

**Policy Document
For**

**INTERNATIONALIZED
DOMAIN
NAMES**

Language: KANNADA



1. AUGMENTED BACKUS-NAUR FORMALISM (ABNF)	3
1.1 Declaration of variables	3
1.2 ABNF Operators	3
1.3 The Vowel Sequence	3
1.4 Consonant Sequence	4
1.5 ABNF Applied to KANNADA IDN.....	6
2. RESTRICTED RULES	7
3. EXAMPLES	10
4. LANGUAGE TABLE: KANNADA	11
5. NOMENCLATURE DESCRIPTION TABLE OF KANNADA LANGUAGE TABLE.....	13
6. VARIANT TABLE.....	19
7. EXPERTS/BODIES CONSULTED.....	20
8. COUNTRY CODE TOP LEVEL DOMAIN (ccTLD) FOR KANNADA.....	21

1. AUGMENTED BACKUS-NAUR FORMALISM (ABNF)

1.1 Declaration of variables

- Dash → Hyphen -
- Digit → Indo-Arabid digits [0-9]
- C → Consonant
- M → Matra
- V → Vowel
- D → Anusvara
- X → Visarga
- Y → Avagraha
- H → Halant / Virama

1.2 ABNF Operators

S. No.	Symbols	Functions
1	“/”	Alternative
2	“[]”	Optional
3	“*”	Variable Repetition
4	“()”	Sequence Group

In what follows the Vowel Sequence and the Consonant Sequence pertinent to Kannada are given. To facilitate use, equivalents in Devanagari are provided.

1.3 The Vowel Sequence

A vowel sequence is made up of a single vowel. It may be followed but not necessarily (optionally) by an Anusvara (D) or a Visarga (X) The number of D or X which can follow a V in Kannada may be restricted to one.

The vowel sequence in Kannada is therefore V [D | X]

Examples:

V	ಅ	ಅ
V[D]	ಅೌ	ಅಂ
V[X]	ಅಃ	ಅಃ

1.4 Consonant Sequence

A consonant sequence admits the following shapes:

1. A single consonant (C)

Example

C	ಕ	ಕ
---	---	---

2. A consonant optionally followed by dependent vowel sign[M] or anusvara[D] or visarga[X] or Halant [H]

C[M|D|X|H]

Example:

C[M]	ಕಿ	ಕಿ
C[D]	ಕಂ	ಕಂ
C[X]	ಕಃ	ಕಃ

C[H] क् क् (Pure Consonant)

2.a. A CM sequence can be optionally followed by D or X
 (CM)[D|X]

Example:

CM[D] क्क० क्की

CM[X] क्कः क्कीः

3. A sequence of consonants (up to 4) joined by Halant *3(CH)C

Example:

CHCHCHC न्क्कृ → न्+ क्+ क्+ य न्+क्+क्+र+य

Subsets

3.a. The combination may be followed by M , D or X

Example:

CHC[M] क्कृ क्की क्क्की

CHC[D] क्क० क्कं क्क्कं

CHC[X] क्कृः क्कः क्क्कः

3.b. *3(CH)CM may be followed by a D or X

CHCM[D|X]

Example:

CHCM[D] क्कृ० क्कीं क्क्कीं

CHCM[X] क्कृः क्कीः क्क्कीः



1.5 ABNF Applied to KANNADA IDN

Consonant Sequence \rightarrow *3(CH) C [H|D|X|M[D|X]]

Vowel Sequence \rightarrow V[D|X]

Sequence \rightarrow Consonant Sequence[Y] | Vowel Sequence[Y]

IDN-Label \rightarrow (Sequence | digit)*([dash](Sequence | digit))

2. RESTRICTION RULES

The ABNF is generic in nature and when applied to a specific language/script certain restriction rules apply. In other words, in a given language some of the Formalism structures do not necessarily apply. To take care of such cases restriction rules are set in place. These restrictions will help to fine-tune the ABNF.

In the case of Kannada the following rules apply:

1.H | D|X |M cannot occur in the beginning of an IDN domain name

Example:

ಹ್	ಕ್
ಹ್	ಕಿ
ಹ್	ಕಂ
ಹ್	ಕಃ

As can be seen they will result automatically in a “golu” marking an invalid character. This is an intrinsic property of the Indic syllable and is quasi automatically applied wherever supported by the OS.

2. H is not permitted after V, D, X, M, digit and dash

Example:

ಹ್	ಕ್
ಹ್	ಕ್
ಹ್	ಕ್
ಹ್	ಕ್

१ॠ १ॡ
-ॠ -ॡ

3. Number of D or X permitted after consonant-sequence or vowel-sequence or M is restricted to one

Example:

कॠॠॠ कंं
कःःः कःः
कॠॠॠॠ कींं
कॠःःः कीःः
अॠॠॠ अंं
अःःः अःः

4. Number of M permitted after consonant-sequence is restricted to one

Example:

कॠॠॠॠॠ कीीी

5. M is not permitted after V

Example:

कॠॠ ई

6. The combination of Anusvara+Visarga and vice-versa is not permissible

Example:

कॠःः कंः



Department of Information Technology,
Ministry of Communications and Information Technology,
Government of India, New Delhi

कः० कः

7. A consonant syllable that is intended to end with Halant [H] can only be followed by Hyphen or digit.



3. EXAMPLES

Following are the some examples of KANNADA IDN Label.

Combination	Example	Word With Combination
C	ಕ	ಕಮಲ
CH	ತ್	ಭಾರತ್
CM	ಚಾ	ಚಾಪೆ
CD	ಪಂ	ಪಂಡಿತ
CX	ಢಃ	ತಢಃ
CMD	ಚಿಂ	ಚಿಂತನ
CMX	ದುಃ	ದುಃಖ
CHC	ಕ್ವ	ಕಾವ್ಯ
CHCHC	ಕ್ವಿ	ಶ್ವಸ್ತಿ
V	ಆ	ಆನೆ
VD	ಆಂ	ಆಂಗ



Department of Information Technology,
Ministry of Communications and Information Technology,
Government of India, New Delhi

4. LANGUAGE TABLE: KANNADA¹

¹ Characters marked in yellow are not applicable to the language.



Department of Information Technology,
Ministry of Communications and Information Technology,
Government of India, New Delhi

0C80

Kannada

0CFF

	0C8	0C9	0CA	0CB	0CC	0CD	0CE	0CF
0	ಁ 0C80	ಂ 0C81	ಃ 0C82	಄ 0C83	ಅ 0C84	ಆ 0C85	ಇ 0C86	ಈ 0C87
1	ಉ 0C88	ಊ 0C89	ಋ 0C8A	ೠ 0C8B	ಌ 0C8C	಍ 0C8D	ಎ 0C8E	ಏ 0C8F
2	ಐ 0C90	ಊ 0C91	ಋ 0C92	ೠ 0C93	ಌ 0C94	಍ 0C95	ಎ 0C96	ಏ 0C97
3	ಉ 0C98	ಊ 0C99	ಋ 0C9A	ೠ 0C9B	ಌ 0C9C	಍ 0C9D	ಎ 0C9E	ಏ 0C9F
4	ಐ 0CA0	ಊ 0CA1	ಋ 0CA2	ೠ 0CA3	ಌ 0CA4	಍ 0CA5	ಎ 0CA6	ಏ 0CA7
5	ಉ 0CA8	ಊ 0CA9	ಋ 0CAA	ೠ 0CAB	ಌ 0CAC	಍ 0CAD	ಎ 0CAE	ಏ 0CAF
6	ಐ 0CB0	ಊ 0CB1	ಋ 0CB2	ೠ 0CB3	ಌ 0CB4	಍ 0CB5	ಎ 0CB6	ಏ 0CB7
7	ಉ 0CB8	ಊ 0CB9	ಋ 0CBA	ೠ 0CBB	ಌ 0CBC	಍ 0CBD	ಎ 0CBE	ಏ 0CBF
8	ಐ 0CC0	ಊ 0CC1	ಋ 0CC2	ೠ 0CC3	ಌ 0CC4	಍ 0CC5	ಎ 0CC6	ಏ 0CC7
9	ಉ 0CC8	ಊ 0CC9	ಋ 0CCA	ೠ 0CCB	ಌ 0CCC	಍ 0CCD	ಎ 0CCE	ಏ 0CCF
A	ಐ 0CD0	ಊ 0CD1	ಋ 0CD2	ೠ 0CD3	ಌ 0CD4	಍ 0CD5	ಎ 0CD6	ಏ 0CD7
B	ಉ 0CD8	ಊ 0CD9	ಋ 0CDA	ೠ 0CDB	ಌ 0CDC	಍ 0CDD	ಎ 0CDE	ಏ 0CDF
C	ಐ 0CE0	ಊ 0CE1	ಋ 0CE2	ೠ 0CE3	ಌ 0CE4	಍ 0CE5	ಎ 0CE6	ಏ 0CE7
D	ಉ 0CE8	ಊ 0CE9	ಋ 0CEA	ೠ 0CEB	ಌ 0CEC	಍ 0CED	ಎ 0CEE	ಏ 0CEF
E	ಐ 0CF0	ಊ 0CF1	ಋ 0CF2	ೠ 0CF3	ಌ 0CF4	಍ 0CF5	ಎ 0CF6	ಏ 0CF7
F	ಉ 0CF8	ಊ 0CF9	ಋ 0CFA	ೠ 0CFB	ಌ 0CFC	಍ 0CFD	ಎ 0CFE	ಏ 0CF7

The Unicode Standard 11.0, Copyright © 1991-2018 Unicode, Inc. All rights reserved.



5. NOMENCLATURAL DESCRIPTION TABLE OF KANNADA LANGUAGE TABLE

Unicode Value	Character	Character Name
ANUSVARA (D)		
0C82	◌◌	KANNADA SIGN ANUSVARA
VISARGA (X)		
0C83	◌ಃ	KANNADA SIGN VISARGA
KANNADA VOWELS (V)		
0C85	ಅ	KANNADA LETTER A
0C86	ಆ	KANNADA LETTER AA
0C87	ಇ	KANNADA LETTER I
0C88	ಈ	KANNADA LETTER II
0C89	ಉ	KANNADA LETTER U
0C8A	ಊ	KANNADA LETTER UU
0C8B	ಋ	KANNADA LETTER VOCALIC R



Department of Information Technology,
Ministry of Communications and Information Technology,
Government of India, New Delhi

0C8C	ಲ	KANNADA LETTER VOCALIC L
0C8E	ಏ	KANNADA LETTER E
0C8F	ಛ	KANNADA LETTER EE
0C90	ಐ	KANNADA LETTER AI
0C92	ಒ	KANNADA LETTER O
0C93	ಓ	KANNADA LETTER OO
0C94	ಔ	KANNADA LETTER AU
CONSONANTS (C)		
0C95	ಕ	KANNADA LETTER KA
0C96	ಖ	KANNADA LETTER KHA
0C97	ಗ	KANNADA LETTER GA
0C98	ಘ	KANNADA LETTER GHA
0C99	ಙ	KANNADA LETTER NGA
0C9A	ಚ	KANNADA LETTER CA



Department of Information Technology,
Ministry of Communications and Information Technology,
Government of India, New Delhi

0C9B	ಚ	KANNADA LETTER CHA
0C9C	ಜ	KANNADA LETTER JA
0C9D	ಜ್ಜ	KANNADA LETTER JHA
0C9E	ಞ	KANNADA LETTER NYA
0C9F	ಟ	KANNADA LETTER TTA
0CA0	ಠ	KANNADA LETTER TTHA
0CA1	ಡ	KANNADA LETTER DDA
0CA2	ಢ	KANNADA LETTER DDHA
0CA3	ಣ	KANNADA LETTER NNA
0CA4	ತ	KANNADA LETTER TA
0CA5	ಥ	KANNADA LETTER THA
0CA6	ದ	KANNADA LETTER DA
0CA7	ಧ	KANNADA LETTER DHA
0CA8	ನ	KANNADA LETTER NA



Department of Information Technology,
Ministry of Communications and Information Technology,
Government of India, New Delhi

0CAA	ಀ	KANNADA LETTER PA
0CAB	ಁ	KANNADA LETTER PHA
0CAC	ಂ	KANNADA LETTER BA
0CAD	ಃ	KANNADA LETTER BHA
0CAE	಄	KANNADA LETTER MA
0CAF	ಅ	KANNADA LETTER YA
0CB0	ಆ	KANNADA LETTER RA
0CB1	ಇ	KANNADA LETTER RRA
0CB2	ಈ	KANNADA LETTER LA
0CB3	ಉ	KANNADA LETTER LLA
0CB5	ಊ	KANNADA LETTER VA
0CB6	ಋ	KANNADA LETTER SHA
0CB7	ಋ	KANNADA LETTER SSA
0CB8	ಠ	KANNADA LETTER SA



Department of Information Technology,
Ministry of Communications and Information Technology,
Government of India, New Delhi

0CB9	ಹ	KANNADA LETTER HA
VOWEL SIGNS (MATRAS) (M)		
0CBE	ಌ	KANNADA VOWEL SIGN AA
0CBF	಍	KANNADA VOWEL SIGN I
0CC0	ಋ	KANNADA VOWEL SIGN II
0CC1	ಠ	KANNADA VOWEL SIGN U
0CC2	ಊ	KANNADA VOWEL SIGN UU
0CC3	ೠ	KANNADA VOWEL SIGN VOCALIC R
0CC6	ಋ	KANNADA VOWEL SIGN E
0CC7	ಠ	KANNADA VOWEL SIGN EE
0CC8	ಠ	KANNADA VOWEL SIGN AI
0CCA	ಠ	KANNADA VOWEL SIGN O
0CCB	ಠ	KANNADA VOWEL SIGN OO
0CCC	ಠ	KANNADA VOWEL SIGN AU



Department of Information Technology,
Ministry of Communications and Information Technology,
Government of India, New Delhi

0CE2	२	KANNADA VOWEL SIGN VOCALIC L
VIRAMA (H)		
0CCD	०	KANNADA SIGN VIRAMA
AVAGRAHA (Y)		
0CBD	ॡ	KANNADA SIGN AVAGRAHA



6. VARIANT TABLE

VARIANTS		
८८ 0C97+0CCD+0C97	८८ 0C97+0CCD+0CB2	
८९ 0CA6+0CCD+0CA6	८९ 0CA6+0CCD+0CA7	
९० 0CAC+0CCD+0CA6	९० 0CAC+0CCD+0CA7	९० 0CAC+0CCD+0CB2
९१ 0CA5+0CBF	९१ 0CA6+0CBF	९१ 0CA7+0CBF
९२ 0CAC+0CBF	९२ 0CAD+0CBF	
९३ 0CAF+0CC6	९३ 0C9D+0CC6	



Department of Information Technology,
Ministry of Communications and Information Technology,
Government of India, New Delhi

7. EXPERTS/BODIES CONSULTED

Expertise provided by C-DAC Thiruvananthapuram.





Department of Information Technology,
Ministry of Communications and Information Technology,
Government of India, New Delhi

8. COUNTRY CODE TOP LEVEL DOMAIN (ccTLD) FOR KANNADA

India (Bhārat) localized in Kannada – ಭಾರತ (xn--2scrj9c)

