

Fonts in Malayalam script by Rachana Institute of Typography

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Abstract

This article describes about all the fonts published by Rachana Institute of Typography (RIT), a not-for-profit organization, engaged in developing, publishing and promoting OpenType fonts under the terms of Open Fonts License. It further tells about the L^AT_EX package, [rit-fonts.sty](#) that accompanies the bundle of RIT fonts released at CTAN.

1 The background

The RIT is a not-for-profit digital foundry in Kerala, India, that had released ten families of Indic script fonts in different formats—OTF, TTF, WOFF₂ under the terms of Open Font License (OFL) [4]. The following are the technical objectives behind the setting up of RIT:

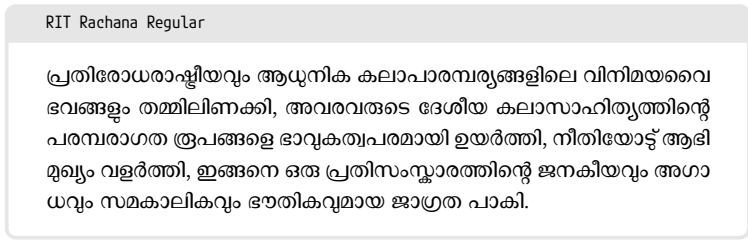
1. to resurrect the original script of Malayalam that was diluted by dropping hundreds of conjuncts and ligatures when reformed script for the language was introduced by the government of Kerala to fit the keyboard of typewriters.
2. to develop fonts that completely adhere to the definitive character set prevalent through ages.
3. to completely revamp the OpenType layout (GSUB) of RIT fonts to uphold the right spirit of comprehensive character set and to replace all previous modifications.
4. to redesign all the glyphs in the flagship font, RIT Rachana.
5. to freshly redesign RIT Rachana Italic, Bold and BoldItalic and to generate respective font variants.
6. to encourage the usage of code-driven font development models by employing character description languages like METAFONT and METAPOST.

2 The RIT fonts

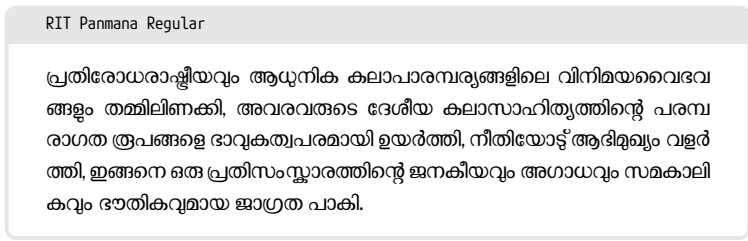
The RIT has published the following fonts till date by striving to meet the aforesaid objectives :

Serif:

1. RIT Rachana (regular, bold, italic, bold-italic)



2. RIT Panamana (regular)



Sans-serif:

1. RIT MeeraNew (regular)

RIT MeeraNew

പ്രതിരോധരാഷ്ട്രീയവും ആധുനിക കലാപാരമ്പര്യങ്ങളിലെ വിനിമയവൈഭവങ്ങളും തമ്മിലിണക്കി, അവരവരുടെ ദേശീയ കലാസാഹിത്യത്തിന്റെ പരമ്പരാഗത രൂപങ്ങളെ ഭാവുകതപരമായി ഉയർത്തി, നീതിയോടു് ആഭിമുഖ്യം വളർത്തി, ഇങ്ങനെ ഒരു പ്രതിസംസ്കാരത്തിന്റെ ജനകീയവും അഗാധവും സമകാലികവും ഭൗതികവുമായ ജാഗ്രത പാകി.

2. RIT TN Joy (regular, bold, extra-bold)

RIT TN Joy

പ്രതിരോധരാഷ്ട്രീയവും ആധുനിക കലാപാരമ്പര്യങ്ങളിലെ വിനിമയവൈഭവങ്ങളും തമ്മിലിണക്കി, അവരവരുടെ ദേശീയ കലാസാഹിത്യത്തിന്റെ പരമ്പരാഗത രൂപങ്ങളെ ഭാവുകതപരമായി ഉയർത്തി, നീതിയോടു് ആഭിമുഖ്യം വളർത്തി, ഇങ്ങനെ ഒരു പ്രതിസംസ്കാരത്തിന്റെ ജനകീയവും അഗാധവും സമകാലികവും ഭൗതികവുമായ ജാഗ്രത പാകി.

Display:

1. RIT Keraleeyam (regular, italic)
2. RIT Sundar (regular)
3. RIT Uroob (regular)
4. RIT Karuna (regular)
5. RIT Chingam (regular)

Handwriting:

1. RIT Ezhuthu (regular)
2. RIT Kutty (regular)

The font samples of display and handwriting fonts and the variants of serif and sans-serif fonts are available separately, see [6].

3 The package, rit-fonts.sty

The package, `rit-fonts.sty` has been developed to assist seamless usage of the fonts in \LaTeX documents. The package needs `fontspec.sty` (to load the fonts and to access OpenType font features) and `polyglossia` (for language switching and hyphernation) [3, 1], both these packages are available in any standard \TeX distribution. The fonts become accessible to the typesetting engine employed when you load the package with the following command:

```
\usepackage[...options...]{rit-fonts}
```

3.1 The options

The package has the following options:

`path`: specify the location of fonts, if the user prefers to keep the fonts in a custom path, the default being `empty`.

```
\usepackage[path=./ml-fonts/,<options>]{rit-fonts}
```

The usage of `path` option will look like above, if you keep the RIT fonts in a subdirectory by name, `./ml-fonts/`, in your working directory.

`extn`: specify the extension of fonts, if the user prefers to use a specific font format like `.otf` or `.ttf`, default being `.ttf`.

```
\usepackage[extn=.otf,<options>]{rit-fonts}
```

`RM`: set the `\rmdefault` by providing the font name.

```
\usepackage[RM=RIT-Rachana,<options>]{rit-fonts}
```

RIT-Rachana will be set as the default `\rmfamily` font.

SF: set the `\sfdefault` by providing the font name.

```
\usepackage[SF=RIT-MeeraNew,<options>]{rit-fonts}
```

RIT MeeraNew will be set as the default `\sffamily` font.

ScaleRM: scale the `\rmdefault` font by providing the value.

```
\usepackage[ScaleRM=1.5,<options>]{rit-fonts}
```

The default value is 1. Assuming that we have chosen RIT Rachana as the `\rmdefault`, then by applying `Scale=1.5`, we get,

```
\usepackage [ScaleRM=1.5,...]{rit-fonts}
```

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ScaleSF: scale the `\sfdefault` font by providing the value.

```
\usepackage[ScaleSF=.8,<options>]{rit-fonts}
```

The default value is 1.

ScaleDS, ScaleHW: as in the previous cases, scale factor can be provided for display and handwriting fonts respectively. The value of `ScaleDS` applies to the fonts categorized as `Display` fonts while that of `ScaleHW` applies to RIT Ezhuthu and RIT Kutty fonts.

osf, oldstyle: uses `oldstyle` numbers, if the font has oldstyle numbers available. In this bundle of fonts, only RIT Rachana has oldstyle numbers.

```
\usepackage [Numbers=OldStyle,...]{rit-fonts}
```

രചനയിൽ പഴയരീതിയിലുള്ള അക്കങ്ങളുണ്ട്. 1234567890. ഇവ സാധാരണ അക്കങ്ങളെ അപേക്ഷിച്ച് പാഠവുമായി ഒതുപോകുന്നതാണ്.

lf, lining: this is the default style of numbers in all the fonts.

df: add more font features available in `fontspec` package that you want to add to the `\defaultfontfeatures`.

Further, individual fonts can be tailored to suit the user requirement by making use of `\defaultfontfeatures+` command which will append the features to the defaults. The usage shall be:

```
\defaultfontfeatures+{<font name>}{<font features>}
```

Various NFSS commands like `\fontsize{...}{...}\selectfont`, `\bfseries`, `\itshape`, `\upshape`, `\scshape`, etc., will work seamlessly. For more information on various font features provided by `fontspec`, kindly go through the package documentation at [3].

4 Sources, downloads and license

1. The sources of all the fonts, font making scripts, shaping features, kern tables, etc., are available at <https://gitlab.com/rit-fonts/>.
2. All the fonts can be downloaded by visiting the RIT website: <https://rachana.org.in/downloads.html>.
3. All the fonts are shared under the terms of Open Font License (<https://scripts.sil.org/ofl>).

5 The glyph list

The entire glyph list of RIT Rachana is provided below by making use of the package `unicodfonttable` [2]. Only the glyph list of regular variant alone is provided as an example, while others can be downloaded from the RIT website [5].

Table 1: RIT-Rachana-Regular

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Basic Latin																
U+0000 - 000F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
U+0020 - 002F	!	"	#	\$	%	&	'	()	*	+	,	-	.	/	
U+0030 - 003F	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
U+0040 - 004F	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
U+0050 - 005F	P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_
U+0060 - 006F	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
U+0070 - 007F	p	q	r	s	t	u	v	w	x	y	z	{		}	~	-
Latin-1 Supplement																
U+00A0 - 00AF	¡	¢	£	¤	¥	¦	§	¨	©	ª	«	¬	®	-	-	-
U+00B0 - 00BF	°	±	²	³	´	µ	¶	·	¸	¹	º	»	¼	½	¾	¿
U+00C0 - 00CF	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï
U+00D0 - 00DF	Ð	Ñ	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ	ß
U+00E0 - 00EF	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï
U+00F0 - 00FF	ð	ñ	ò	ó	ô	õ	ö	÷	ø	ù	ú	û	ü	ý	þ	ÿ
Latin Extended-A																
U+0130 - 013F	-	ı	-	-	-	-	-	-	-	-	-	-	-	-	-	-
U+0150 - 015F	-	-	Œ	œ	-	-	-	-	-	-	-	-	-	-	-	-
Spacing Modifier Letters																
U+02C0 - 02CF	-	-	-	-	-	-	^	-	-	-	-	-	-	-	-	-
U+02D0 - 02DF	-	-	-	-	-	-	-	-	-	-	°	-	~	-	-	-
Malayalam																
U+0D00 - 0D0F	ഃ	ഌ	഍	ആ	അ	ആ	ഇ	ഈ	ഉ	ഊ	ഋ	ൠ	ൡ	ൢ	ൣ	൤
U+0D10 - 0D1F	൥	൦	൧	൨	൩	൪	൫	൬	൭	൮	൹	ൺ	ൻ	ർ	ൽ	ൾ
U+0D20 - 0D2F	ൿ	ൺ	ൻ	ർ	ൽ	ൾ	ൿ	ൺ	ൻ	ർ	ൽ	ൾ	ൿ	ൺ	ൻ	ർ
U+0D30 - 0D3F	ൿ	ൺ	ൻ	ർ	ൽ	ൾ	ൿ	ൺ	ൻ	ർ	ൽ	ൾ	ൿ	ൺ	ൻ	ർ
U+0D40 - 0D4F	ൿ	ൺ	ൻ	ർ	ൽ	ൾ	ൿ	ൺ	ൻ	ർ	ൽ	ൾ	ൿ	ൺ	ൻ	ർ
U+0D50 - 0D5F	-	-	-	-	ൿ	ൺ	ൻ	ർ	ൽ	ൾ	ൿ	ൺ	ൻ	ർ	ൽ	ൾ
U+0D60 - 0D6F	ൿ	ൺ	ൻ	ർ	ൽ	ൾ	ൿ	ൺ	ൻ	ർ	ൽ	ൾ	ൿ	ൺ	ൻ	ർ
U+0D70 - 0D7F	ൿ	ൺ	ൻ	ർ	ൽ	ൾ	ൿ	ൺ	ൻ	ർ	ൽ	ൾ	ൿ	ൺ	ൻ	ർ
General Punctuation																
U+2000 - 200F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
U+2010 - 201F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
U+2020 - 202F	-	-	•	-	-	-	...	-	-	-	-	-	-	-	-	-
Currency Symbols																
U+20B0 - 20BF	-	-	-	-	-	-	-	-	-	₹	-	-	-	-	-	-

Table 1: RIT-Rachana-Regular cont.

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Geometric Shapes																
U+25C0 - 25CF	-	-	-	-	-	-	-	-	-	-	-	-	◌	-	-	-
Private Use Area																
U+F730 - F73F	0	1	2	3	4	5	6	7	8	9	-	-	-	-	-	-
Supplementary Private Use Area-A																
U+F0000 - F000F	□	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F0010 - F001F	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F0020 - F002F	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F0030 - F003F	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F0040 - F004F	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F0050 - F005F	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F0060 - F006F	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F0070 - F007F	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F0080 - F008F	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F0090 - F009F	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F00A0 - F00AF	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F00B0 - F00BF	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F00C0 - F00CF	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F00D0 - F00DF	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F00E0 - F00EF	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F00F0 - F00FF	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F0100 - F010F	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F0110 - F011F	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F0120 - F012F	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F0130 - F013F	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F0140 - F014F	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F0150 - F015F	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F0160 - F016F	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F0170 - F017F	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F0180 - F018F	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F0190 - F019F	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F01A0 - F01AF	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F01B0 - F01BF	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F01C0 - F01CF	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F01D0 - F01DF	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F01E0 - F01EF	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F01F0 - F01FF	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F0200 - F020F	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F0210 - F021F	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F0220 - F022F	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F0230 - F023F	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F0240 - F024F	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F0250 - F025F	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F0260 - F026F	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F0270 - F027F	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F0280 - F028F	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣
U+F0290 - F029F	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣	␣

Table 1: RIT-Rachana-Regular *cont.*

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
U+F02A0 - F02AF	ഷ	ഷ	ഷ	ഷ	ഷ	ഷ	ഷ	ഷ	ഷ	ഷ	ഷ	ഷ	ഷ	ഷ	ഷ	ഷ
U+F02B0 - F02BF	സ	സ	സ	സ	സ	സ	സ	സ	സ	സ	സ	സ	സ	സ	സ	സ
U+F02C0 - F02CF	സ്വ	സ്വ	സ്വ	സ്വ	സ്വ	സ്വ	സ്വ	സ്വ	സ്വ	സ്വ	സ്വ	സ്വ	സ്വ	സ്വ	സ്വ	സ്വ
U+F02D0 - F02DF	സം	സം	സം	സം	സം	സം	സം	സം	സം	സം	സം	സം	സം	സം	സം	സം
U+F02E0 - F02EF	സ്ത	സ്ത	സ്ത	സ്ത	സ്ത	സ്ത	സ്ത	സ്ത	സ്ത	സ്ത	സ്ത	സ്ത	സ്ത	സ്ത	സ്ത	സ്ത
U+F02F0 - F02FF	സ്ത	സ്ത	സ്ത	സ്ത	സ്ത	സ്ത	സ്ത	സ്ത	സ്ത	സ്ത	സ്ത	സ്ത	സ്ത	സ്ത	സ്ത	സ്ത
U+F0300 - F030F	ച	ച	ച	ച	ച	ച	ച	ച	ച	ച	ച	ച	ച	ച	ച	ച
U+F0310 - F031F	ച	ച	ച	ച	ച	ച	ച	ച	ച	ച	ച	ച	ച	ച	ച	ച
U+F0320 - F032F	ച	ച	ച	ച	ച	ച	ച	ച	ച	ച	ച	ച	ച	ച	ച	ച
U+F0330 - F033F	റ	റ	റ	റ	റ	റ	റ	റ	റ	റ	റ	റ	റ	റ	റ	റ

Total number of glyphs shown from RIT-Rachana-Regular: 1165

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