	097
0		ऐ 0910	ठ 0920	र 0930	ी 0940	ॐ 0950	ऋ 0960	० 0970
1	ँ 0901	ऑ 0911	ड 0921	ॠ 0931	ु 0941	ं 0951	ॡ 0961	ॠ 0971
2	ं 0902	ओ 0912	ढ 0923	ल 0932	ू 0942	॰ 0952	ॢ 0962	क्ष 0972
3	ः 0903	औ 0913	ण 0923	ळ 0933	ृ 0943	ॅ 0953	ॣ 0963	ज्ञ 0973
4	अ 0904	औ 0914	त 0924	ळ 0934	ॠ 0944	ॠ 0954	। 0964	श्र 0974
5	अ 0905	क 0915	थ 0925	व 0935	ँ 0945	ॠ 0955	॥ 0965	ॠ 0975
6	आ 0906	ख 0916	द 0926	श 0936	ै 0946	ॠ 0956	० 0966	श 0976
7	इ 0907	ग 0917	ध 0927	ष 0937	े 0947	ॠ 0957	ॠ 0967	ल 0977
8	ई 0908	घ 0918	न 0928	स 0938	ै 0948	क 0958	ॠ 0968	ॠ 0978
9	उ 0909	ड 0919	ॠ 0929	ह 0939	ॉ 0949	ख 0959	ॠ 0969	ग 0979
A	ऊ 090A	च 091A	प 092A	॰ 093A	ो 094A	ग 095A	ॠ 096A	ज 097A
B	ऋ 090B	छ 091B	फ 092B		ो 094B	ज 095B	ॠ 096B	ड 097B
C	ॡ 090C	ज 091C	ब 092C	ॠ 093C	ौ 094C	ड 095C	ॠ 096C	ब 097C
D	ँ 090D	झ 091D	भ 092D	ॠ 093D	ॠ 094D	ढ 095D	ॠ 096D	
E	ऐ 090E	ञ 091E	म 092E	ा 093E		फ़ 095E	ॠ 096E	
F	ए 090F	ट 091F	य 092F	ि 093F		य़ 095F	ॠ 096F	

Existing Code Points
  Proposed Additions
  Proposed Change in Annotation
  Proposed Change in Glyph