12.6 Tamil

Tamil: U+0B80–U+0BFF

The Tamil script is descended from the South Indian branch of Brahmi. It is used to write the Tamil language of the Tamil Nadu state in India as well as minority languages such as Irula, the Dravidian language Badaga, and the Indo-European language Saurashtra. Tamil is also used in Sri Lanka, Singapore, and parts of Malaysia.

The Tamil script has fewer consonants than the other Indic scripts. When representing the "missing" consonants in transcriptions of languages such as Sanskrit or Saurashtra, super-script European digits are often used, so ப² = *pha*, ப³ = *ba*, and ப⁴ = *bha*. The characters U+00B2, U+00B3, and U+2074 can be used to preserve this distinction in plain text. The Grantha script is often also used by Tamil speakers to write Sanskrit because Grantha contains these missing consonants.

The Tamil script also avoids the use of conjunct consonant forms, although a few conventional conjuncts are used.

Virama (Puḷḷi). Because the Tamil encoding in the Unicode Standard is based on ISCII-1988 (Indian Script Code for Information Interchange), it makes use of the *abugida* model. An abugida treats the basic consonants as containing an inherent vowel, which can be canceled by the use of a visible mark, called a *virama* in Sanskrit. In most Brahmi-derived scripts, the placement of a virama between two consonants implies the deletion of the inherent vowel of the first consonant and causes a conjoined or subjoined consonant cluster. In those scripts, ZERO WIDTH NON-JOINER is used to display a visible virama, as shown previously in the Devangari example in *Figure 12-4*.

The situation is quite different for Tamil because the script uses very few consonant conjuncts. An orthographic cluster consisting of multiple consonants (represented by <C1, U+0BCD TAMIL SIGN VIRAMA, C2, ...>) is normally displayed with explicit viramas, which are called *puḷḷi* in Tamil. The *puḷḷi* is typically rendered as a dot centered above the character. It occasionally appears as small circle instead of a dot, but this glyph variant should be handled by the font, and not be represented by the similar-appearing U+0B82 TAMIL SIGN ANUSVARA.

The conjuncts *kssa* and *shrii* are traditionally displayed by conjunct ligatures, as illustrated for *kssa* in *Figure 12-15*, but nowadays tend to be displayed using an explicit *puḷḷi* as well.

Figure 12-15. Kssa Ligature in Tamil

கு + ் + வழ → கூவழ *kṣa*

To explicitly display a *puḷḷi* for such sequences, ZERO WIDTH NON-JOINER can be inserted after the *puḷḷi* in the sequence of characters.

Rendering of the Tamil Script. The Tamil script is complex and requires special rules for rendering. The following discussion describes the most important features of Tamil rendering behavior. As with any script, a more complex procedure can add rendering characteristics, depending on the font and application.

> *In a font that is capable of rendering Tamil, the number of glyphs is greater than the number of Tamil characters.*

Tamil Vowels

Vowel Letters. Vowel letters are encoded atomically in Unicode, even if they can be analyzed visually as consisting of multiple parts. *Table 12-26* shows the letters that can be analyzed, the single code point that should be used to represent them in text, and the sequence of code points resulting from analysis that should not be used.

Table 12-26. Tamil Vowel Letters

For	Use	Do Not Use
ஆ	0B86	<0B85, 0BC2>

Independent Versus Dependent Vowels. In the Tamil script, the dependent vowel signs are not equivalent to a sequence of *virama* + *independent vowel*. For example:

$$ ன + ◌ி \ \neq ன + \ ◌்\ +இ $$

Left-Side Vowels. The Tamil vowels U+0BC6 ெ◌, U+0BC7 ே◌, and U+0BC8 ை◌ are reordered in front of the consonant to which they are applied. When occurring in a syllable, these vowels are rendered to the left side of their consonant, as shown in *Figure 12-16.*

Figure 12-16. Tamil Vowel Reordering

$$ க \ + \ ெ◌ \ \rightarrow \ கெ $$
$$ க \ + \ ே◌ \ \rightarrow \ கே $$
$$ க \ + \ ை◌ \ \rightarrow \ கை $$

Two-Part Vowels. Tamil also has several vowels that consist of elements which flank the consonant to which they are applied. A sequence of two Unicode code points can be used to express equivalent spellings for these vowels, as shown in *Figure 12-17.*

Figure 12-17. Tamil Two-Part Vowels

கொ 0BCA ≡ கெ + கா 0BC6 + 0BBE

கோ 0BCB ≡ கே + கா 0BC7 + 0BBE

கௌ 0BCC ≡ கெ + �ள 0BC6 + 0BD7

In these examples, the representation on the left, which is a single code point, is the preferred form and the form in common use for Tamil.

In the process of rendering, these two-part vowels are transformed into the two separate glyphs equivalent to those on the right, which are then subject to vowel reordering, as shown in *Figure 12-18*.

Figure 12-18. Tamil Vowel Splitting and Reordering

க + கொ   → கொ
க + கெ   +   கா → கொ
க + கோ   → கோ
க + கே   +   கா → கோ
க + கௌ   → கௌ
க + கெ   +   �ள → கௌ

Even in the case where a two-part vowel occurs with a conjunct consonant or consonant cluster, the left part of the vowel is reordered around the conjunct or cluster, as shown in *Figure 12-19*.

Figure 12-19. Vowel Reordering Around a Tamil Conjunct

க + ◌் + ஷ + கெ + கா → கெஷா *kṣo*

For either left-side vowels or two-part vowels, the ordering of the elements is unambiguous: the consonant or consonant cluster occurs first in the memory representation, followed by the vowel.

Confusable Vowels. U+0B94 TAMIL LETTER AU and U+0BCC TAMIL VOWEL SIGN AU are visually indistinguishable from two semantically unrelated sequences, as shown in *Figure 12-20*. In the decompositions of these two vowel characters, the rightmost part is represented as the character U+0BD7 TAMIL AU LENGTH MARK, which looks exactly like the separate character, U+0BB3 TAMIL LETTER LLA.

Figure 12-20. Confusable Vowels in Tamil

ஔ 0B94 ≡ ஒ + ◌ள 0B92 + 0BD7 ≠ ஒ + ள 0B92 + 0BB3

ஔ 0BCC ≡ ஒ + ◌ள 0BC6 + 0BD7 ≠ ஒ + ள 0BC6 + 0BB3

Tamil Ligatures

A number of ligatures are conventionally used in Tamil. Most ligatures involve the shape taken by a consonant plus vowel sequence. A wide variety of modern Tamil words are written without a conjunct form, with a fully visible *puḷḷi*.

Ligatures with Vowel i. The vowel signs *i* ◌ீ and *ii* ◌ீ form ligatures with the consonant *tta* ட as shown in examples 1 and 2 of *Figure 12-21*. These vowels often change shape or position slightly so as to join cursively with other consonants, as shown in examples 3 and 4 of *Figure 12-21*.

Figure 12-21. Tamil Ligatures with *i*

① ட + ◌ி → டி *ṭi*

② ட + ◌ீ → டீ *ṭī*

③ ல + ◌ி → லி *li*

④ ல + ◌ீ → லீ *lī*

Ligatures with Vowel u. The vowel signs *u* ◌ு and *uu* ◌ூ normally ligate with their consonant, as shown in *Table 12-27*. In the first column, the basic consonant is shown; the second column illustrates the ligation of that consonant with the *u* vowel sign; and the third column illustrates the ligation with the *uu* vowel sign.

Table 12-27. Tamil Ligatures with *u*

x	*x* + ◌ு	*x* + ◌ூ		*x*	*x* + ◌ு	*x* + ◌ூ
க	கு	கூ		ப	பு	பூ
ங	ஙு	ஙூ		ம	மு	மூ
ச	சு	சூ		ய	யு	யூ
ஞ	ஞு	ஞூ		ர	ரு	ரூ
ட	டு	டூ		ற	று	றூ

Table 12-27. Tamil Ligatures with *u* (Continued)

x	*x* + $\circ_{\lvert}$	*x* + $\circ$		*x*	*x* + $\circ_{\lvert}$	*x* + $\circ$
ணை	ணு	ணூ		ல	லு	லூ
த	து	தூ		எ	ரெஞ	ரெஞ
ந	நு	நூ		ழ	ழு	ழூ
னை	னு	னூ		வ	வு	வூ

With certain consonants, ஜ, ஷ, ஸ, ஹ, and the conjunct க்ஷ, the vowel signs *u* $\circ_{\lvert}$ and *uu* $\circ$ take a distinct spacing form, as shown in *Figure 12-22*.

Figure 12-22. Spacing Forms of Tamil *u*

$$\text{ஜ} + \circ_{\lvert} \rightarrow \text{ஜு} \quad ju$$

$$\text{ஜ} + \circ \rightarrow \text{ஜூ} \quad j\bar{u}$$

***Ligatures with* ra.** Based on typographical preferences, the consonant *ra* ர may change shape to ா, when it ligates. Such change, if it occurs, will happen only when the ா form of U+0BB0 ர TAMIL LETTER RA would not be confused with the nominal form ா of U+0BBE TAMIL VOWEL SIGN AA (namely, when ர is combined with $\dot{\circ}$, $\circ\!\!\urcorner$, or $\overset{\circ}{\circ}$). This change in shape is illustrated in *Figure 12-23*.

Figure 12-23. Tamil Ligatures with *ra*

$$\text{ர} + \dot{\circ} \rightarrow \dot{\text{ா}} \quad r$$

$$\text{ர} + \circ\!\!\urcorner \rightarrow \text{ாி} \quad ri$$

$$\text{ர} + \overset{\circ}{\circ} \rightarrow \overset{\circ}{\text{ா}} \quad r\bar{\imath}$$

However, various governmental bodies mandate that the basic shape of the consonant *ra* ர should be used for these ligatures as well, especially in school textbooks. Media and literary publications in Malaysia and Singapore mostly use the unchanged form of *ra* ர. Sri Lanka, on the other hand, specifies the use of the changed forms shown in *Figure 12-24*.

***Tamil Ligature* shri.** Prior to Unicode 4.1, the best mapping to represent the ligature *shri* was to the sequence <U+0BB8, U+0BCD, U+0BB0, U+0BC0>. Unicode 4.1 in 2005 added the character U+0BB6 TAMIL LETTER SHA and as a consequence, the best mapping became

<U+0BB6, U+0BCD, U+0BB0, U+0BC0>. Due to slow updates to implementations, both representations are widespread in existing text. Therefore, treating both representations as equivalent sequences is recommended. *Figure 12-24* shows the two sequences.

Figure 12-24. Tamil Ligatures for *shri*

ஸ + ◌் + ர + ◌ீ → ஸ்ரீ

ஶ + ◌் + ர + ◌ீ → ஶ்ரீ

Ligatures with* aa *in Traditional Tamil Orthography. In traditional Tamil orthography, the vowel sign *aa* ◌ா optionally ligates with ண, ன, or ற, as illustrated in *Figure 12-25*.

Figure 12-25. Traditional Tamil Ligatures with *aa*

ண + ◌ா → ணா *ṇā*

ன + ◌ா → னா *ṉā*

ற + ◌ா → றா *ṟā*

These ligations also affect the right-hand part of two-part vowels, as shown in *Figure 12-26*.

Figure 12-26. Traditional Tamil Ligatures with *o*

ண + ெ◌ா → ெணா *ṇo*

ண + ே◌ா → ேணா *ṇō*

ன + ெ◌ா → ெனா *ṉo*

ன + ே◌ா → ேனா *ṉō*

ற + ெ◌ா → ெறா *ṟo*

ற + ே◌ா → ேறா *ṟō*

Ligatures with* ai *in Traditional Tamil Orthography. In traditional Tamil orthography, the left-side vowel sign *ai* ை◌ is also subject to a change in form. It is rendered as ௧◌ when it occurs on the left side of ண, ன, ல, or ள, as illustrated in *Figure 12-27*.

Figure 12-27. Traditional Tamil Ligatures with *ai*

ணா + ை ○ → ணை *ṇai*

ண + ை ○ → ணை *ṇai*

ல + ை ○ → லை *lai*

ள + ை ○ → ளை *ḷai*

By contrast, in modern Tamil orthography, this vowel does not change its shape, as shown in *Figure 12-28*.

Figure 12-28. Vowel *ai* in Modern Tamil

ணா + ை ○ → ணைணா *ṇai*

Tamil aytham. The character U+0B83 TAMIL SIGN VISARGA is normally called *aytham* in Tamil. It is historically related to the *visarga* in other Indic scripts, but has become an ordinary spacing letter in Tamil. The *aytham* occurs in native Tamil words, but is frequently used as a modifying prefix before consonants used to represent foreign sounds. In particular, it is used in the spelling of words borrowed into Tamil from English or other languages.

Punctuation. Danda and double danda marks as well as some other unified punctuation used with Tamil are found in the Devanagari block; see *Section 12.1, Devanagari*.

Numbers. Modern Tamil decimal digits are encoded at U+0BE6..U+0BEF. Note that some digits are confusable with letters, as shown in *Table 12-28*. In some Tamil fonts, the digits for two and eight look exactly like the letters *u* and *a*, respectively. In other fonts, as shown here, the shapes for the digits two and eight are adjusted to minimize confusability.

Table 12-28. Confusable Tamil Digits

U+0BE7 க TAMIL DIGIT ONE	U+0B95 க TAMIL LETTER KA
U+0BE8 உ TAMIL DIGIT TWO	U+0B89 உ TAMIL LETTER U
U+0BED எ TAMIL DIGIT SEVEN	U+0B8E எ TAMIL LETTER E
U+0BEE அ TAMIL DIGIT EIGHT	U+0B85 அ TAMIL LETTER A

Tamil also has distinct numerals for ten, one hundred, and one thousand at U+0BF0..U+0BF2 used for historical numbers.

Use of Nukta. In addition to Tamil, several other languages of southern India are written using the Tamil script. For example, Irula is written with the Tamil script. Some of these languages contain sounds distinct from those normally written for the Tamil language. In

such cases, the writing systems of these languages apply diacritic nukta marks to Tamil letters to represent their distinct sounds. For example, Irula uses a double dot nukta below represented with U+1133C GRANTHA SIGN NUKTA, and Badaga uses a single dot nukta represented by U+1133B COMBINING BINDU BELOW for some sounds.

Tamil Supplement: U+11FC0–U+11FFF

The Tamil Supplement block contains a set of fractions in the range U+11FC0..U+11FD4 used for generic measurement and calculations and for money. The block also includes symbols indicating various forms of measurement, old units of currency, agricultural and clerical signs, and other miscellaneous abbreviations. Most characters in this block are no longer in use, but a few appear in traditional contexts, such as on marriage invitations printed in a traditional format.

Tamil Named Character Sequences

Tamil is less complex than some of the other Indic scripts, and both conceptually and in processing can be treated as an atomic set of elements: consonants, stand-alone vowels, and syllables. *Table 12-29* shows these atomic elements, with the corresponding Unicode characters or sequences. In cases where the atomic elements for Tamil correspond to sequences of Unicode characters, those sequences have been added to the approved list of Unicode named character sequences. See NamedSequences.txt in the Unicode Character Database for details.

In implementations such as natural language processing, where it may be useful to treat such Tamil text elements as single code points for ease of processing, Tamil named character sequences could be mapped to code points in a contiguous segment of the Private Use Area.

In *Table 12-29*, the first row shows the transliterated representation of the Tamil vowels in abbreviated form, while the first column shows the transliterated representation of the Tamil consonants. Those row and column labels, together with identifying strings such as "TAMIL SYLLABLE" or "TAMIL CONSONANT" are concatenated to form formal names for these sequences. For example, the sequence shown in the table in the K row and the AA column, with the sequence <0B95, 0BBE>, gets the associated name TAMIL SYLLABLE KAA. The sequence shown in the table in the K row in the first column, with the sequence <0B95, 0BCD>, gets the associated name TAMIL CONSONANT K.

Details on the complete names for each element can be found in NamedSequences.txt.

Table 12-29. Tamil Vowels, Consonants, and Syllables

		A	AA	I	II	U	UU	E	EE	AI	O	OO	AU
	ஃ 0B83	அ 0B85	ஆ 0B86	இ 0B87	ஈ 0B88	உ 0B89	ஊ 0B8A	எ 0B8E	ஏ 0B8F	ஐ 0B90	ஒ 0B92	ஓ 0B93	ஔ 0B94
K	க் 0B95 0BCD	க 0B95	கா 0B95 0BBE	கி 0B95 0BBF	கீ 0B95 0BC0	கு 0B95 0BC1	கூ 0B95 0BC2	கெ 0B95 0BC6	கே 0B95 0BC7	கை 0B95 0BC8	கொ 0B95 0BCA	கோ 0B95 0BCB	கௌ 0B95 0BCC
NG	ங் 0B99 0BCD	ங 0B99	ஙா 0B99 0BBE	ஙி 0B99 0BBF	ஙீ 0B99 0BC0	ஙு 0B99 0BC1	ஙூ 0B99 0BC2	ஙெ 0B99 0BC6	ஙே 0B99 0BC7	ஙை 0B99 0BC8	ஙொ 0B99 0BCA	ஙோ 0B99 0BCB	ஙௌ 0B99 0BCC
C	ச் 0B9A 0BCD	ச 0B9A	சா 0B9A 0BBE	சி 0B9A 0BBF	சீ 0B9A 0BC0	சு 0B9A 0BC1	சூ 0B9A 0BC2	செ 0B9A 0BC6	சே 0B9A 0BC7	சை 0B9A 0BC8	சொ 0B9A 0BCA	சோ 0B9A 0BCB	சௌ 0B9A 0BCC
NY	ஞ் 0B9E 0BCD	ஞ 0B9E	ஞா 0B9E 0BBE	ஞி 0B9E 0BBF	ஞீ 0B9E 0BC0	ஞு 0B9E 0BC1	ஞூ 0B9E 0BC2	ஞெ 0B9E 0BC6	ஞே 0B9E 0BC7	ஞை 0B9E 0BC8	ஞொ 0B9E 0BCA	ஞோ 0B9E 0BCB	ஞௌ 0B9E 0BCC
TT	ட் 0B9F 0BCD	ட 0B9F	டா 0B9F 0BBE	டி 0B9F 0BBF	டீ 0B9F 0BC0	டு 0B9F 0BC1	டூ 0B9F 0BC2	டெ 0B9F 0BC6	டே 0B9F 0BC7	டை 0B9F 0BC8	டொ 0B9F 0BCA	டோ 0B9F 0BCB	டௌ 0B9F 0BCC
NN	ண் 0BA3 0BCD	ண 0BA3	ணா 0BA3 0BBE	ணி 0BA3 0BBF	ணீ 0BA3 0BC0	ணு 0BA3 0BC1	ணூ 0BA3 0BC2	ணெ 0BA3 0BC6	ணே 0BA3 0BC7	ணை 0BA3 0BC8	ணொ 0BA3 0BCA	ணோ 0BA3 0BCB	ணௌ 0BA3 0BCC
T	த் 0BA4 0BCD	த 0BA4	தா 0BA4 0BBE	தி 0BA4 0BBF	தீ 0BA4 0BC0	து 0BA4 0BC1	தூ 0BA4 0BC2	தெ 0BA4 0BC6	தே 0BA4 0BC7	தை 0BA4 0BC8	தொ 0BA4 0BCA	தோ 0BA4 0BCB	தௌ 0BA4 0BCC
N	ந் 0BA8 0BCD	ந 0BA8	நா 0BA8 0BBE	நி 0BA8 0BBF	நீ 0BA8 0BC0	நு 0BA8 0BC1	நூ 0BA8 0BC2	நெ 0BA8 0BC6	நே 0BA8 0BC7	நை 0BA8 0BC8	நொ 0BA8 0BCA	நோ 0BA8 0BCB	நௌ 0BA8 0BCC
P	ப் 0BAA 0BCD	ப 0BAA	பா 0BAA 0BBE	பி 0BAA 0BBF	பீ 0BAA 0BC0	பு 0BAA 0BC1	பூ 0BAA 0BC2	பெ 0BAA 0BC6	பே 0BAA 0BC7	பை 0BAA 0BC8	பொ 0BAA 0BCA	போ 0BAA 0BCB	பௌ 0BAA 0BCC
M	ம் 0BAE 0BCD	ம 0BAE	மா 0BAE 0BBE	மி 0BAE 0BBF	மீ 0BAE 0BC0	மு 0BAE 0BC1	மூ 0BAE 0BC2	மெ 0BAE 0BC6	மே 0BAE 0BC7	மை 0BAE 0BC8	மொ 0BAE 0BCA	மோ 0BAE 0BCB	மௌ 0BAE 0BCC
Y	ய் 0BAF 0BCD	ய 0BAF	யா 0BAF 0BBE	யி 0BAF 0BBF	யீ 0BAF 0BC0	யு 0BAF 0BC1	யூ 0BAF 0BC2	யெ 0BAF 0BC6	யே 0BAF 0BC7	யை 0BAF 0BC8	யொ 0BAF 0BCA	யோ 0BAF 0BCB	யௌ 0BAF 0BCC
R	ர் 0BB0 0BCD	ர 0BB0	ரா 0BB0 0BBE	ரி 0BB0 0BBF	ரீ 0BB0 0BC0	ரு 0BB0 0BC1	ரூ 0BB0 0BC2	ரெ 0BB0 0BC6	ரே 0BB0 0BC7	ரை 0BB0 0BC8	ரொ 0BB0 0BCA	ரோ 0BB0 0BCB	ரௌ 0BB0 0BCC
L	ல் 0BB2 0BCD	ல 0BB2	லா 0BB2 0BBE	லி 0BB2 0BBF	லீ 0BB2 0BC0	லு 0BB2 0BC1	லூ 0BB2 0BC2	லெ 0BB2 0BC6	லே 0BB2 0BC7	லை 0BB2 0BC8	லொ 0BB2 0BCA	லோ 0BB2 0BCB	லௌ 0BB2 0BCC

Table 12-29. Tamil Vowels, Consonants, and Syllables (Continued)

		A	AA	I	II	U	UU	E	EE	AI	O	OO	AU
V	வ் 0BB5 0BCD	வ 0BB5	வா 0BB5 0BBE	வி 0BB5 0BBF	வீ 0BB5 0BC0	வு 0BB5 0BC1	வூ 0BB5 0BC2	வெ 0BB5 0BC6	வே 0BB5 0BC7	வை 0BB5 0BC8	வொ 0BB5 0BCA	வோ 0BB5 0BCB	வௌ 0BB5 0BCC
LLL	ழ் 0BB4 0BCD	ழ 0BB4	ழா 0BB4 0BBE	ழி 0BB4 0BBF	ழீ 0BB4 0BC0	ழு 0BB4 0BC1	ழூ 0BB4 0BC2	ழெ 0BB4 0BC6	ழே 0BB4 0BC7	ழை 0BB4 0BC8	ழொ 0BB4 0BCA	ழோ 0BB4 0BCB	ழௌ 0BB4 0BCC
LL	ள் 0BB3 0BCD	ள 0BB3	ளா 0BB3 0BBE	ளி 0BB3 0BBF	ளீ 0BB3 0BC0	ளு 0BB3 0BC1	ளூ 0BB3 0BC2	ளெ 0BB3 0BC6	ளே 0BB3 0BC7	ளை 0BB3 0BC8	ளொ 0BB3 0BCA	ளோ 0BB3 0BCB	ளௌ 0BB3 0BCC
RR	ற் 0BB1 0BCD	ற 0BB1	றா 0BB1 0BBE	றி 0BB1 0BBF	றீ 0BB1 0BC0	று 0BB1 0BC1	றூ 0BB1 0BC2	றெ 0BB1 0BC6	றே 0BB1 0BC7	றை 0BB1 0BC8	றொ 0BB1 0BCA	றோ 0BB1 0BCB	றௌ 0BB1 0BCC
NNN	ன் 0BA9 0BCD	ன 0BA9	னா 0BA9 0BBE	னி 0BA9 0BBF	னீ 0BA9 0BC0	னு 0BA9 0BC1	னூ 0BA9 0BC2	னெ 0BA9 0BC6	னே 0BA9 0BC7	னை 0BA9 0BC8	னொ 0BA9 0BCA	னோ 0BA9 0BCB	னௌ 0BA9 0BCC
J	ஜ் 0B9C 0BCD	ஜ 0B9C	ஜா 0B9C 0BBE	ஜி 0B9C 0BBF	ஜீ 0B9C 0BC0	ஜு 0B9C 0BC1	ஜூ 0B9C 0BC2	ஜெ 0B9C 0BC6	ஜே 0B9C 0BC7	ஜை 0B9C 0BC8	ஜொ 0B9C 0BCA	ஜோ 0B9C 0BCB	ஜௌ 0B9C 0BCC
SH	ஶ் 0BB6 0BCD	ஶ 0BB6	ஶா 0BB6 0BBE	ஶி 0BB6 0BBF	ஶீ 0BB6 0BC0	ஶு 0BB6 0BC1	ஶூ 0BB6 0BC2	ஶெ 0BB6 0BC6	ஶே 0BB6 0BC7	ஶை 0BB6 0BC8	ஶொ 0BB6 0BCA	ஶோ 0BB6 0BCB	ஶௌ 0BB6 0BCC
SS	ஷ் 0BB7 0BCD	ஷ 0BB7	ஷா 0BB7 0BBE	ஷி 0BB7 0BBF	ஷீ 0BB7 0BC0	ஷு 0BB7 0BC1	ஷூ 0BB7 0BC2	ஷெ 0BB7 0BC6	ஷே 0BB7 0BC7	ஷை 0BB7 0BC8	ஷொ 0BB7 0BCA	ஷோ 0BB7 0BCB	ஷௌ 0BB7 0BCC
S	ஸ் 0BB8 0BCD	ஸ 0BB8	ஸா 0BB8 0BBE	ஸி 0BB8 0BBF	ஸீ 0BB8 0BC0	ஸு 0BB8 0BC1	ஸூ 0BB8 0BC2	ஸெ 0BB8 0BC6	ஸே 0BB8 0BC7	ஸை 0BB8 0BC8	ஸொ 0BB8 0BCA	ஸோ 0BB8 0BCB	ஸௌ 0BB8 0BCC
H	ஹ் 0BB9 0BCD	ஹ 0BB9	ஹா 0BB9 0BBE	ஹி 0BB9 0BBF	ஹீ 0BB9 0BC0	ஹு 0BB9 0BC1	ஹூ 0BB9 0BC2	ஹெ 0BB9 0BC6	ஹே 0BB9 0BC7	ஹை 0BB9 0BC8	ஹொ 0BB9 0BCA	ஹோ 0BB9 0BCB	ஹௌ 0BB9 0BCC
KSS	க்ஷ் 0B95 0BCD 0BB7 0BCD	க்ஷ 0B95 0BCD 0BB7	க்ஷா 0B95 0BCD 0BB7 0BBE	க்ஷி 0B95 0BCD 0BB7 0BBF	க்ஷீ 0B95 0BCD 0BB7 0BC0	க்ஷு 0B95 0BCD 0BB7 0BC1	க்ஷூ 0B95 0BCD 0BB7 0BC2	க்ஷெ 0B95 0BCD 0BB7 0BC6	க்ஷே 0B95 0BCD 0BB7 0BC7	க்ஷை 0B95 0BCD 0BB7 0BC8	க்ஷொ 0B95 0BCD 0BB7 0BCA	க்ஷோ 0B95 0BCD 0BB7 0BCB	க்ஷௌ 0B95 0BCD 0BB7 0BCC

SHRII	ஶ்ரீ 0BB6 0BCD 0BB0 0BC0