Malayalam
Script

4.2 Malayalam Code Chart

	0D0	0D1	0D2	0D3	0D4	0D5	0D6	0D7
0		ഐ 0D10	ഠ 0D20	ര 0D30	ീ 0D40		ൠ 0D60	
1			ഡ 0D21	റ 0D31	ു 0D41		ൡ 0D61	
2	ം 0D02	ഒ 0D12	ഢ 0D22	ല 0D32	ൂ 0D42			
3	ഃ 0D03	ഓ 0D13	ണ 0D23	ള 0D33	ൃ 0D43			
4		ഔ 0D14	ത 0D24	ഴ 0D34				
5	അ 0D05	ക 0D15	ഥ 0D25	വ 0D35				
6	ആ 0D06	ഖ 0D16	ദ 0D26	ശ 0D36	െ 0D46		൦ 0D66	
7	ഇ 0D07	ഗ 0D17	ധ 0D27	ഷ 0D37	േ 0D47	ൗ 0D57	൧ 0D67	
8	ഈ 0D08	ഘ 0D18	ന 0D28	സ 0D38	ൈ 0D48		൨ 0D68	
9	ഉ 0D09	ങ 0D19		ഹ 0D39			൩ 0D69	
A	ഊ 0D0A	ച 0D1A	പ 0D2A		ൊ 0D4A		ർ 0D6A	ൺ 0D7A
B	ഋ 0D0B	ഛ 0D1B	ഫ 0D2B		ോ 0D4B		൫ 0D6B	ൻ 0D7B
C	ഌ 0D0C	ജ 0D1C	ബ 0D2C		ൌ 0D4C		൬ 0D6C	ർ 0D7C
D		ഝ 0D1D	ഭ 0D2D		് 0D4D		൭ 0D6D	ൽ 0D7D
E	എ 0D0E	ഞ 0D1E	മ 0D2E	ാ 0D3E			൮ 0D6E	ൾ 0D7E
F	ഏ 0D0F	ട 0D1F	യ 0D2F	ി 0D3F			൯ 0D6F	

4.2.1 Malayalam Code Chart Details

Code Point	Character	Description
Various signs		
0D02	○ം	MALAYALAM SIGN ANUSWARAM
0D03	○ഃ	MALAYALAM SIGN VISARGAM
Independent vowels		
0D05	അ	MALAYALAM LETTER A
0D06	ആ	MALAYALAM LETTER AA
0D07	ഇ	MALAYALAM LETTER I
0D08	ഈ	MALAYALAM LETTER II
0D09	ഉ	MALAYALAM LETTER U
0D0A	ഊ	MALAYALAM LETTER UU
0D0B	ഋ	MALAYALAM LETTER VOCALIC R
0D0C	ഌ	MALAYALAM LETTER VOCALIC L • Not in present use
0D0D		<reserved>
0D0E	എ	MALAYALAM LETTER E
0D0F	ഏ	MALAYALAM LETTER EE
0D10	ഐ	MALAYALAM LETTER AI
0D11		<reserved>
0D12	ഒ	MALAYALAM LETTER O
0D13	ഓ	MALAYALAM LETTER OO
0D14	ഔ	MALAYALAM LETTER AU
Consonants		
0D15	ക	MALAYALAM LETTER KA
0D16	ഖ	MALAYALAM LETTER KHA
0D17	ഗ	MALAYALAM LETTER GA
0D18	ഘ	MALAYALAM LETTER GHA
0D19	ങ	MALAYALAM LETTER NGA
0D1A	ച	MALAYALAM LETTER CA
0D1B	ഛ	MALAYALAM LETTER CHA
0D1C	ജ	MALAYALAM LETTER JA
0D1D	ഝ	MALAYALAM LETTER JHA
0D1E	ഞ	MALAYALAM LETTER NYA
0D1F	ട	MALAYALAM LETTER TTA
0D20	ഠ	MALAYALAM LETTER TTHA
0D21	ഡ	MALAYALAM LETTER DDA
0D22	ഢ	MALAYALAM LETTER DDHA
0D23	ണ	MALAYALAM LETTER NNA
0D24	ത	MALAYALAM LETTER TA
0D25	ഥ	MALAYALAM LETTER THA
0D26	ദ	MALAYALAM LETTER DA
0D27	ധ	MALAYALAM LETTER DHA
0D28	ന	MALAYALAM LETTER NA
0D29		<reserved>
0D2A	പ	MALAYALAM LETTER PA
0D2B	ഫ	MALAYALAM LETTER PHA
0D2C	ബ	MALAYALAM LETTER BA
0D2D	ഭ	MALAYALAM LETTER BHA
0D2E	മ	MALAYALAM LETTER MA
0D2F	യ	MALAYALAM LETTER YA
0D30	ര	MALAYALAM LETTER RA
0D31	റ	MALAYALAM LETTER RRA
0D32	ല	MALAYALAM LETTER LA
0D33	ള	MALAYALAM LETTER LLA
0D34	ഴ	MALAYALAM LETTER ZHA
0D35	വ	MALAYALAM LETTER VA
0D36	ശ	MALAYALAM LETTER SHA
0D37	ഷ	MALAYALAM LETTER SSA
0D38	സ	MALAYALAM LETTER SA
0D39	ഹ	MALAYALAM LETTER HA
0D3A		<reserved>
Dependent vowel signs		
0D3E	○ാ	MALAYALAM VOWEL SIGN AA
0D3F	○ി	MALAYALAM VOWEL SIGN I
0D40	○ീ	MALAYALAM VOWEL SIGN II
0D41	○ു	MALAYALAM VOWEL SIGN U
0D42	○ൂ	MALAYALAM VOWEL SIGN UU
0D43	○ൃ	MALAYALAM VOWEL SIGN VOCALIC R
0D44		<reserved>
0D45		<reserved>

0D46	െ	MALAYALAM VOWEL SIGN E
		• stands to the left of the consonant
0D47	േ	MALAYALAM VOWEL SIGN EE
		• stands to the left of the consonant
0D48	ൈ	MALAYALAM VOWEL SIGN AI
		• stands to the left of the consonant
0D49		<reserved>
0D4A	ൊ	MALAYALAM VOWEL SIGN O
		• pieces on both sides of the consonant
		= 0D46 െ 0D3E ാ
0D4B	ോ	MALAYALAM VOWEL SIGN OO
		• pieces on both sides of the consonant
		= 0D47 േ 0D3E ാ
0D4C	ൌ	MALAYALAM VOWEL SIGN AU

Various signs

0D4D	്	MALAYALAM SIGN CANDRAKKALA/HALANT
0D4E		<reserved>
0D4F		<reserved>
0D50		<reserved>
0D51		<reserved>
0D52		<reserved>
0D53		<reserved>
0D54		<reserved>
0D55		<reserved>
0D56		<reserved>
0D57	ൗ	MALAYALAM VOWEL SIGN AU LENGTH MARK
		• Not in present use
		• Already given at 0D4C

Generic additions

0D60	ൠ	MALAYALAM LETTER VOCALIC RR
		• Not in present use
0D61	ൡ	MALAYALAM LETTER VOCALIC LL
		• Not in present use

Digits

0D66	൦	MALAYALAM DIGIT ZERO
		• Not in present use
0D67	൧	MALAYALAM DIGIT ONE
		• Not in present use
0D68	൨	MALAYALAM DIGIT TWO
		• Not in present use
0D69	൩	MALAYALAM DIGIT THREE
		• Not in present use
0D6A	൪	MALAYALAM DIGIT FOUR
		• Not in present use
0D6B	൫	MALAYALAM DIGIT FIVE
		• Not in present use
0D6C	൬	MALAYALAM DIGIT SIX
		• Not in present use
0D6D	൭	MALAYALAM DIGIT SEVEN
		• Not in present use
0D6E	൮	MALAYALAM DIGIT EIGHT
		• Not in present use
0D6F	൯	MALAYALAM DIGIT NINE
		• Not in present use
0D7A	ൺ	MALAYALAM LETTER NN
0D7B	ൻ	MALAYALAM LETTER N
0D7C	ർ	MALAYALAM LETTER RR
0D7D	ൽ	MALAYALAM LETTER L
0D7E	ൾ	MALAYALAM LETTER LL

[Note : Code points 0D00 - 0D4F of Malayalam Code set have one-to-one phonetic correspondence for vowels, consonants and vowel modifiers with 0900 - 094F of Devanagari Code Set]

4.2.2 Malayalam Script Details

A. Explanations for Revised Malayalam Code Chart

1. Encoding principles

The Malayalam writing system is mostly syllabic. The predominant orthographic unit is a vowel ending syllable with the canonical structure (C)V. The obligatory V represents a short or long vowel. The optional C represents one or more consonants. Except in a few instances the system follows the principles of phonology and mostly corresponds to the pronunciation. The system involves the following distinct character types:

(i)   Signs representing a single consonant followed by the inherent short vowel /a/. e.g. ക (0D15) represents the consonant /k/ followed by /a/.

(ii)   Seven signs representing pure consonants (i.e. without any inherent /a/). Five (ൽ   ൾ   ർ   ൺ   ൻ) of these are referred to as *chillu*, one *anusvaaram* (○ം) (0D02) and the remaining one *visargam* (○ഃ) (0D03).

(iii)   Signs representing certain consonants in consonant clusters:
eg: signs for /g/ and /m/ in ഗ്മ ((0D17) +(0D4D) + (0D2E)); those for / ñ/ and /c/ in ഞ്ച ((0D1E) +(0D4D)+(0D1A)) etc.

(iv)   Signs representing independent vowels. e.g. അ(0D05) /a/, ഇ(0D07) /i/, ഉ(0D09) /u/ etc.

(v)   Signs representing dependent vowels. e.g. ○ി (0D3F) /i/, ○ു(0D41) /u/ etc.

Principles of the Malayalam Script

Appearance of the characters in the Malayalam script is affected by the following factors: (1) Ordering of the concerned character with respect to other characters (2) The font employed and (3) The application or system environment. These variables can cause the appearance of the Malayalam characters to differ from their nominal glyphs (used in Unicode charts).

Consonant Letters

Each consonant letter represents a single consonant sound followed by the inherent vowel /a/ thereby making an orthographic syllable.

Consonant letters may also be rendered as **half forms** which go into the constitution of consonant conjuncts. Only those half forms which represent the final member of a consonant conjunct has an inherent /a/.

4. Independent Vowel Letters

Independent vowels in Malayalam are signs that stand on their own. These are used to write syllables, which start with a vowel.

5. Dependent vowel signs

These occur only in combination with a base consisting of a sign for a single consonant or a consonant cluster. When the vowel quality of the syllable is different from that of the inherent /a/, it is represented by the respective dependent vowel sign. Explicit appearance of a dependent vowel in a syllable overrides the inherent vowel of the consonant/ consonant cluster. eg. കാ കി കീ കു കൂ കൃ കെ കേ കൈ കൊ കോ കൗ

6. Adding dependent vowel signs to consonant sign bases

In the traditional writing system dependent non-spacing signs for the short and long varieties of /u/ were attached to the respective consonant sign base. But the present day Malayalam writing system uses spacing for all the dependent vowel signs. These belong to the following three types:

(i)   There is a set of eight signs which follow the base representing a consonant or a consonant cluster. Among them ○ാ (0D3E), ○ി (0D3F), ○ീ (0D40), ○ു (0D41) and ○ൂ (0D42) respectively correspond and are phonetically equivalent to the following independent vowel signs: ആ (0D06), ഇ (0D07), ഈ (0D08), ഉ(0D09) and ഊ(0D0A) whereas ○ൃ(0D43) and ○ൗ(0D57) respectively correspond and have the same phonetic value as the independent sign for the vocalic R ഋ (0D0B) and that for the diphthong /au/ ഔ (0D14). The eighth dependent sign, c*handrakkala* ○് (0D4D) representing the central vowel or /u/ with spread lips does not have any corresponding independent vowel since none

is required by the code of Malayalam orthography as the concerned vowel never occurs utterance initially.

(ii) Three signs which precede the consonant base: െ (0D46), േ (0D47), and ൈ (0D48). These signs respectively correspond and are phonetically equivalent to the independent vowel signs: എ(0D0E), ഏ(0D0F) ഐ(0D10).

(iii) Two signs which have the first glyph component preceding the consonant base and the second following it: ൊ (0D4A), ോ (0D4B). These are equivalent to the independent vowels ഒ(0D12) and ഓ (0D13) respectively.

7. Vowel omission sign

A crescent mark ് (0D4D) called *chandrakkala*, placed on the right top of the base sign of the respective consonant or consonant cluster, indicates that the quality of the inherent vowel /a/ is to be omitted from the value of the orthographic syllable, thereby making the remaining consonant 'dead'. Note that in utterance final position as has already been stated (6) the same sign represents the central vowel, pronounced with spread lips. As no dead consonant can occur as final utterance in Malayalam, this dual value associated with the same sign leads to no ambiguity.

8. Consonant conjuncts

Malayalam has a large number of consonant conjunct forms, which serve as orthographic abbreviations of two or more adjacent letter forms. A consonant cluster is depicted with a conjunct glyph if available in the current font(s). In the absence of a conjunct glyph, the conjunct is depicted with the nominal Consonant forms with *chandrakkala* in between.

The following types of consonant conjunct formations are present.

(i) Signs for 'strong' (or the so called 'duplicate') consonants:

  (a) Glyphs involving duplication of the signs, repetition of the basic sign being effected at its bottom or to its right: ഗ്ഗ, ഡ്ഡ, ണ്ണ, പ്പ, ശ്ശ, സ്സ, റ/ററ

  (b) Subscripting a half form to the consonant base: ട, ഭ

  (c) Duplicating the basic sign to its right: ത്ത, മ്മ, ള്ള

  (d) Post-posing a half form to the consonant base: ജ്ജ, ഞ്ഞ, ന്ന, ക്ക

  (e) Pre-posing a half form to the consonant base: ങ്ങ

  (f) Subscripting a special sign to the consonant base: വ്വ, ബ്ബ, ച്ച, യ്യ, ല്ല

  (g) Subscripting the sign of an aspirated consonant to that of an un-aspirated one: ഛ

(ii) Signs for complex consonant conjuncts:

They are of the following types:

  (a) Those consisting of a consonant sign followed by a spacing half form or a special sign which represent the final 'live' consonant. ക്യ, ക്വ

  (b) Those consisting of a consonant sign representing a dead consonant and a subscripted dependent consonant sign which represents the final live consonant.

  (c) Those consisting of a consonant sign and a special sign; they represent the dead consonant and the final live consonant respectively: ക്ല, ഗ്ല, പ്ല, ബ്ല, മ്ല

   The special sign representing either ്ര or ്ര depending on the context is separated from the consonant letter and appears to be pre-posed to (ക്ര, ഗ്ര) it thereby resulting in the reversal of the sequence of elements in pronunciation.

Ligatures for complex consonant conjuncts involve the following types of combination:

  (a) The signs of the concerned consonants are ligated in one stroke: ക്ത, ഗ്മ

  (b) The consonant sign and the pre-posed partial form represents respectively the live and dead consonants: ന്മ, ണ്മ, ണ്ട, ജ്ഞ, ഡ, ന്ദ

(c) The consonant sign and the post-posed partial form represent respectively the dead and live consonants: ഝ, സ്ഥ, ക്ഷ

There are a few instances of misfit between the visual sign and the pronunciation:

ക്ക, മ്പ, ക്ഷ

Here the phonetic value of the ligature differs from that of the combination of the usual value of the component signs.

9. Rendering

Rules for Rendering

These rules describes the mapping between the Unicode characters and the Glyphs in a Malayalam font. It also describes the combining and ordering of those Glyphs.

It is important to note that in a font that is capable of rendering Malayalam, the set of glyphs is greater than the number of fonts in the Malayalam Unicode characters.

Notations

The following notation applies to the description that follows.

C_n	Nominal glyph form of a consonant C as it appears in the code charts.
C_l	A live consonant, depicted identically to C_n
C_d	Glyph depicting the dead consonant form of the consonant C.
L_n	Nominal glyph form of a conjunct ligature consisting of two or more component consonants
V_{vs}	Glyph depicting the dependent vowel sign form of a vowel V
CH_n	The nominal glyph form of the vowel omission sign chandrakkala.
YAKAR	Dependent sign for the consonant YA
RAKAR	Dependent sign for the consonant RA or RRA
LAKAR	Dependent sign for the Consonant LA
VAKAR	Dependent sign for the Consonant VA

Dead Consonant Rule

When a consonant C_n precedes a *chandrakkala* CH_n it is considered to be a dead consonant C_d. A consonant C_n that does not precede a *chandrakkala* is considered to be a live consonant C_l.

$$KA_n + CH_n = KA_d$$
ക + ് = ക്

Rule for YAKAR: YAKAR is formed when Malayalam letter YA (0D2F) is at the end of a consonant / consonant cluster. The special sign (്യ) is post posed to the consonant in such cases.

$KA_d + YA_l$	$KA_d + YAKAR$	displayed output
ക് + യ	ക + ്യ	ക്യ

This rule does not apply to a strong consonant of യ. Note that when യ is added to യ, യ്യ is formed (യ + യ = യ്യ).

Rule for RAKAR: RAKAR is formed when Malayalam letter RA (0D30) or RRA (0D31) is at the end of a consonant/ consonant cluster, a special sign '്ര' is preposed to the consonant.

$KA_d + RRA_l$	$KAl + RAKAR$	displayed output
ക് + റ	ക + ്ര	ക്ര
$GA_d + RA_l$	$GA_l + RAKAR$	displayed output
ഗ് + ര	ഗ + ്ര	ഗ്ര

This rule does not apply to a strong consonant of ര. Note that when ര is added to ര, ര്ര (tta) is formed.

ര + ് + ര = ര്ര

Rule for LAKAR: LAKAR is formed when the Malayalam letter LA (0D32) is at the end of a consonant/ consonant cluster. A special sign ്ല is put at the bottom of the consonant/ consonant cluster.

$KA_d + LA_l$	$KA_d + LAKAR$	displayed output
ക് + ല	ക + ്ല	ക്ല

Rule for VAKAR: VAKAR is formed when the Malayalam letter VA (0D35) is at the end of a consonant cluster. The special sign '്വ' is post posed to the consonant/consonant cluster.

$KA_d + VA_l$	$KA_d + VAKAR$	displayed output
ക് + വ	ക + ്വ	ക്വ

(Rule does not apply to a strong/duplicate consonant of വ. Note that when വ is added to വ, വ്വ is formed)

വ + ് + വ = വ്വ

Ligature Rules

Certain rules governing formation of ligatures in Malayalam is given below. The precise application of these rules depends on the availability of glyphs in the current font(s) being used to display the text.

If a dead consonant immediately precedes another dead consonant or a live consonant, then the first dead consonant may join the subsequent element to form a two part conjunct ligature form.

The different types of consonant conjunct formations are given in section 8.

Rule for strong or 'duplicate' consonant.

Conjunct ligatures formed by repetition of basic sign (slightly smaller in size) being affected at its bottom.

ഗ് + ഗ = ഗ്ഗ
ഡ് + ഡ = ഡ്ഡ
ണ് + ണ = ണ്ണ
പ് + പ = പ്പ
ശ് + ശ = ശ്ശ
സ് + സ = സ്സ
റ് + റ = റ്റ

When the same combination റ + ് + റ is added to dead സ then the resulting complex conjunct glyph will be as shown below.

സ + ് + റ + ് + റ = സ്റ്റ

(a) Conjuncts formed by subscripting a half/partial form to the consonant base.

ട + ് + ട = ട്ട
ഭ + ് + ഭ = ഭ്ഭ

(b) Duplicating the basic sign to its right.

ത + ് + ത = ത്ത
മ + ് + മ = മ്മ
ള + ് + ള = ള്ള

(c) Post posing a half form/partial to the consonant base.

ജ + ് + ജ = ജ്ജ
ഞ + ് + ഞ = ഞ്ഞ
ന + ് + ന = ന്ന
ക + ് + ക = ക്ക

(d) Pre posing a half form to the consonant base.

ങ + ് + ങ = ങ്ങ

(e) Subscripting a special sign to the consonant base.

വ + ് + വ = വ്വ
ബ + ് + ബ = ബ്ബ
ച + ് + ച = ച്ച
യ + ് + യ = യ്യ
ല + ് + ല = ല്ല

(f) Subscripting the sign of an aspirated consonant to that of an unaspirated one.

ച + ് + ഛ = ച്ഛ

Complex Consonant Conjuncts

Ligature formations for complex consonant are given below.

(g) The signs of concerned consonants are legated in one stroke.

ക + ് + ത = ക്ത
ഗ + ് + മ = ഗ്മ

(h) The consonant sign and the pre-posed partial form represents respectively the live and dead consonants.

ഹ + ് + മ = ഹ്മ
ഹ + ് + ന = ഹ്ന
ന + ് + മ = ന്മ
ണ + ് + മ = ണ്മ
ണ + ് + ട = ണ്ട
ജ + ് + ഞ = ജ്ഞ
ഞ + ് + ച = ഞ്ച
ന + ് + ധ = ന്ധ
ന + ് + ഭ = ന്ഭ

(i) The consonant sign and the post posed partial form represent respectively the dead and the live consonants.

ത + ് + ഥ – ത്ഥ
സ + ് + ഥ – സ്ഥ
ക + ് + ഷ – ക്ഷ

The commonly used conjuncts and their formation sequence is given below.

Conjunct glyph	Component characters	Unicode representation
ക്ക	ക + ് + ക	0D15 + 0D4D + 0D15
ച്ച	ച + ് + ച	0D1A + 0D4D + 0D1A
ട്ട	ട + ് + ട	0D1F + 0D4D + 0D1F
ത്ത	ത + ് + ത	0D24 + 0D4D + 0D24
പ്പ	പ + ് + പ	0D2A + 0D4D + 0D2A
ഗ്ഗ	ഗ + ് + ഗ	0D17 + 0D4D + 0D17
ജ്ജ	ജ + ് + ജ	0D1C + 0D4D + 0D1C
ഡ്ഡ	ഡ + ് + ഡ	0D21 + 0D4D + 0D21
ദ്ദ	ദ + ് + ദ	0D26 + 0D4D + 0D26
ബ്ബ	ബ + ് + ബ	0D2C + 0D4D + 0D2C
ങ്ങ	ങ + ് + ങ	0D19 + 0D4D + 0D19
ഞ്ഞ	ഞ + ് + ഞ	0D1E + 0D4D + 0D1E
ണ്ണ	ണ + ് + ണ	0D23 + 0D4D + 0D23
ന്ന	ന + ് + ന	0D28 + 0D4D + 0D28
മ്മ	മ + ് + മ	0D2E + 0D4D + 0D2E
യ്യ	യ + ് + യ	0D2F + 0D4D + 0D2F
ല്ല	ല + ് + ല	0D32 + 0D4D + 0D32
വ്വ	വ + ് + വ	0D35 + 0D4D + 0D35
ശ്ശ	ശ + ് + ശ	0D36 + 0D4D + 0D36
സ്സ	സ + ് + സ	0D38 + 0D4D + 0D38
ള്ള	ള + ് + ള	0D33 + 0D4D + 0D33
റ്റ	റ + ് + റ	0D31 + 0D4D + 0D31
ക്ത	ക + ് + ത	0D15 + 0D4D + 0D24
ക്ഷ	ക + ് + ഷ	0D15 + 0D4D + 0D37
ഗ്ന	ഗ + ് + ന	0D17 + 0D4D + 0D28
ഗ്മ	ഗ + ് + മ	0D17 + 0D4D + 0D2E
ങ്ക	ങ + ് + ക	0D19 + 0D4D + 0D15
ച്ഛ	ച + ് + ഛ	0D1A + 0D4D + 0D1B
ജ്ഞ	ജ + ് + ഞ	0D1C + 0D4D + 0D1E
ഞ്ച	ഞ + ് + ച	0D1E + 0D4D + 0D1A
ണ്ട	ണ + ് + ട	0D23 + 0D4D + 0D1F
ണ്മ	ണ + ് + മ	0D23 + 0D4D + 0D2E
ത്ഥ	ത + ് + ഥ	0D24 + 0D4D + 0D25
ത്മ	ത + ് + മ	0D24 + 0D4D + 0D2E
ത്ഭ	ത + ് + ഭ	0D24 + 0D4D + 0D2D
ത്സ	ത + ് + സ	0D24 + 0D4D + 0D38
ദ്ധ	ദ + ് + ധ	0D26 + 0D4D + 0D27
ന്ത	ന + ് + ത	0D28 + 0D4D + 0D24
ന്ഥ	ന + ് + ഥ	0D28 + 0D4D + 0D25
ന്ദ	ന + ് + ദ	0D28 + 0D4D + 0D26
ന്ധ	ന + ് + ധ	0D28 + 0D4D + 0D27
മ്പ	മ + ് + പ	0D2E + 0D4D + 0D2A
ന്മ	ന + ് + മ	0D28 + 0D4D + 0D2E
ന്റ	ന + ് + റ	0D28 + 0D4D + 0D31
ബ്ദ	ബ + ് + ദ	0D2C + 0D4D + 0D26
ബ്ധ	ബ + ് + ധ	0D2C + 0D4D + 0D27
ശ്ച	ശ + ് + ച	0D36 + 0D4D + 0D1A
ഷ്ട	ഷ + ് + ട	0D37 + 0D4D + 0D1F
സ്ഥ	സ + ് + ഥ	0D38 + 0D4D + 0D25
ഹ്ന	ഹ + ് + ന	0D39 + 0D4D + 0D28
ഹ്മ	ഹ + ് + മ	0D39 + 0D4D + 0D2E

Rule for alternate representation of conjuncts

Conjuncts can also be shown with the *chandrakala* in between the constituent consonants, without formatting the conjunct. This can be achieved by typing *chandrakala* twice.

Glyph	Alternate representation	Formation sequence
ക്ക	ക്‍ക	ക + ് + ് + ക
ക്ത	ക്‍ത	ക + ് + ് + ത
ത്ത	ത്‍ത	ത + ് + ് + ത
പ്പ	പ്‍പ	പ + ് + ് + പ
സ്ഥ	സ്‍ഥ	സ + ് + ് + ഥ

Rule :

YAKAR, RAKAR, VAKAR, and LAKAR combinations wouldn't come after chillu characters.

ൻ + ര = ൻ ര not ന്ര
ൽ + വ = ൽവ not ല്വ
ൾ + യ = ൾയ not ള്യ
ൺ + ല = ൺല not ണ്ല

However the Malayalam letter റ 'RRA' (0D31) when combined with chillu 'ൻ' (0D5C) will give rise to the soft conjunct ൻറ (nda).

If 'ൻ' and 'റ' are to be separately displayed as in name ഹെൻറി (Henry) then 'ൻ' and 'റ' has to be separated by '്'.

Memory Representation and Rendering Order

The order for storage of plain text in Malayalam follows the phonetic order. A CV syllable with a dependent vowel is always encoded as a consonant letter C followed by a vowel sign V in the memory representation if the dependent vowel is one to depicted at the right side of the consonant . This order is employed by the ISCII standard and corresponds with both the phonetic and keying order of the textual data.

Rendering Order

Character Order

$$KA_n + AA_{vs} = KAA_n$$
ക + ാ = കാ

Since some of the dependent Malayalam vowel signs must be depicted to the left side of the consonant letter, and some others on both sides, the software that renders the Malayalam script must be able to reorder elements in mapping from the logical (character) store to the presentational (glyph) rendering.

Dependent vowels on the left side of the consonant sign

When the dependent vowel signs E_{vs} (െ), EE_{vs} (േ) and AI_{vs} (ൈ) are used to ever ride the inherent vowel of a syllable it is always written to the extreme left of the orthographic syllable. If the orthographic syllable contains a consonant cluster then this vowel sign is always depicted to the left of that cluster.

$$KA_n + E_{vs} = KE_n (\text{Displayed output})$$
ക + െ = കെ
$$KA_n + AI_{vs} = KAI_n$$
ക + ൈ = കൈ

Two part vowel

Two of the dependent vowel signs in Malayalam consist of two discontinuous elements as in other cases of discontinuous elements, two sequences of Unicode values can be used to express the component elements.

$$O_{vs} = E_{vs} + AA_{vs}$$
ൊ (0D4A) = െ (0D46) + ാ (0D3E)

$$OO_{vs} = EE_{vs} + AA_{vs}$$
ോ (0D4B) = േ (0D47) + ാ (0D3E)

Rule :

When the dependent vowel O (ൊ (0D4A) = െ (0D46) + ാ (0D3E)) and OO (ോ(0D4B) = േ (0D47) + ാ (0D3E)) are used to override the inherent vowel of the syllable, it pieces on both sides of the syllable. The first sign (െ) corresponding to E (0D46) and EE (0D47) is placed on the left side of the syllable and the last sign (ാ) (corresponding to 0D3E) is placed at the right side of the syllable.

$$KA_n + O_{vs} = KO_n \quad (\text{Displayed Output})$$
ക + ൊ = കൊ
$$KA_n + OO_{vs} = KOO_n \quad (\text{Displayed Output})$$
ക + ോ = കോ

(Courtesy : Shri R. Ravindra Kumar
ER & DCI, Vellayambalam,
Thiruvananthapuram 695 033
Tel. 0471-723333 Fax: 0471-723456
E-mail : ravi@erdcitvm.org)

B. Malayalam Design Guide

Introduction

Kerala

Kerala is an enchantingly beautiful, emerald green sliver of land, flanked by the Western Ghats on one side, the Arabian Sea on the other, and strewn with rivers, lagoons, backwaters and rich vegetation in between.

Kerala is one of the smallest states in the Republic of India, and was formed in 1956. It has an area of 15,005 sq. miles. [38,863 sq. km.] about one percent of the total land area of India.

The state stretches for about 360 miles along the Malabar coast on the western side of the Indian peninsula; its width varies from 20 to 75 miles. It is bordered by the states of Karnataka on the north, Tamil Nadu to the east and the Arabian sea to the west. The state has 14 districts and the capital is Trivandrum [now Thiruvananthapuram].

Kerala is one of the ten 'Paradises Found' by the National Geographic Traveler, for its diverse geography and overwhelming greenery.

Area	38,863 sq km
Capital	Thiruvananthapuram
Language	Malayalam
Districts	14
Population	29,011,237
Males	14,218,167
Female	14,793,070
Increase	(1981-91): 3,557,557
Growth Rate (per cent)	1981-91: 13.98
Density	747
(persons per sq.km.)	
Urban Population	26.31%
SexRatio (females per	1040
1000 males)	
Literacy	90.59%
Males	94.45
Females	86.93
Percapita income(92-93)	Rs.5,065
1991 Census final	29,698,518
population total	

Languages

95.2% of the people of Kerala speak Malayalam. Malayalam and English are the official languages of the state. The other languages used and the percentage of people using these languages is given below.

Language	Percentage
Tamil	2.37 %
Tulu	0.41 %
Konkani	0.40 %
Kannada	0.27%
Telegu	0.24 %

History of Malayalam Language

Malayalam is one of the four major languages of the Dravidian Language Family. Malayalam has a strong literary history, which is centuries old. The language grew, developed and established its individuality in the 9th Century A.D. Prior to this individuation, one and the same language, expect for some dialects, was spoken all over the region, comprising the present day Kerala and Tamil Nadu. The famous Sangham Period of Literature can be considered to be a common literary ancestor of Malayalam as well as Tamil.

The evolution of Malayalam was a continuous process, going on for centuries. During the initial stages of development, Malayalam was greatly influenced by Tamil, which was then used in literary works. During the same time the land had to go through a turbulent period, when it had to face internal conflicts and invasion from outside. This resulted in the land being politically isolated. During this time, the Aryan Brahmin settlers started establishing themselves in Kerala. The native Dravidians began imbibing the culture and language of the settlers. As a result, Sanskrit and Prakrit started having an overwhelming influence in the hitherto stage of development. Very soon, Sanskrit began to gain prominence and started attracting scholars. Sanskrit was unintelligible, and hence a great hindrance to learning. In order to solve the problem a mixed language of Sanskrit and Malayalam, known as *Manipravalam* was invented. The treatise *Leelatilakam* written in the 14th century describes the *Manipravalam* form in detail.

After this stage, around the 15th century, the *gatha* type of poetry came into being. The most important representative work of the period is *Krishnagatha* written by *Cherusseri*. This is the first proper literary work in Malayalam. Sanskrit words used in the work are fewer and Sanskrit case endings have been avoided.

In the 17th century there lived a famous poet called **Thunchath Ramanujan Ezhuthachan.** His work *Adhyatma Ramayanam* marked the beginning of the modern stage of Malayalam, and the final de-linking of Malayalam and Tamil.

The spoken language of the ordinary Keralite entered into the realm of prose, only later. This relatively late entry was because of the dominance of Tamil and Sanskrit in intellectual discourses and political and economic transactions. There were prose inscriptions that were meant for the common man. But they too were not free from the dominating influence of Sanskrit. Art forms like Koodiyattam and Chakyar Koothu helped in bringing into prose, the language of the ordinary man.

With the advent of the European Missionaries, the spoken language began to gain importance. The language in the literary works written by them was largely a representative of the spoken language of the time.

Arabic also has influenced Malayalam considerably. This variety of Malayalam was an admixture of Tamil, Malayalam and Arabic.

The present day Malayalam is fully developed and has a very rich literature. Throughout its development it has undergone many changes, thereby absorbing a lot from Tamil, Sanskrit and English.

Modern Malayalam, is highly influenced by English. English, being the language of the elite has connotations of education and refinement. It has become a part of the modern spoken Malayalam, that it is used widely, both knowingly and unknowingly.

Technical Characteristics

The Malayalam writing system is mostly syllabic. The predominant orthographic unit is a vowel ending syllable with the canonical structure (C)V. The obligatory V represents a short or long vowel. The optional C represents one or more consonants. Except in a few instances the system follows the principles of phonology and mostly corresponds to the pronunciation. The system involves the following distinct character types:

(i)   Signs representing a single consonant followed by the inherent short vowel /a/. e.g. ക (0D15) represents the consonant /k/ followed by /a/.

(ii)   Seven signs representing pure consonants (i.e. without any inherent /a/). Five (ൽ ൾ ർ ൺ ൻ) of these are referred to as *chillu*, one *anusvaaram* (○ം) (0D02) and the remaining one *visargam* (○ഃ) (0D03).

(iii)   Signs representing certain consonants in consonant clusters: eg: signs for /g/ and /m/ in ഗ്മ ((0D17) +(0D4D) + (0D2E)); those for / ñ/ and /c/ in ഞ്ച ((0D1E) +(0D4D)+(0D1A)) etc.

(iv)   Signs representing independent vowels. e.g. അ (0D05) /a/, ഇ (0D07) /i/, ഉ (0D09) /u/ etc.

(v)   Signs representing dependent vowels. e.g. ○ി (0D3F) /i/, ○ു (0D41) /u/ etc.

Principles of the Malayalam Script

Appearance of the characters in the Malayalam script is affected by the following factors: (1) Ordering of the concerned character with respect to other characters (2) The font employed and (3) The application or system environment. These variables can cause the appearance of the Malayalam characters to differ from their nominal glyphs (used in Unicode charts).

Consonant Letters

Each consonant letter represents a single consonant sound followed by the inherent vowel /a/ thereby making an orthographic syllable.

Consonant letters may also be rendered as half forms which go into the constitution of consonant conjuncts. Only those half forms which represent the final member of a consonant conjunct has an inherent /a/.

Independent Vowel Letters

Independent vowels in Malayalam are signs that stand on their own. These are used to write syllables, which start with a vowel.

Dependent vowel signs

These occur only in combination with a base consisting of a sign for a single consonant or a consonant cluster. When the vowel quality of the syllable is different from that of the inherent /a/, it is represented by the respective dependent vowel sign. Explicit appearance of a dependent vowel in a syllable overrides the inherent vowel of the consonant/

consonant cluster. eg. കാ കി കീ കു കൂ കൃ കെ കേ കൈ കൊ കോ കൗ

Adding dependent vowel signs to consonant sign bases

In the traditional writing system dependent non-spacing signs for the short and long varieties of /u/ were attached to the respective consonant sign base. But the present day Malayalam writing system uses spacing for all the dependent vowel signs. These belong to the following three types:

(i) There is a set of eight signs which follow the base representing a consonant or a consonant cluster. Among them ാ (0D3E) , ി (0D3F), ീ (0D40), ു (0D41) and ൂ (0D42) respectively correspond and are phonetically equivalent to the following independent vowel signs: ആ (0D06), ഇ (0D07), ഈ (0D08), ഉ (0D09) and ഊ (0D0A) whereas ൃ (0D43) and ൗ (0D57) respectively correspond and have the same phonetic value as the independent sign for the vocalic R ഋ (0D0B) and that for the diphthong /au/ ഔ (0D14). The eighth dependent sign, c*handrakkala* ് (0D4D) representing the central vowel or /u/ with spread lips does not have any corresponding independent vowel since none is required by the code of Malayalam orthography as the concerned vowel never occurs utterance initially.

(ii) Three signs which precede the consonant base: െ (0D46), േ (0D47), and ൈ (0D48). These signs respectively correspond and are phonetically equivalent to the independent vowel signs: എ(0D0E), ഏ(0D0F) ഐ(0D10).

(iii) Two signs which have the first glyph component preceding the consonant base and the second following it: ൊ (0D4A), ോ(0D4B). These are equivalent to the independent vowels ഒ (0D12) and ഓ (0D13) respectively.

Vowel omission sign

A crescent mark ് (0D4D) called *chandrakkala*, placed on the right top of the base sign of the respective consonant or consonant cluster, indicates that the quality of the inherent vowel /a/ is to be omitted from the value of the orthographic syllable, thereby making the remaining consonant 'dead'.

Note that in utterance final position the same sign represents the central vowel, pronounced with spread lips. As no dead consonant can occur as final utterance in Malayalam, this dual value associated with the same sign leads to no ambiguity.

Consonant conjuncts

Malayalam has a large number of consonant conjunct forms, which serve as orthographic abbreviations of two or more adjacent letter forms. A consonant cluster is depicted with a conjunct glyph if available in the current font(s). In the absence of a conjunct glyph, the conjunct is depicted with the nominal Consonant forms with *chandrakkala* in between.

The following types of consonant conjunct formations are present.

(i) Signs for 'strong' (or the so called 'duplicate') consonants:

(a) Glyphs involving duplication of the signs, repetition of the basic sign being effected at its bottom or to its right: ഗ്ഗ, ഡ്ഡ, ണ്ണ, പ്പ, ശ്ശ, സ്സ, റ്റ/ററ

(b) Subscripting a half form to the consonant base: ട്ട, ദ്ദ

(c) Duplicating the basic sign to its right: ത്ത, മ്മ, ള്ള

(d) Post-posing a half form to the consonant base: ജ്ജ, ഞ്ഞ, ന്ന, ക്ക

(e) Pre-posing a half form to the consonant base: ങ്ങ

(f) Subscripting a special sign to the consonant base: വ്വ, ബ്ബ, ച്ച, യ്യ, ല്ല

(g) Subscripting the sign of an aspirated consonant to that of an un-aspirated one: ഛ്ഛ

(ii) Signs for complex consonant conjuncts:

They are of the following types:

(a) Those consisting of a consonant sign followed by a spacing half form or a special sign, which represent the final 'live' consonant. കൃ, കവ

(b) Those consisting of a consonant sign representing a dead consonant and a subscripted dependent consonant sign, which represents the final live consonant.

(c) Those consisting of a consonant sign and a special sign; they represent the dead consonant and the final live consonant respectively: ക്, ഗ്, പ്, ബ്, ല്ല

The special sign representing either ം or ർ depending on the context is separated from the consonant letter and appears to be pre-posed to (ക്ര, ഗ്ര) it thereby resulting in the reversal of the sequence of elements in pronunciation.

Numerals

The Malayalam Script has its own Numerals but they are seldom used in present day Malayalam writing. The International numerals are used almost everywhere.

Punctuation Marks

All punctuation marks in Malayalam are borrowed from English.

Ligatures for complex consonant conjuncts involve the following types of combination:

(a) The signs of the concerned consonants are ligated in one stroke: ക്ത, ഗ്മ

(b) The consonant sign and the pre-posed partial form represents respectively the live and dead consonants: ന്മ, ണ്മ, ണ്ട, ജ്ഞ, ഡ്ഡ, ന്ദ

(c) The consonant sign and the post-posed partial form represent respectively the dead and live consonants: ത്ഥ, സ്ഥ, ക്ഷ

There are a few instances of misfit between the visual sign and the pronunciation:

ങ്ക, മ്പ, ക്ഷ

Here the phonetic value of the ligature differs from that of the combination of the usual value of the component signs.

Fonts

Character Cell Size

Character cell size of all characters in Malayalam are given in the table below:

It is represented in em units. The height is the same and width of individual

Characters vary from 20 to 1819 em units.

Glyphs to be supported in Malayalam

അ ആ ഇ ഉ ഋ എ ഏ ഒ ക ഖ ഗ ഘ ങ ച ഛ
ജ ഝ ഞ ട ഠ ഡ ഢ ണ ത ഥ ദ ധ ന പ ഫ
ബ ഭ മ യ ര റ ല ള ഴ വ ശ ഷ സ ഹ ാ ി ീ
ു ൂ െ ൗ ് ം ഃ ു ൃ (ക്ക ക്ല ക്ഷ ഗ്ഗ ഗ്ല ങ്ക ങ്ങ ച്ച
ഞ്ച ട്ട ൺ ണ്ണ ത്ത ത്ഥ ദ്ദ ദ്ധ ൻ ന്ത ഭ പ്പ പ്ല ബ്ല
ബ്ല മ്പ മ്മ മ്ല യ്യ ർ റ്റ ൾ ള്ള വ്വ ശ്ല ശ്ശ സ്ല സ്സ ഹ്ല
സ്ല ഴ്ല ക്ള ബ്ല ബ്ല ച്ഛ ഫ ഹ്ന ഡ്ഡ ത്സ ജ്ജ ണ്മ
സ്ഥ ന്ഥ ജ്ഞ ത്ഭ ഗ്മ ശ്ഡ ണ്ഡ ത്മ ക്ത ഗ്ന ൻറ
ഷ്ട റ്റ ണ്ട ൽ ല്ല ന്മ ന്ന ഞ്ച ഫ്ല

Keyboard

The keyboard layout presently used in Malayalam is the INSCRIPT layout.

Structure of the Inscript Keyboard

The Inscript keyboard overlay for the Malayalam script is shown below.

In the Inscript overlay the following English overlay characters are available in their usual places: 1 2 3 4 5 6 7 8 9 0 ( ) - , .

Inscript keyboard overlay has been optimized both for touch-typing as well as sight-typing.

Touch typing is done primarily through characters in the first three rows. The second row is the Home row in which the fingers of both hands rest. This makes the characters in the Home row easiest to type, followed by those in the 3rd row and then in the 1st row.

The characters in the 4th row are primarily meant for sight typing.

Recently the Govt. of Kerala has approved the new keyboard layout shown below:

In the new keyboard 5 "chillu" characters have been added. These are ൺ, ൻ, ർ, ൾ & ൽ. ക്ഷ and ല have been removed from this keyboard as they are not needed.

Character Composition

The commonly used conjuncts and their composition is given below.

Conjunct glyph		Component characters
ക്ക	=	ക + ് + ക
ച്ച	=	ച + ് + ച
ട്ട	=	ട + ് + ട
ത്ത	=	ത + ് + ത
പ്പ	=	പ + ് + പ
ഗ്ഗ	=	ഗ + ് + ഗ
ജ്ജ	=	ജ + ് + ജ
ധ്ധ	=	ധ + ് + ധ
ദ്ദ	=	ദ + ് + ദ
ബ്ബ	=	ബ + ് + ബ
ങ്ങ	=	ങ + ് + ങ
ഞ്ഞ	=	ഞ + ് + ഞ
ണ്ണ	=	ണ + ് + ണ
ന്ന	=	ന + ് + ന
മ്മ	=	മ + ് + മ
യ്യ	=	യ + ് + യ
ല്ല	=	ല + ് + ല
വ്വ	=	വ + ് + വ
ശ്ശ	=	ശ + ് + ശ
സ്സ	=	സ + ് + സ
ള്ള	=	ള + ് + ള
ഺ	=	റ + ് + റ
ക്ത	=	ക + ് + ത
ക്ഷ	=	ക + ് + ഷ
ഗ്ന	=	ഗ + ് + ന
ഗ്മ	=	ഗ + ് + മ
ങ്ക	=	ങ + ് + ക
ച്ഛ	=	ച + ് + ഛ
ജ്ഞ	=	ജ + ് + ഞ
ഞ്ച	=	ഞ + ് + ച
ണ്ട	=	ണ + ് + ട

ണ്മ	=	ണ + ് + മ
ത്ഥ	=	ത + ് + ഥ
ത്മ	=	ത + ് + മ
ത്ഭ	=	ത + ് + ഭ
ത്സ	=	ത + ് + സ
ദ്ധ	=	ദ + ് + ധ
ന്ത	=	ന + ് + ത
ന്ഥ	=	ന + ് + ഥ
ന്ദ	=	ന + ് + ദ
ന്ധ	=	ന + ് + ധ
മ്പ	=	മ + ് + പ
ന്മ	=	ന + ് + മ
ൻറ	=	ന + ് + റ
ബ്ദ	=	ബ + ് + ദ
ബ്ധ	=	ബ + ് + ധ
ശ്ച	=	ശ + ് + ച
ഷ്ട	=	ഷ + ് + ട
സ്ഥ	=	സ + ് + ഥ
ഹ്ന	=	ഹ + ് + ന
ഹ്മ	=	ഹ + ് + മ

Rule for YAKAR: YAKAR is formed when Malayalam letter YA is at the end of a consonant / consonant cluster. The special sign (്യ)is post posed to the consonant in such cases.

ക + ് + യ   ക്യ

This rule does not apply to a strong consonant of യ. Note that when യ is added to യ, യ്യ is formed (യ + യ = യ്യ).

Rule for RAKAR: RAKAR is formed when Malayalam letter RA or RRA is at the end of a consonant/ consonant cluster, a special sign '്ര' is preposed to the consonant.

KAd + RRAl	KAl+RAKAR	displayed output
ക + ് + റ		ക്ര
GAd + RAl	GAl+RAKAR	displayed output
ഗ + ് + ര		ഗ്ര

This rule does not apply to a strong consonant of റ. Note that when റ is added to റ, ഺ (tta) is formed. റ + ് + റ = ഺ

Rule for LAKAR: LAKAR is formed when the Malayalam letter LA is at the end of a consonant/ consonant cluster. A special sign ' ്ല' is put at the bottom of the consonant/ consonant cluster.

KAd + LAl	KAd +LAKAR	displayed output
ക + ് + ല		ക്ല

Rule for VAKAR: VAKAR is formed when the Malayalam letter VA (0D35) is at the end of a consonant cluster. The special sign 'ൃ' is post posed to the consonant/consonant cluster.

KAd + VAl   KAd +VAKAR   displayed output

ക + ്‌ + വ   ക + ്‌‌   ക്വ

(Rule does not apply to a strong/duplicate consonant of വ. Note that when വ is added to വ, വ്വ is formed)

വ + ്‌ + വ = വ്വ

i)   There is a set of eight signs which follow the base representing a consonant or a consonant cluster. Among them ാ , ി, ീ, ു and ൂ respectively correspond and are phonetically equivalent to the following independent vowel signs: ആ, ഇ, ഈ, ഉ and ഊ whereas ൃ and ൗ respectively correspond and have the same phonetic value as the independent sign for the vocalic R ഋ and that for the diphthong /au/ ഔ. The eighth dependent sign, c*handrakkala* ്‌ representing the central vowel or /U/ with spread lips does not have any corresponding independent vowel since none is required by the code of Malayalam orthography as the concerned vowel never occurs utterance initially.

(ii)   Three signs which precede the consonant base: െ , േ , and ൈ . These signs respectively correspond and are phonetically equivalent to the independent vowel signs: എ, ഏ ഐ.

(iii)   Two signs which have the first glyph component preceding the consonant base and the second following it: ൊ , ോ. These are equivalent to the independent vowels ഒ and ഓ respectively.

The Specific Linguistic Features Of Malayalam – An Overview

1.   The utterance final articulation is voiced.

2.   A euphonic vowel, phonetically realised as [u] occurs utterance finally after consonants excepting |m|. Example kâlu 'leg' pâlu 'milk'.

3.   The tendency to pronounce voiced aspirated plosives as voiceless aspirated plosives.

4.   The presence of two lateral sounds |l| and |l|

5.   The presence of two flapped consonants.

Formats of Units

| Calendar | - | pañcāṅṅam | പഞ്ചാംഗം |
| Week | - | āYUc | ആഴ്ച |

Date	-	divasam	ദിവസം
Time	-	samayam	സമയം
Number	-	samkhya	സംഖ്യ
Currency	-	nāṇayam	നാണയം

Calendars & Eras

The Malayalam calendar is known as Kollam era. The months of the year are Ciṅṅam, Ka<u>nn</u>i, tulām, V<u>r</u>iścikam, Dhanu, Makaram, Kumbham, Mīnam, Mētam, iṭavam, Mithunam and Ka<u>r</u>kiṭakam. The running Kollam era is 1177, starting from the month of Ciṅṅam. The Malayalam months and the corresponding English months are listed below. The correspondence, however will not be exact and there could be a variation of a day or two for each month depending on various factors based on how a day is calculated.

Malayalam Months		Corresponding English Months (Approximation)
Ciṅṅam	ചിങ്ങം	August 15th to September 15th
Ka<u>nn</u>i	കന്നി	September 15th to October 15th
tulām	തുലാം	October 15th to November 15th
V<u>r</u>iścikam	വൃശ്ചികം	November 15th to December 15th
Dhanu	ധനു	December 15th to January 15th
Makaram	മകരം	January 15th to February 15th
Kumbham	കുംഭം	February 15th to March 15th
Mīnam	മീനം	March 15th to April 15th
Mētam	മേടം	April 15th to May 15th
iṭavam	ഇടവം	May 15th to June 15th
Mithunam	മിധുനം	June 15th to July 15th
Ka<u>r</u>kiṭakam	കർക്കിടകം	July 15th to August 15th

The days of the week are:

ñaya<u>r</u>	ഞായർ	Sunday
tīṅkaḷ	തിങ്കൾ	Monday
covva	ചൊവ്വ	Tuesday
budhan	ബുധൻ	Wednesday
vyāYam	വ്യാഴം	Thursday
veḷḷi	വെള്ളി	Friday
śani	ശനി	Saturday

Lexicographic ordering of Malayalam characters (Sorting Order)

The following order of characters is recommended for the lexicographic ordering of Malayalam words.

അ	ആ	ഇ	ഈ	് (സംവൃത ഉകാരം)
ഉ	ഊ	ഋ	എ	ഏ
ഐ	ഒ	ഓ	ഔ	
ക	ഖ	ഗ	ഘ	ങ
ച	ഛ	ജ	ഝ	ഞ
ട	ഠ	ഡ	ഢ	(ൺ ണ)
ത	ഥ	ദ	ധ	(ൻ ന)
പ	ഫ	ബ	ഭ	(൦ മ)
യ	ര	(ർ റ)	(ൽ ല)	വ
ശ	ഷ	സ	(ഃ ഹ)	(ൾ ള)	ഴ

Typing Sequence

a) Vowels and Consonants

The vowels and consonants are to be typed in the sequence of pronunciation eg:

Word	Keystroke sequence
വടകര	വ ട ക ര
മല	മ ല
ആന	ആ ന
ഇര	ഇ ര
ഈറ	ഈ റ
ഊമ	ഊ മ
ഏല	ഏ ല
ഓമന	ഓ മ ന
ഔഷധ	ഔ ഷ ധ

b) Vowel signs attached to Consonants

The vowel sign to be attached to a consonant is to be typed immediately after the consonant/conjunct. eg:

Word	Keystroke sequence
മാല	മ ാ ല
തിര	ത ി ര
ശീല	ശ ീ ല
കുട	ക ു ട
ചൂര	ച ൂ ര
കൃതി	ക ൃ ത ി
ചെവി	ച െ വ ി
വേല	വ േ ല
മൈന	മ ൈ ന
തൊലി	ത ൊ ല ി
കോടി	ക ോ ട ി
സൗമിനി	സ ൗ മ ി ന ി

c) Anuswaram

Anuswaram to be attached to a consonant or vowel is to be typed immediately after the consonant/vowel.

eg: പണം   പ ണ ം
അംശം   അ ം ശ ം

If vowel sign is present, anuswaram will follow it (as is the order in which the syllable is pronounced).

eg: വരാം   വ ര ാ ം
താംബൂലം   ത ാ ം ബ ൂ ല ം

d) Visargam

Visargam is used to indicate an aspiration sound (h) and is to be typed immediately after the consonant/vowel to which it is attached. If vowel sign is present, anuswaram will follow it.

eg: ദുഃഖം   ദ ു ഃ ഖ ം

e) Chandrakkala

Chandrakkala is typed after a consonant/conjunct to indicate omission of inherent A from any non-final consonant or the addition of the central vowel with spread lips to the utterance-final consonant.

eg: സ്മരണ   സ ് മ ര ണ
പുഷ്പം   പ ു ഷ ് പ ം
കടവ്   ക ട വ ്

Chandrakkala cannot be attached to vowels, vowel signs, anuswaram and visargam.

eg: ഇ്   കു്   സ്   കഃ്
are not valid syllables.

f) Attaching consonant sign ്യ

To attach consonant sign y to consonants/conjuncts, type after consonant and chandrakkala, as shown:

eg: സത്യം   സ ത ് യ ം
വ്യത്യാസം   വ ് യ ത ് യ ാ സ ം
അന്യോന്യം   അ ന ് യ ോ ന ് യ ം

However, the characters which are typed will be stored as such and y is used only for the visual representation.

g) Attaching consonant sign ്വ

To get the consonant sign ്വ attached to consonants/conjuncts, type വ after consonant and chandrakkala, as shown:

eg: തത്വം   ത ത ് വ ം
ശ്വാസം   ശ ് വ ാ സ ം

However, the characters, which are typed, will be stored as such and ്വ is used only for the visual representation.

h) *Attaching consonant sign* ്ര

The attachment of ്ര to consonant/conjuncts in most of the cases results in appending ഓ sound to the pure consonant/conjunct. But in some cases, ്ര sign denotes the attachment of ഒ sound to the pure consonant/conjunct. So, the visual representation of the conjunct obtained by attaching ് ഓ and ് ഒ will be ്ര as shown in the following examples:

eg: ചക്രം   ച ക ് ര ഠം
     ക്രോധം   ക ് ര ോ ധ ഠം
     പ്രാവ്   പ ് ര ാ വ ്
     ആന്ദ്ര   ആ ന ് ധ ് ര
     ഗ്രാമം   ഗ ് ര ാ മ ഠം
     ശ്രദ്ധ   ശ ് ര ദ ് ധ
     ധ്രുവം   ധ ് ര ു വ ഠം
     രാഷ്ട്രം   ര ാ ഷ ് ട ് ര ഠം

However, the characters which are typed will be stored as such and is used only for the visual representation.

i) Consonants sign ്ല

The attachment of ്ല to consonant /conjuncts in most of the cases results in appending ള sound to the pure consonant/conjunct, as shown above. But in some cases, ്ല sign denotes the attachment of ല sound to the pure consonant/conjunct. So, the visual representation of the conjunct obtained by attaching ് ള and ് ല will be ്ല as shown in the following examples:

     ക്ലാസ്   ക ് ള ാസ ്
     ശ്ലോകം   ശ ് ല ോ ക ഠം

However, the characters which are typed will be stored as such and ്ല is used only for the visual representation.

Character, word, line, and sentence break rules.

In Malayalam Characters are split by Syllables. Word, line and sentence break rules are same as that for English.

Weights and Measurements

The metric system is used for weights and measurements.

(Courtesy : Mrs. K.G. Sulochana
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4.2.3 Typical Colloquial Sentences in Malayalam

GREETING

▸ Hello
നമസ്കാരം
नमस्कारं
Namaskaram

▸ Good Morning
സുപ്രഭാതം
सुप्रभातम
Suprabhatham

▸ Good Afternoon
നമസ്തേ
नमस्ते
Namaste

▸ Good Night
ശുഭരാത്രി
शुभरात्रि
Subharathri

▸ Good Bye
പിന്നെക്കാണാം
पिन्नेक्काणाम
Pinnekkanam

▸ Thanks
നന്ദി
नन्दि
Nandhi

▸ How are you?
സുഖമാണോ?
सुखमाणो?
Sughamano?

▸ I am fine thank you
സുഖമാണ്
सुखमाण्
Sughamanu

▸ Sorry
ക്ഷമിക്കണം
क्षमिक्कणं
Kshamikkanam

WEATHER

- It is cold
  തണുപ്പുണ്ട്
  तणुप्पुण्ड्
  Thanuppundu

- It is cool outside
  പുറത്ത് തണുപ്പാണ്
  पुर.त् तणुप्पाणु
  Purathu thanuppanu

- It is hot
  ചൂടുണ്ട്
  चूटुण्ड्
  Choodundu

- It is raining
  മഴ പെയ്യുന്നു
  मषा पेय्युन्नु
  Mazha peyunnu

GENERAL

- What is your name?
  താങ്കളുടെ പേരെന്താണ് ?
  तांकळुटे पेरेन्ताण् ?
  Thankalude perenthaanu?

- My name is Ranjan
  എന്റെ പേര് രഞ്ജൻ എന്നാണ്.
  एन्टे पेर् रंजन एन्नाण् ।
  Ente peru Ranjan ennanu

- Where do you live?
  താങ്കൾ എവിടെയാണ് താമസിക്കുന്നത് ?
  तांकळ एविटेयाण् तामसिक्कुन्नत् ?
  Thankal evideyanu thamasikkunnnathu?

- I live near Ghantaghar
  ഞാൻ ഘന്തഘരിനടുത്താണ്
  താമസിക്കുന്നത്.
  ञान घन्तघरि.नटुत्ताण् तामसिक्कुन्नत् ।
  Njan Ghantahgarinaduthanu hamasikkunnathu

- How old are you?
  താങ്കൾക്ക് എത്ര വയസ്സായി ?
  तांकळक्क् एत्रा वयस्सायि ?
  Thankalkku ethra vayassayi?

- That building is tall
  ആ കെട്ടിടം വലുതാണ്
  आ केट्टिटम वलुताण् ।
  Aa kettidam valuthanu

- She is beautiful
  അവൾ സുന്ദരിയാണ്
  अवळ सुन्दरियाण् ।
  Aval sundariyanu

- I like Bengali sweets
  എനിക്ക് ബംഗാളി മധുര പലഹാരങ്ങൾ
  ഇഷ്ടമാണ്.
  एनिक्क् बंगाली मधुरा पलहारङ्ङळ इष्टमाण् ।
  Enikku Bengali madhura palaharanjal
  ishtamanu

- I love birds
  എനിക്ക് പക്ഷികളെ ഇഷ്ടമാണ്
  एनिक्क् पक्षिकळे इष्टमाण् ।
  Enikku pakshikale ishtamanu

- Where is Railway station?
  എവിടെയാണ് റെയിൽവേ സ്റ്റേഷൻ?
  एविटेयाण् रेयिलवे स्टेषन ?
  Evideyanu railway station?

- How far is the Bus Terminal from here?
  ഇവിടെ നിന്ന് ബസ് സ്റ്റോപ്പിലേക്ക് എത്ര
  ദൂരമുണ്ട്?
  इविटे निन्न् बस स्टोप्पिलेक्क् एत्रा दूरमुण्ड् ?
  Ivide ninnu bus stoppilekku ethra dooramundu?

- How long will it take to reach the Airport?
  വിമാനത്താവളത്തിൽ എത്താൻ എത്ര
  സമയമെടുക്കും?
  विमानात्तावळत्तिल एत्तान एत्रा समयमेटुक्कुम ?
  Vimanathavalathil ethan ethra
  samayamedukkum?

- Is Mr. Raghunath there?
  അവിടെ രഘുനാഥ് ഉണ്ടോ?
  अविटे रघुनाथ उण्डो ?
  Avide Reghunath undo?

▶ Please tell him to call back as soon as he is free
ദയവായി അവനോട് തിരിച്ച് വിളിക്കാൻ പറയുക.
दयवायि अवनोट् तिरिच्च् विळिक्कान पर.युका ।
Dayavayi avanodu thirichu vilikkan parayuka

▶ How much will it cost?
അതിന് എത്ര വിലയാകും?
अतिन् एत्रा विलयाकुम ?
Athinu ethra vilayakum?

▶ Excuse me
ക്ഷമിക്കണം
क्षमिक्कण
Kshamikkanam

▶ From which Platform can I get the train for Chandigarh?
ഏത് പ്ലാറ്റ്ഫോമിൽ നിന്ന് എനിക്ക് ചംഡീഗറിലേക്കുള്ള തീവണ്ടി കിട്ടും ?
एत् प्लाटफ़ोमिल निन्न् एनिक्क् चंडीगरि.लेक्कुळळ तीवण्डि किट्टुम ?
Ethu platformil ninnu enikku Chandigarhilekkulla theevandi kittum?

▶ Does this train stop at Aligarh?
ഈ തീവണ്ടി അലിഗഡിൽ നിർത്തുമോ?
ई तीवण्डि अलिगडिल निर.त्तुमो ?
Ee theevandi Aligarhil nirthumo?

▶ How many kids do you have?
താങ്കൾക്ക് എത്ര കുട്ടികൾ ഉണ്ട്?
तांकळक्क एत्रा कुट्टिकळ उण्ड ?
Thankalkku ethra kuttikal undu?

▶ This gift is wonderful
ഈ സമ്മാനം വളരെ നല്ലതാണ്.
ई सम्मानं वळरे नल्लताण् ।
Ee sammanam valare nallathanu.

▶ It is really pretty
ഇത് വളരെ മനോഹരമാണ്.
इत् वळरे मनोहरमाण् ।
Ithu valare manoharamanu

▶ Food is delicious
ഈ ആഹാരത്തിന് നല്ല രുചിയുണ്ട്.
ई आहारत्तिन् नल्ला रुचियुण्ड ।
Ee aaharathinu nalla ruchiyundu.

▶ Congratulations
അഭിനന്ദനങ്ങൾ!
अभिनन्दनङ्ङल !
Abhinandanangal!

▶ You look lovely
നിങ്ങളെ കാണാൻ നന്നായിരിക്കുന്നു.
निङ्ङळे काणान नन्नायिरिक्कुन्न
Ningale kaanan nannayirikkunnu

▶ Wish you happy new year
പുതുവൽസരാശംസകൾ !
पुतुवलसराशंसकळ !
Puthuvalsarasamsakal

▶ I wish you all the happiness
നിങ്ങൾക്ക് എല്ലാ സുഖവും നേരുന്നു.
निङ्ङळक्क एल्ला सुखवुं नेरुन्न
Ningalkku ella sughavum nerunnu.

▶ Congratulations on your marriage
നിങ്ങളുടെ വിവാഹം പ്രമാണിച്ച് അഭിനന്ദനങ്ങൾ !
निङ्ङळुटे विवाहं प्रमाणिच्च् अभिनन्दनङ्ङल !
Ningalude vivaham pramanichu abhinandanangal!

▶ Keep your eyes wide open before marriage and half-shut afterwards
വിവാഹത്തിന് മുമ്പ് കണ്ണുകൾ നന്നായി തുറന്നുവയ്ക്കുക; അതിനു ശേഷം പകുതി അടച്ചും.
विवाहत्तिन् मुंप् कण्णुकळ नन्नायि तुर.न्नुवय्क्कुक; अतिनु शेषं पकुति अटच्चुं ।
Vivahathinu munpu kannukal nannayi thurannu vaykkuka; athinu sesham pakuthi adachum.