



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 (അ റ്റ റ്റ റ്റ റ്റ) 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 ണച ((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. കറ കി കീ കു കൂ ക്യ കെ കേ കൈ കെറ കേറ 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 റ (0D3E), ി (0D3F), ീ (0D40), ു (0D41) and ൂ (0D42) respectively correspond and are phonetically equivalent to the following independent vowel signs: അ (0D06), ഇ (0D07), ഇറ (0D08), ഉ (0D09) and ഉറ (0D0A) whereas ൃ (0D43) and റ (0D57) respectively correspond and have the same phonetic value as the independent sign for the vocalic R റ (0D0B) and that for the diphthong /au/ റ (0D14). The eighth dependent sign, *chandrakkala* റ് (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: ഌ (0D46), ്ഌ (0D47), and എ (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: ഌഌ (0D4A), ്ഌഌ (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, ഷ്ശ, ശ്ശ, ള്ല, റ്റ/ററ

- (b) Subscripting a half form to the consonant base: ട്ട, റ്റ
- (c) Duplicating the basic sign to its right: തത, മമ, ഉഉ
- (d) Post-posing a half form to the consonant base: ജജ, ണത, നന, കക
- (e) Pre-posing a half form to the consonant base: ണട
- (f) Subscripting a special sign to the consonant base: വ്വ, ബ്ബ, ച്ച, യ്യ, ള്ല
- (g) Subscripting the sign of an aspirated consonant to that of an un-aspirated one: ള്ല
- (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. ക്ക, ക്ക
- (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: ക്ക, ള്ല, ള്ല, ബ്ബ, ള്ല

The special sign representing either ഌ or എ depending on the context is separated from the consonant letter and appears to be pre-posed to (ക്ക, ഗ്ഗ) 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: കത, ഗമ
- (b) The consonant sign and the pre-posed partial form represents respectively the live and dead consonants: മത, ബത, ണത, ജത, നത, റത



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

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

ക, ണ, 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 .

$$KA_n + CH_n = KA_d$$

$$ക + റ് = ക്$$

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.

$$KA_d + YA_l \quad KA_d + YAKAR \quad \text{displayed output}$$

$$ക് + യ \quad ക + ്യ \quad ക്യ$$

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 'റ' is preposed to the consonant.

$$KA_d + RRA_l \quad KA_l + RAKAR \quad \text{displayed output}$$

$$ക് + റ \quad ക + റ് \quad ക്ര$$

$$GA_d + RA_l \quad GA_l + RAKAR \quad \text{displayed output}$$

$$ഗ് + ര \quad ഗ + റ് \quad ഗ്ര$$

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

$$റ + റ് + റ = റ്$$

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

$$KA_d + LA_l \quad KA_d + LAKAR \quad \text{displayed output}$$

$$ക് + ല \quad ക + റ \quad ക്ക$$

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.

$$KA_d + VA_l \quad KA_d + VAKAR \quad \text{displayed output}$$

$$ക് + വ \quad ക + ്വ \quad ക്വ$$



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

$$വ + ് + വ = വു$$

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
- ച് + ച = ച്ച
- 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.

$$സ + ് + റ + ് + റ = സ്സറ$$

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

- ട + ് + ട = റ്റ
- ദ + ് + ദ = റ്ദ

(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 = വു
- ബ + ് + ബ = ബു
- ച + ് + ച = ചു
- യ + ് + യ = യു
- ല + ് + ല = ലു

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

$$ച + ് + ഛ = ചു$$

Complex Consonant Conjuncts

Ligature formations for complex consonant are given below.

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

- ക + ് + ത = കത
- 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 + ് + ദ = ന്ദ

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

- ത + ് + ഫ = തഫ
- സ + ് + ഫ = സഫ
- ക + ് + ഷ = കഷ



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

Conjunct glyph	Component characters	Unicode representation
ക	ക + ് + ക	0D15 + 0D4D + 0D15
ച	ച + ് + ച	0D1A + 0D4D + 0D1A
ട	ട + ് + ട	0D1F + 0D4D + 0D1F
ത	ത + ് + ത	0D24 + 0D4D + 0D24
പ്പ	പ + ് + പ	0D2A + 0D4D + 0D2A
ഗ	ഗ + ് + ഗ	0D17 + 0D4D + 0D17
ജ	ജ + ് + ജ	0D1C + 0D4D + 0D1C
ഡ	ഡ + ് + ഡ	0D21 + 0D4D + 0D21
ദ	ദ + ് + ദ	0D26 + 0D4D + 0D26
ബ	ബ + ് + ബ	0D2C + 0D4D + 0D2C
ബ	ബ + ് + ബ	0D19 + 0D4D + 0D19
ത	ത + ് + ത	0D1E + 0D4D + 0D1E
ണ	ണ + ് + ണ	0D23 + 0D4D + 0D23
ന	ന + ് + ന	0D28 + 0D4D + 0D28
മ	മ + ് + മ	0D2E + 0D4D + 0D2E
യ	യ + ് + യ	0D2F + 0D4D + 0D2F
ല	ല + ് + ല	0D32 + 0D4D + 0D32
വ	വ + ് + വ	0D35 + 0D4D + 0D35
ശ	ശ + ് + ശ	0D36 + 0D4D + 0D36
സ	സ + ് + സ	0D38 + 0D4D + 0D38
ള	ള + ് + ള	0D33 + 0D4D + 0D33
റ	റ + ് + റ	0D31 + 0D4D + 0D31
ക	ക + ് + ത	0D15 + 0D4D + 0D24
ക്ഷ	ക + ് + ഷ	0D15 + 0D4D + 0D37
ന	ഗ + ് + ന	0D17 + 0D4D + 0D28
ന്മ	ഗ + ് + മ	0D17 + 0D4D + 0D2E
ക	ബ + ് + ക	0D19 + 0D4D + 0D15
ച	ച + ് + ഹ	0D1A + 0D4D + 0D1B
അ	ജ + ് + ണ	0D1C + 0D4D + 0D1E
ബ	ത + ് + ച	0D1E + 0D4D + 0D1A
ണ്ട	ണ + ് + ട	0D23 + 0D4D + 0D1F
ന്മ	ണ + ് + മ	0D23 + 0D4D + 0D2E
ന്മ	ത + ് + ഡ	0D24 + 0D4D + 0D25
ന്മ	ത + ് + മ	0D24 + 0D4D + 0D2E
ന്ദ	ത + ് + ട	0D24 + 0D4D + 0D2D
സ	ത + ് + സ	0D24 + 0D4D + 0D38
ഡ	ദ + ് + ഡ	0D26 + 0D4D + 0D27

ന്ത	ന + ് + ത	0D28 + 0D4D + 0D24
ന്മ	ന + ് + മ	0D28 + 0D4D + 0D25
ന്ദ	ന + ് + ട	0D28 + 0D4D + 0D26
ന്യ	ന + ് + ഡ	0D28 + 0D4D + 0D27
ന്വ	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 + ് + ഡ	0D2C + 0D4D + 0D27
ശ്ച	ശ + ് + ച	0D36 + 0D4D + 0D1A
ഷ്ട	ഷ + ് + ട	0D37 + 0D4D + 0D1F
സ്മ	സ + ് + മ	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
ക	ക്ക	ക + ് + ് + ക
ക	ക്ത	ക + ് + ് + ത
ത	ത്ത	ത + ് + ് + ത
പ്പ	പ്പ	പ + ് + ് + പ
സ്മ	സ്മ	സ + ് + ് + മ

Rule :

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

- ന്റ + റ = ന്റ റ not ന്റ
- ന്വ + വ = ന്വ not ന്വ
- ശ്ച + യ = ശ്ച യ not ശ്ച
- ബ്ദ + ല = ബ്ദ ല not ബ്ദ

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

If 'ന്റ' and 'റ' are to be separately displayed as in name ഹെന്ററി (Henry) then 'ന്റ' 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 be 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

$$KA_n + AA_{vs} = KAA_n$$

$$ക + ഞ = ക്ക$$

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} (ഈ), EE_{vs} (ഈ) and AI_{vs} (ഈ) are used to override 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.

$$KA_n + E_{vs} = KE_n \text{ (Displayed output)}$$

$$ക + ൈ = ക്ക$$

$$KA_n + AI_{vs} = KAI_n$$

$$ക + ൈ = ക്ക$$

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.

$$O_{vs} = E_{vs} + AA_{vs}$$

$$ഊ (0D4A) = ൈ (0D46) + ഞ (0D3E)$$

$$OO_{vs} = EE_{vs} + AA_{vs}$$

$$ഊ (0D4B) = ൈ (0D47) + ഞ (0D3E)$$

Rule :

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

$$KA_n + O_{vs} = KO_n \text{ (Displayed Output)}$$

$$ക + ൈ = ക്ക$$

$$KA_n + OO_{vs} = KOO_n \text{ (Displayed Output)}$$

$$ക + ൈ = ക്ക$$

*(Courtesy : Shri R. Ravindra Kumar
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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 1000 males)	1040
Literacy	90.59%
Males	94.45
Females	86.93
Percapita income(92-93)	Rs.5,065
1991 Census final population total	29,698,518

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, except 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 (കൾ റ്റു ന്റു) 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 ണ്ച ((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. കറ കി കീ കു കൂ ക്യ 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), ഇൗ(0D08), ഉ (0D09) and ഉൗ(0D0A) whereas ൃ(0D43) and ൄ(0D57) respectively correspond and have the same phonetic value as the independent sign for the vocalic R ള (0D0B) and that for the diphthong /au/ ഔ (0D14). The eighth dependent sign, *chandrakkala* ൅ (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: ഌ (0D46), ഍ (0D47), and ഞ (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: ഐ (0D4A), ഞ (0D4B). These are equivalent to the independent vowels ഐ (0D12) and ഞ (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: ള്, ള്, ള്, ള്, ള്, ള്, ള്, ള്
 - (b) Subscripting a half form to the consonant base: ള, ള
 - (c) Duplicating the basic sign to its right: ള, ള, ഉള
 - (d) Post-posing a half form to the consonant base: ഉള, ള, ള, ള
 - (e) Pre-posing a half form to the consonant base: ള, ള
 - (f) Subscripting a special sign to the consonant base: ള, ള, ള, ള, ള
 - (g) Subscripting the sign of an aspirated consonant to that of an un-aspirated one: ള, ള
- (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. ക്ക, ക്ക
- (b) Those consisting of a consonant sign representing a dead consonant and a subscripted dependent consonant sign, which represents the final live consonant.



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

~	!	@	#	\$	%	&	'	()	*	+	=	^	_	~	NUM
Q	W	E	R	T	Y	U	I	O	P	[]	;	'	ENTER		
caps	lock	A	S	D	F	G	H	J	K	L	;	'	ENTER			
SHIFT		Z	X	C	V	B	N	M	,	.	/	'	SHIFT			
CTRL	ALT	SPACE										ALT	CTRL			

In the new keyboard 5 “chillu” characters have been added. These are ഞ, റ, റ, ശ & ര. ക and ് 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
ക	=	ക + ് + ക
ച	=	ച + ് + ച
ട	=	ട + ് + ട
ത	=	ത + ് + ത
പ	=	പ + ് + പ
ഫ	=	ഫ + ് + ഫ
ബ	=	ബ + ് + ബ
വ	=	വ + ് + വ
ശ	=	ശ + ് + ശ
ര	=	ര + ് + ര
ല	=	ല + ് + ല
സ	=	സ + ് + സ
ജ	=	ജ + ് + ജ
ഠ	=	ഠ + ് + ഠ
കത	=	ക + ് + ത
കച	=	ക + ് + ച
ട	=	ട + ് + ട
ത	=	ത + ് + ത
ക	=	ക + ് + ക
ച	=	ച + ് + ച
ജ	=	ജ + ് + ജ
ത	=	ത + ് + ത
പ	=	പ + ് + പ
ന	=	ന + ് + ണ

ണ	=	ണ + ് + മ
ത	=	ത + ് + ഡ
ത	=	ത + ് + മ
ത	=	ത + ് + ട
ത	=	ത + ് + സ
ഭ	=	ഭ + ് + ധ
ന	=	ന + ് + ത
ന	=	ന + ് + ഡ
ന	=	ന + ് + ട
ന	=	ന + ് + ധ
ന	=	ന + ് + പ
ന	=	ന + ് + മ
ന	=	ന + ് + റ
ബ	=	ബ + ് + ട
ബ	=	ബ + ് + ധ
ശ	=	ശ + ് + ച
ഷ	=	ഷ + ് + ട
സ	=	സ + ് + ഡ
ഹ	=	ഹ + ് + ന
ഹ	=	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 + RRAI	KAI+RAKAR	displayed output
ക + ് + റ		ക്ര
GAD + RAI	GAI+RAKAR	displayed output
ഗ + ് + റ		ഗ്ര

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

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

KAD + LAI	KAd +LAKAR	displayed output
ക + ് + ല		കഴ



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

KAd + VAl KAd +VAKAR displayed output
ക + ള് + വ ക + ള് + വ ക്ക

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

വ + ള് + വ = വ്വ

- i) There is a set of eight signs which follow the base representing a consonant or a consonant cluster. Among them ള, ളി, ളീ, ളു and ളു respectively correspond and are phonetically equivalent to the following independent vowel signs: ആ, ഇ, ഇറ, ഉ and ഉറ whereas ളു and ളു respectively correspond and have the same phonetic value as the independent sign for the vocalic R ള and that for the diphthong /au/ ളു. The eighth dependent sign, *chandrakkala* ള 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: ള, ള, and ള. These signs respectively correspond and are phonetically equivalent to the independent vowel signs: ള, ള, ള.
- (iii) Two signs which have the first glyph component preceding the consonant base and the second following it: ള, ള. These are equivalent to the independent vowels ള and ള 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 kálu '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	-	pañcāññam	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 Ciññam, Kanni, tulām, Vriścikam, Dhanu, Makaram, Kumbham, Mīnam, Mētam, iṭavam, Mithunam and Karṭṭakam. The running Kollam era is 1177, starting from the month of Ciññam. 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)
Ciññam	ചിങ്ങം	August 15 th to September 15 th
Kanni	കന്നി	September 15 th to October 15 th
tulām	തൂലാം	October 15 th to November 15 th
Vriścikam	വൃശ്ചികം	November 15 th to December 15 th
Dhanu	ധനു	December 15 th to January 15 th
Makaram	മകരം	January 15 th to February 15 th
Kumbham	കുംഭം	February 15 th to March 15 th
Mīnam	മീനം	March 15 th to April 15 th
Mētam	മേടം	April 15 th to May 15 th
iṭavam	ഇടവം	May 15 th to June 15 th
Mithunam	മിഥുനം	June 15 th to July 15 th
Karṭṭakam	കർക്കിടകം	July 15 th to August 15 th

The days of the week are:

ñayar	ഞായർ	Sunday
tīñkaḷ	തിങ്കൾ	Monday
covva	ചൊവ്വ	Tuesday
budhan	ബുധൻ	Wednesday
vyāYam	വ്യാഴം	Thursday
velli	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	ഊ	ഋ (സംവൃത ഉകാരം)
ഉ	ഊ	ഋ	ഌ	഍	
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	(ം മ)	
യ	ര	(ർ റ)	(ൽ ല)	വ	
ശ	ഷ	സ	(ഃ ഹ)	(ൾ ജ)	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
കൂട	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 െ
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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: ഇ൬ ക്കൂ സൂ ക്കു are not valid syllables.

f) Attaching consonant sign ്

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

eg: സത്യം	സ ത ് യ െ
വ്യത്യം	വ ് യ ത ് യ ാ സ െ
അന്യം	അ ന ് യ െ അ ന ് യ െ

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

g) Attaching consonant sign ൑

To get the consonant sign ൑ attached to consonants/conjuncts, type ൑ 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 ൑ is used only for the visual representation.



h) Attaching consonant sign ʹ

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

eg:

ചക്രം	ച ക ൠ ൠ ൠ ൠ
ക്രോധം	ക ൠ ൠ ൠ ൠ ൠ ൠ ൠ
പ്രാവ്	പ ൠ ൠ ൠ ൠ ൠ ൠ
ആന്യ	ആ ന ൠ ൠ ൠ ൠ ൠ
ഗ്രാമം	ഗ ൠ ൠ ൠ ൠ ൠ ൠ ൠ
ശ്രദ്ധ	ശ ൠ ൠ ൠ ൠ ൠ ൠ ൠ
ധ്രുവം	ധ ൠ ൠ ൠ ൠ ൠ ൠ ൠ
രാഷ്ട്രം	ര ൠ ൠ ൠ ൠ ൠ ൠ ൠ ൠ

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

i) Consonants sign ൡ

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

ക്ലാസ്	ക ൡ ൡ ൠ ൠ ൠ ൠ
ശ്ലോകം	ശ ൡ ൡ ൠ ൠ ൠ ൠ ൠ

However, the characters which are typed will be stored as such and ൡ 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.

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4.2.3 Typical Colloquial Sentences in Malayalam

GREETING

- ▶ Hello
നമസ്കാരം
नमस्कारं
Namaskaram
- ▶ Good Morning
സുപ്രഭാതം
सुप्रभातम्
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