# VEDIC MATHEMATICS ON

# ORGANIZATION FORMAT OF GANITA SUTRAS

## About the course

## Index

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# VEDIC MATHEMATICS ON

# ORGANIZATION FORMAT OF GANITA SUTRAS

## - Dr. S. K. Kapoor

## Part -0

## ANNOUNCEMENT

NEW COURSE FROM DR S K KAPOOR - "ORGANIZATION FORMAT OF GANITA SUTRAS"

A free 100-step course will be available on website www.vedicganita.org. It is to commence from 15 July, 2013.

Ganita Sutras are the powerful system. From first letter to the last letter of the whole text of Ganita Sutras including Ganita Upsutras, there is a complete mathematical organization along geometric format of coverage range from Earth to Sun. Conceptually, in one sentence it may be said that Ganita Sutras avail the organization format of hyper cube 6, the representative regular body of real 6-space.

Ganita Sutras being the Vedic scripture, it is complete in itself and is of self referral features because of which the values of Ganita Sutras unfolds from within the Sutras themselves and as such Ganita Sutras can be interpreted in terms of Ganita Sutras themselves.

Ganita Sutras manifest the principle values of its systems while Ganita Upsutras manifest the complementary values inherently, these manifestations Sutras focus upon Sutra 1 for sequential unfolding of their systems including that of Ganita Upsutras as well. However, Ganita Upsutras as well manifest as a complete system in itself whose sequential unfolding flows from within Ganita Upsutra-1 itself.

Ganita Sutra-1 text avails precisely sixteen letters which supply sequential structural keys for the whole range of Sutras 1 to 16 in that sequence and order. The conceptual overview of this organization feature is along the dimensional synthesis process of reaching dimension of dimension level and the emerging

parabolic coordination thereof distinctively for even and odd orders of dimensional spaces.

Ganita Sutras remain dormant for centuries. In our times, with efforts of Swami Bharti Krishna Tirthji Maharaj, subject gathered momentum. Somehow, the values of the system have remained confined to the illustrative demonstrations worked out by Swami Ji. And, the subject has already shown visible science of stagnation which are bound to make Ganita Sutras again to be dormant, if the things are permitted to remain in the present state. To come out of the present state need is that let us go to the basics of the system starting with the organization format of Ganita Sutras.                                                        Dr. S. K. Kapoor

**Part -1**
**Pre-requisite of the course**

**I**
**Acquaintance with Text of Ganita Sutras**

This is a course about organization format of Ganita Sutras. In this course text of Ganita Sutras is being chased from its first letter to the last letter of Ganita Sutras (including Ganita Upsutras).

With it, the prime focus point is the text of Ganita Sutras itself.

Therefore it may be taken as a pre-requisite step to have proper acquaintance with the text.

The text, for convenient reference is being reproduced as document no. 1.

**II**
**Acquaintance with Devnagri alphabet**

As the original text of Ganita Sutras is in Sanskrit and as the same has reached us in Devnagri script, as such one shall have proper acquaintance with its individual letters script forms as well as as integrated organization format of the whole Devnagri alphabet. However is to have such exposure for the first time, he /she is not to wait on this front but shall simultaneously continue efforts for having proper acquaintance with Devnagri alphabet set up and its individual letter script form.

**III**
**Tabulate one's Learning success**

As it is going to be first exposure of its kind, as such the learning success need be tabulated. This impliedly would bring to focus learning difficulties which need be timely to be addressed. For it as well one shall have frank enlisting so that the same can be properly addressed. Towards it, one way would be to share it with others

and to have their resolutions. For it, some help may follow from me, but for it I certainly would need be knowing about the mathematical exposure one has.

## IV
## Basic mathematical formats

Two basic mathematical formats namely of numbers and of dimensional spaces, are being availed prominently. As such numbers line and geometrical line would be the basic mathematical tool of which one shall have proper handling. Basic focus, here during the course is to center around interval, square and cube as hyper cubes 1, 2 and 3, and this range is to get extended up till hyper cubes 4, 5 and 6. Parallel to it would be the range of hyper circles. One may time and again visit and revisit the set ups of these ranges of geometric bodies manifestations.

## Part -2

## Preliminary steps

### Background thought

1. It may be pointed at the outset that for comprehension of the conceptual terms of the text of Ganita Sutras including that of Ganita Upsutras, we have to reach at the values and format of individual letters availed by the text.

2. For focused attention, this initial lead may be appreciated well with the help of illustrative case of the text of Ganita Sutra-1.

3. Text of Ganita Sutra-1 consists of two words namely (1) 'एकाधिकेन *(Ekadhiken)* (2) पूर्वेण *(Purvena.)*'

4. The word 'एकाधिकेन' *(Ekadhiken),* as such is the first conceptual term which permits simple English rendering as 'one more than'.

5. The word 'एकाधिकेन' *(Ekadhiken)* is composed of sub terms (A) एक / *(Ek)* and (B) अधिकेन *(adhiken).*

6. The sub term अधिकेन *(adhiken)* as well avails sub terms (B) I अधि *(adhi)* and (B) II केन *(ken)*.

7. The sub term (B) I (i) अधि *(adhi)* as well avails sub terms अध *(adh)* (B) I (ii) इ *(i)*.

8. This way at the end sub terms of terms ultimately take us to the individual letters.

9. And as such, the conceptual terms of the text for their pure and applied values comprehension would require the values and formats accepted by the individual letters of the text.

10. And this reach, that way shall be bringing us face to face with the individualized values and formats of individual letters in the overall context of values of alphabet format itself.

11. The original text of Ganita Sutras is in Sanskrit in Devnagri script.

12. Therefore acquaintance with Devnagri alphabet is going to be of good help.

13. Devnagri alphabet format and Devnagri script form as well is mathematically and geometrically settled.

14. The beauty of Vedic system is that in terms of them beginning and end rest at the same Meant. As such alphabet becomes the starting point of processing as well as the same become the end fruit of the processing.

15. With it, we may start approaching Ganita Sutras in terms of values and format of alphabet and at the end Vedic mathematical systems shall be helping us reach at the virtues of the values and format of alphabet itself.

16. This course aims to decipher information from the text of Ganita Sutras (including Ganita Upsutras) and to reach at the organization format of Ganita Sutras and Ganita Upsutras.

17. Here, the text of Ganita Sutras, would unless and until the context is otherwise, would include both Ganita Sutras as well as Ganita Upsutras.

18. With it, the prime focus naturally would be upon the TEXT (OF GANITA SUTRAS), and as such the same is being reproduced hereunder as the prime document no. 1 of the course.

19. With it the **first preliminary step** for the course, naturally would be that one shall get well acquainted with the text of Sixteen Ganita Sutras and Thirteen Ganita Upsutras as an integrated Text.

20. This text from its first letter (ए) / sixth vowel, to its 519$^{th}$ last letter (ः) / Visergania (formatted flow organization), deserves to be chased as such in that sequence and order.

21. This being so, the text deserves to be tabulated in sequential ordering of range 1 to 519 in the sequence and order of the letters being availed by the text of Ganita Sutra 1 to 16 followed by the text of Ganita Upsutra 1 to 13.

22. As such, **second preliminary step** of the course would be to tabulate 519 letters range of the text of Ganita Sutras (1 to 16) followed by Ganita Upsutras (1 to 13) in that sequence and order.

23. Document no. 2 of the course tabulates this 1 to 519 letters range of the text of Ganita Sutras and Upsutras. One shall visit this tabulation to familiarize oneself this range.

24. The text of Ganita Sutras including Ganita Upsutras avails in all 36 letters. Of these 10 are the vowels and 26 are the consonants including two yama letters. As such one shall acquaint well with this 36 letters range (document no. 3).

25. As such **third preliminary step** of the course would be to tabulate letter wise frequencies of appearance in the Text of Ganita Sutras and Upsutras.

This exercise may be of two parts. First part would be to tabulate frequencies for Ganita Sutras and Upsutras separately and second part would be to tabulate frequencies for the integrated whole text of Ganita Sutras including that of Ganita Upsutras.

26. In the light of above preliminary steps, it may well be coming to focus as that:

i.     The Text is of two parts. 16 Sutras and 13 Upsutras.

ii.     Sutras Text is 283 letters range while Upsutras text is of 236 letters range.

iii.     Of this 519 letters range of integrated text of Ganita Sutras including Ganita Upsutras, 219 are the vowels and 300 are the consonants including yama letters.

iv.     To 219 vowels range, Ganita Sutras contribution is of 119 vowels while that of Ganita Upsutras is of 100 vowels.

v.     The 300 consonants range has 164 consonants contribution from the text of Ganita Sutras and remaining 136 consonants contribution is from the text of Ganita Upsutras.

## Document – 1 of the Course

## Text

## <u>GANITA</u> SUTRAS AND UPSUTRAS

### Ganita Sutras

| Sutra | Sutra text (Original in Sanskrit, with Roman script in brackets) |
|-------|------------------------------------------------------------------|
| 01 | एकाधिकेन पूर्वेण। *(Ekadhiken Purvena.)* |
| 02 | निखिलं नवतश्चरमं दशतः।<br><br>*(Nikhilam Navatascramam Dasatah)* |
| 03 | ऊर्ध्वतिर्यग्भ्याम् तर्ध्वतिर्यग्भ्याम्। *(Urdhvatiryagbhyam)* |
| 04 | परावर्त्य योजयेत्। *(Paravartya Yojayet)* |
| 05 | शून्यं साम्यसमुच्चये । <br> *(Sunyam Samyasamuccaye)* |
| 06 | (आनुरूप्ये) शून्यमन्यत्। <br> *(Anurupye) Sunyamanyat)* |
| 07 | संकलव्यवकलनाभ्याम्। <br> *(Sankalanavyavakalanbhyam)* |
| 08 | पूरणापूरणाभ्याम्। *(Puranapuranabhyan)* |
| 09 | चलनकलनाभ्याम्। *(Calanakalanabhyam)* |
| 10 | यावदूनम्। *(Yavadunam)* |
| 11 | व्यष्टिसमिष्टिः। *(Vyastisamastih)* |
| 12. | शेषाण्यङ्केन चरमेण। *(Sesnyankena Caramena)* |
| 13 | (सोपान्त्यद्वयमन्तम्) *(Sopantyadvyamantyam)* |
| 14 | एकन्यूनेन पूर्वेण। *(Ekanyunena Purvena)* |
| 15 | गुणितसमुच्चयः। *(Gunitasamuccayah)* |
| 16 | गुणकसमुच्चयः। *(Gunaksamuccayah)* |

## Ganita Upsutras

| Upsutra | Upsutra text (Original in Sanskrit, with Roman script in brackets) |
|---------|-------------------------------------------------------------------|
| 01 | आनुरूप्येण। **(Anurupyena)** |
| 02 | शिष्यते शेषसंज्ञः। *(Sisyate Sesasamjnah)* |
| 03 | आघमाघेनान्त्यमन्त्येन। <br><br> *(Adyamadyenantyamantyen)* |
| 04 | केवलैः सप्तकं गुण्यात्। <br><br> *(Kevalaih Saptakam Gunyat)* |
| 05 | वेष्टनम्। *(Vestanam)* |
| 06 | यावदूनं तावदूनम्। *(Yavadunam Tavadunam)* |
| 07 | यावदूनं तावदूनीकृत्य वर्ग च योजयेत्। <br><br> *(Yavadunam Tavadunikrtya Vargan ca Yojayet)* |
| 08 | अन्त्ययोर्दशकेपि। *(Antyayordasake'pi)* |
| 09 | अन्त्ययोरेव। *(Antyayoreva)* |
| 10 | समुच्चयगुणितः। *(Samuccayagunitah)* |
| 11 | लोपनस्थपनाभ्याम्। *(Lopana Sthapananabhyam)* |
| 12 | विलोकनम् *(Vilokanam)* |
| 13 | गुणितसमुच्चयः समुच्चयगुणितः <br><br> *(GunitaSamuccaya Samuccayagunitah)* |

**Document no. 2 of the course**

**Range of 519 letters of the text**

| Sr. | Sutra | Letter |
|-----|-------|--------|
| 001 | Sutra-1 | ए |
| 002 | Sutra-1 | क् |
| 003 | Sutra-1 | आ |
| 004 | Sutra-1 | ध् |
| 005 | Sutra-1 | इ |
| 006 | Sutra-1 | क् |
| 007 | Sutra-1 | ए |
| 008 | Sutra-1 | न् |
| 009 | Sutra-1 | अ |
| 010 | Sutra-1 | प् |
| 011 | Sutra-1 | ऊ |
| 012 | Sutra-1 | र् |
| 013 | Sutra-1 | व् |
| 014 | Sutra-1 | ए |
| 015 | Sutra-1 | ण् |
| 016 | Sutra-1 | अ |
| 017 | Sutra-2 | न् |
| 018 | Sutra-2 | इ |
| 019 | Sutra-2 | ख् |
| 020 | Sutra-2 | इ |
| 021 | Sutra-2 | ल् |
| 022 | Sutra-2 | अ |
| 023 | Sutra-2 | ं |
| 024 | Sutra-2 | न् |
| 025 | Sutra-2 | अ |
| 026 | Sutra-2 | व् |
| 027 | Sutra-2 | अ |
| 028 | Sutra-2 | त् |
| 029 | Sutra-2 | अ |
| 030 | Sutra-2 | श् |
| 031 | Sutra-2 | च् |
| 032 | Sutra-2 | अ |
| 033 | Sutra-2 | र |
| 034 | Sutra-2 | अ |

| 035 | Sutra-2 | म् |
|-----|---------|-----|
| 036 | Sutra-2 | अ |
| 037 | Sutra-2 | ं |
| 038 | Sutra-2 | द् |
| 039 | Sutra-2 | अ |
| 040 | Sutra-2 | श् |
| 041 | Sutra-2 | अ |
| 042 | Sutra-2 | त् |
| 043 | Sutra-2 | अ |
| 044 | Sutra-2 | ः |
| 045 | Sutra-3 | ऊ |
| 046 | Sutra-3 | घ् |
| 047 | Sutra-3 | र् |
| 048 | Sutra-3 | व् |
| 049 | Sutra-3 | अ |
| 050 | Sutra-3 | त् |
| 051 | Sutra-3 | इ |
| 052 | Sutra-3 | र् |
| 053 | Sutra-3 | य् |
| 054 | Sutra-3 | अ |
| 055 | Sutra-3 | ग् |
| 056 | Sutra-3 | भ् |
| 057 | Sutra-3 | य् |
| 058 | Sutra-3 | आ |
| 059 | Sutra-3 | म् |
| 060 | Sutra-4 | प् |
| 061 | Sutra-4 | अ |
| 062 | Sutra-4 | र् |
| 063 | Sutra-4 | आ |
| 064 | Sutra-4 | व् |
| 065 | Sutra-4 | अ |
| 066 | Sutra-4 | र् |
| 067 | Sutra-4 | त् |
| 068 | Sutra-4 | य् |
| 069 | Sutra-4 | अ |
| 070 | Sutra-4 | य् |
| 071 | Sutra-4 | ओ |

| 072 | Sutra-4 | ज् |
| --- | --- | --- |
| 073 | Sutra-4 | अ |
| 074 | Sutra-4 | य् |
| 075 | Sutra-4 | ए |
| 076 | Sutra-4 | त् |
| 077 | Sutra-5 | श् |
| 078 | Sutra-5 | ऊ |
| 079 | Sutra-5 | न् |
| 080 | Sutra-5 | य् |
| 081 | Sutra-5 | अ |
| 082 | Sutra-5 | |
| 083 | Sutra-5 | स् |
| 084 | Sutra-5 | आ |
| 085 | Sutra-5 | म् |
| 086 | Sutra-5 | य् |
| 087 | Sutra-5 | अ |
| 088 | Sutra-5 | स् |
| 089 | Sutra-5 | अ |
| 090 | Sutra-5 | म् |
| 091 | Sutra-5 | उ |
| 092 | Sutra-5 | च् |
| 093 | Sutra-5 | च् |
| 094 | Sutra-5 | अ |
| 095 | Sutra-5 | य् |
| 096 | Sutra-6 | ए |
| 097 | Sutra-6 | आ |
| 098 | Sutra-6 | न् |
| 099 | Sutra-6 | उ |
| 100 | Sutra-6 | र् |
| 101 | Sutra-6 | ऊ |
| 102 | Sutra-6 | प् |
| 103 | Sutra-6 | य् |
| 104 | Sutra-6 | ए |
| 105 | Sutra-6 | श् |
| 106 | Sutra-6 | ऊ |

| 107 | Sutra-6 | न् |
| --- | --- | --- |
| 108 | Sutra-6 | य् |
| 109 | Sutra-6 | अ |
| 110 | Sutra-6 | म् |
| 111 | Sutra-6 | अ |
| 112 | Sutra-6 | न् |
| 113 | Sutra-6 | य् |
| 114 | Sutra-6 | अ |
| 115 | Sutra-6 | त् |
| 116 | Sutra-7 | स् |
| 117 | Sutra-7 | अ |
| 118 | Sutra-7 | |
| 119 | Sutra-7 | क् |
| 120 | Sutra-7 | अ |
| 121 | Sutra-7 | ल् |
| 122 | Sutra-7 | अ |
| 123 | Sutra-7 | न् |
| 124 | Sutra-7 | अ |
| 125 | Sutra-7 | य् |
| 126 | Sutra-7 | य् |
| 127 | Sutra-7 | अ |
| 128 | Sutra-7 | व् |
| 129 | Sutra-7 | अ |
| 130 | Sutra-7 | क् |
| 131 | Sutra-7 | अ |
| 132 | Sutra-7 | ल् |
| 133 | Sutra-7 | अ |
| 134 | Sutra-7 | ल् |
| 135 | Sutra-7 | आ |
| 136 | Sutra-7 | भ् |
| 137 | Sutra-7 | य् |
| 138 | Sutra-7 | आ |
| 139 | Sutra-7 | म् |
| 140 | Sutra-8 | प् |
| 141 | Sutra-8 | ऊ |
| 142 | Sutra-8 | र् |

| | | |
|---|---|---|
| 143 | Sutra-8 | अ |
| 144 | Sutra-8 | ण् |
| 145 | Sutra-8 | आ |
| 146 | Sutra-8 | प् |
| 147 | Sutra-8 | **ऊ** |
| 148 | Sutra-8 | र् |
| 149 | Sutra-8 | अ |
| 150 | Sutra-8 | ण् |
| 151 | Sutra-8 | आ |
| 152 | Sutra-8 | भ् |
| 153 | Sutra-8 | य् |
| 154 | Sutra-8 | आ |
| 155 | Sutra-8 | म् |
| 156 | Sutra-9 | च् |
| 157 | Sutra-9 | अ |
| 158 | Sutra-9 | ल् |
| 159 | Sutra-9 | अ |
| 160 | Sutra-9 | न् |
| 161 | Sutra-9 | अ |
| 162 | Sutra-9 | क् |
| 163 | Sutra-9 | **ऊ** |
| 164 | Sutra-9 | ल् |
| 165 | Sutra-9 | अ |
| 166 | Sutra-9 | न् |
| 167 | Sutra-9 | आ |
| 168 | Sutra-9 | भ् |
| 169 | Sutra-9 | य् |
| 170 | Sutra-9 | भ् |
| 171 | Sutra-9 | म् |
| 172 | Sutra-10 | य् |
| 173 | Sutra-10 | आ |
| 174 | Sutra-10 | व् |
| 175 | Sutra-10 | अ |
| 176 | Sutra-10 | द् |
| 177 | Sutra-10 | **ऊ** |

| 178 | Sutra-10 | न् |
|---|---|---|
| 179 | Sutra-10 | अ |
| 180 | Sutra-10 | म् |
| 181 | Sutra-11 | व् |
| 182 | Sutra-11 | य् |
| 183 | Sutra-11 | अ |
| 184 | Sutra-11 | ष् |
| 185 | Sutra-11 | ट् |
| 186 | Sutra-11 | इ |
| 187 | Sutra-11 | स् |
| 188 | Sutra-11 | अ |
| 189 | Sutra-11 | म् |
| 190 | Sutra-11 | अ |
| 191 | Sutra-11 | ष् |
| 192 | Sutra-11 | ट् |
| 193 | Sutra-11 | इ |
| 194 | Sutra-11 | ः |
| 195 | Sutra-11 | श् |
| 196 | Sutra-11 | ए |
| 197 | Sutra-11 | ष् |
| 198 | Sutra-11 | आ |
| 199 | Sutra-11 | ण् |
| 200 | Sutra-11 | ए |
| 201 | Sutra-11 | अ |
| 202 | Sutra-11 | ड़् |
| 203 | Sutra-11 | क् |
| 204 | Sutra-11 | ए |
| 205 | Sutra-12 | न् |
| 206 | Sutra-12 | अ |
| 207 | Sutra-12 | च् |
| 208 | Sutra-12 | अ |
| 209 | Sutra-12 | र् |
| 210 | Sutra-12 | अ |
| 211 | Sutra-12 | म् |
| 212 | Sutra-12 | ए |
| 213 | Sutra-12 | ण् |

| | | |
|---|---|---|
| 214 | Sutra-12 | अ |
| 215 | Sutra-13 | स् |
| 216 | Sutra-13 | ओ |
| 217 | Sutra-13 | प् |
| 218 | Sutra-13 | आ |
| 219 | Sutra-13 | न् |
| 220 | Sutra-13 | त् |
| 221 | Sutra-13 | य् |
| 222 | Sutra-13 | अ |
| 223 | Sutra-13 | द् |
| 224 | Sutra-13 | व् |
| 225 | Sutra-13 | अ |
| 226 | Sutra-13 | य् |
| 227 | Sutra-13 | अ |
| 228 | Sutra-13 | न् |
| 229 | Sutra-13 | अ |
| 230 | Sutra-13 | न् |
| 231 | Sutra-13 | त् |
| 232 | Sutra-13 | य् |
| 233 | Sutra-13 | द् |
| 234 | Sutra-13 | म् |
| 235 | Sutra-14 | ए |
| 236 | Sutra-14 | क् |
| 237 | Sutra-14 | अ |
| 238 | Sutra-14 | न् |
| 239 | Sutra-14 | य् |
| 240 | Sutra-14 | ऊ |
| 241 | Sutra-14 | न् |
| 242 | Sutra-14 | ए |
| 243 | Sutra-14 | न् |
| 244 | Sutra-14 | अ |
| 245 | Sutra-14 | प् |
| 246 | Sutra-14 | ऊ |
| 247 | Sutra-14 | र् |
| 248 | Sutra-14 | व् |
| 249 | Sutra-14 | ए |

| | | |
|---|---|---|
| 250 | Sutra-14 | ण् |
| 251 | Sutra-14 | अ |
| 252 | Sutra-15 | ग् |
| 253 | Sutra-15 | उ |
| 254 | Sutra-15 | ण् |
| 255 | Sutra-15 | इ |
| 256 | Sutra-15 | त् |
| 257 | Sutra-15 | अ |
| 258 | Sutra-15 | स् |
| 259 | Sutra-15 | अ |
| 260 | Sutra-15 | म् |
| 261 | Sutra-15 | इ |
| 262 | Sutra-15 | च् |
| 263 | Sutra-15 | च् |
| 264 | Sutra-15 | अ |
| 265 | Sutra-15 | य् |
| 266 | Sutra-15 | अ |
| 267 | Sutra-15 | ः |
| 268 | Sutra-16 | ग् |
| 269 | Sutra-16 | उ |
| 270 | Sutra-16 | ण् |
| 271 | Sutra-16 | अ |
| 272 | Sutra-16 | क् |
| 273 | Sutra-16 | अ |
| 274 | Sutra-16 | स् |
| 275 | Sutra-16 | अ |
| 276 | Sutra-16 | म् |
| 277 | Sutra-16 | उ |
| 278 | Sutra-16 | च् |
| 279 | Sutra-16 | च् |
| 280 | Sutra-16 | अ |
| 281 | Sutra-16 | य् |
| 282 | Sutra-16 | अ |
| 283 | Sutra-16 | ः |
| 284 | Upsutra-1 | आ |
| 285 | Upsutra-1 | न् |

| 286 | Upsutra-1 | उ |
| 287 | Upsutra-1 | र |
| 288 | Upsutra-1 | ऊ |
| 289 | Upsutra-1 | प् |
| 290 | Upsutra-1 | य् |
| 291 | Upsutra-1 | ए |
| 292 | Upsutra-1 | ण् |
| 293 | Upsutra-1 | अ |
| 294 | Upsutra-2 | श् |
| 295 | Upsutra-2 | इ |
| 296 | Upsutra-2 | ष् |
| 297 | Upsutra-2 | य् |
| 298 | Upsutra-2 | अ |
| 299 | Upsutra-2 | त् |
| 300 | Upsutra-2 | ए |
| 301 | Upsutra-2 | श् |
| 302 | Upsutra-2 | ए |
| 303 | Upsutra-2 | ष् |
| 304 | Upsutra-2 | अ |
| 305 | Upsutra-2 | स् |
| 306 | Upsutra-2 | अ |
| 307 | Upsutra-2 | |
| 308 | Upsutra-2 | ज् |
| 309 | Upsutra-2 | |
| 310 | Upsutra-2 | अ |
| 311 | Upsutra-2 | ः |
| 312 | Upsutra-3 | आ |
| 313 | Upsutra-3 | द् |
| 314 | Upsutra-3 | य् |
| 315 | Upsutra-3 | अ |
| 316 | Upsutra-3 | म् |
| 317 | Upsutra-3 | आ |
| 318 | Upsutra-3 | द् |
| 319 | Upsutra-3 | य् |
| 320 | Upsutra-3 | ए |
| 321 | Upsutra-3 | न् |

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| 322 | Upsutra-3 | आ |
| 323 | Upsutra-3 | न् |
| 324 | Upsutra-3 | त् |
| 325 | Upsutra-3 | य् |
| 326 | Upsutra-3 | अ |
| 327 | Upsutra-3 | म् |
| 328 | Upsutra-3 | अ |
| 329 | Upsutra-3 | न् |
| 330 | Upsutra-3 | त् |
| 331 | Upsutra-3 | य् |
| 332 | Upsutra-3 | ए |
| 333 | Upsutra-3 | न् |
| 334 | Upsutra-3 | अ |
| 335 | Upsutra-4 | क् |
| 336 | Upsutra-4 | ए |
| 337 | Upsutra-4 | व् |
| 338 | Upsutra-4 | अ |
| 339 | Upsutra-4 | ल् |
| 340 | Upsutra-4 | ऐ |
| 341 | Upsutra-4 | ः |
| 342 | Upsutra-4 | स् |
| 343 | Upsutra-4 | अ |
| 344 | Upsutra-4 | प् |
| 345 | Upsutra-4 | त् |
| 346 | Upsutra-4 | अ |
| 347 | Upsutra-4 | क् |
| 348 | Upsutra-4 | अ |
| 349 | Upsutra-4 | ॕ |
| 350 | Upsutra-4 | ग् |
| 351 | Upsutra-4 | अ |
| 352 | Upsutra-4 | ण् |
| 353 | Upsutra-4 | य् |
| 354 | Upsutra-4 | आ |
| 355 | Upsutra-4 | त् |
| 356 | Upsutra-5 | व् |
| 357 | Upsutra-5 | ए |

| 358 | Upsutra-5 | ष् |
| 359 | Upsutra-5 | ट् |
| 360 | Upsutra-5 | अ |
| 361 | Upsutra-5 | न् |
| 362 | Upsutra-5 | अ |
| 363 | Upsutra-5 | म् |
| 364 | Upsutra-6 | य् |
| 365 | Upsutra-6 | आ |
| 366 | Upsutra-6 | व् |
| 367 | Upsutra-6 | अ |
| 368 | Upsutra-6 | द् |
| 369 | Upsutra-6 | ऊ |
| 370 | Upsutra-6 | न् |
| 371 | Upsutra-6 | अ |
| 372 | Upsutra-6 | |
| 373 | Upsutra-6 | त् |
| 374 | Upsutra-6 | आ |
| 375 | Upsutra-6 | व् |
| 376 | Upsutra-6 | अ |
| 377 | Upsutra-6 | द् |
| 378 | Upsutra-6 | ऊ |
| 379 | Upsutra-6 | न् |
| 380 | Upsutra-6 | अ |
| 381 | Upsutra-6 | म् |
| 382 | Upsutra-7 | य् |
| 383 | Upsutra-7 | आ |
| 384 | Upsutra-7 | व् |
| 385 | Upsutra-7 | अ |
| 386 | Upsutra-7 | द् |
| 387 | Upsutra-7 | ऊ |
| 388 | Upsutra-7 | न् |
| 389 | Upsutra-7 | अ |
| 390 | Upsutra-7 | |
| 391 | Upsutra-7 | त् |
| 392 | Upsutra-7 | आ |

| 393 | Upsutra-7 | व् |
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| 394 | Upsutra-7 | अ |
| 395 | Upsutra-7 | द् |
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| 398 | Upsutra-7 | इ |
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| 400 | Upsutra-7 | ऋ |
| 401 | Upsutra-7 | त् |
| 402 | Upsutra-7 | यृ |
| 403 | Upsutra-7 | अ |
| 404 | Upsutra-7 | व् |
| 405 | Upsutra-7 | अ |
| 406 | Upsutra-7 | र |
| 407 | Upsutra-7 | ग् |
| 408 | Upsutra-7 | अ |
| 409 | Upsutra-7 |  |
| 410 | Upsutra-7 | च् |
| 411 | Upsutra-7 | अ |
| 412 | Upsutra-7 | य् |
| 413 | Upsutra-7 | ओ |
| 414 | Upsutra-7 | ज् |
| 415 | Upsutra-7 | अ |
| 416 | Upsutra-7 | य् |
| 417 | Upsutra-7 | ए |
| 418 | Upsutra-7 | त् |
| 419 | Upsutra-8 | अ |
| 420 | Upsutra-8 | न् |
| 421 | Upsutra-8 | त् |
| 422 | Upsutra-8 | य् |
| 423 | Upsutra-8 | अ |
| 424 | Upsutra-8 | य् |
| 425 | Upsutra-8 | ओ |
| 426 | Upsutra-8 | द् |
| 427 | Upsutra-8 | अ |
| 428 | Upsutra-8 | र् |

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| 429 | Upsutra-8 | श् |
| 430 | Upsutra-8 | अ |
| 431 | Upsutra-8 | क् |
| 432 | Upsutra-8 | ए |
| 433 | Upsutra-8 | प् |
| 434 | Upsutra-8 | इ |
| 435 | Upsutra-9 | अ |
| 436 | Upsutra-9 | न् |
| 437 | Upsutra-9 | त् |
| 438 | Upsutra-9 | य् |
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| 444 | Upsutra-9 | व् |
| 445 | Upsutra-9 | अ |
| 446 | Upsutra-9 | स् |
| 447 | Upsutra-10 | अ |
| 448 | Upsutra-10 | म् |
| 449 | Upsutra-10 | उ |
| 450 | Upsutra-10 | च् |
| 451 | Upsutra-10 | च् |
| 452 | Upsutra-10 | अ |
| 453 | Upsutra-10 | य् |
| 454 | Upsutra-10 | अ |
| 455 | Upsutra-10 | ग् |
| 456 | Upsutra-10 | उ |
| 457 | Upsutra-10 | ण् |
| 458 | Upsutra-10 | इ |
| 459 | Upsutra-10 | त् |
| 460 | Upsutra-10 | अ |
| 461 | Upsutra-10 | ः |
| 462 | Upsutra-10 | ल् |
| 463 | Upsutra-11 | ओ |
| 464 | Upsutra-11 | प् |

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| 465 | Upsutra-11 | अ |
| 466 | Upsutra-11 | न् |
| 467 | Upsutra-11 | अ |
| 468 | Upsutra-11 | स् |
| 469 | Upsutra-11 | थ् |
| 470 | Upsutra-11 | आ |
| 471 | Upsutra-11 | प् |
| 472 | Upsutra-11 | अ |
| 473 | Upsutra-11 | अ |
| 474 | Upsutra-11 | न् |
| 475 | Upsutra-11 | आ |
| 476 | Upsutra-11 | भ् |
| 477 | Upsutra-11 | आ |
| 478 | Upsutra-11 | ण् |
| 479 | Upsutra-11 | व् |
| 480 | Upsutra-12 | इ |
| 481 | Upsutra-12 | ल् |
| 482 | Upsutra-12 | ओ |
| 483 | Upsutra-12 | क् |
| 484 | Upsutra-12 | अ |
| 485 | Upsutra-12 | न् |
| 486 | Upsutra-12 | अ |
| 487 | Upsutra-12 | म् |
| 488 | Upsutra-12 | ग् |
| 489 | Upsutra-13 | उ |
| 490 | Upsutra-13 | ण् |
| 491 | Upsutra-13 | इ |
| 492 | Upsutra-13 | त् |
| 493 | Upsutra-13 | अ |
| 494 | Upsutra-13 | स् |
| 495 | Upsutra-13 | अ |
| 496 | Upsutra-13 | म् |
| 497 | Upsutra-13 | उ |
| 498 | Upsutra-13 | च् |
| 499 | Upsutra-13 | च् |
| 500 | Upsutra-13 | अ |

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| 501 | Upsutra-13 | य् |
| 502 | Upsutra-13 | अ |
| 503 | Upsutra-13 | ः |
| 504 | Upsutra-13 | स् |
| 505 | Upsutra-13 | अ |
| 506 | Upsutra-13 | म् |
| 507 | Upsutra-13 | उ |
| 508 | Upsutra-13 | च् |
| 509 | Upsutra-13 | च् |
| 510 | Upsutra-13 | अ |
| 511 | Upsutra-13 | य् |
| 512 | Upsutra-13 | अ |
| 513 | Upsutra-13 | ग् |
| 514 | Upsutra-13 | उ |
| 515 | Upsutra-13 | ण् |
| 516 | Upsutra-13 | इ |
| 517 | Upsutra-13 | त् |
| 518 | Upsutra-13 | अ |
| 519 | Upsutra-13 | ः |

Document no. 3

36 letters range avail by the Text of
Ganita Sutras and Upsutras

| Sr. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Letters | अ | आ | इ | ई | उ | ऊ | ऋ | ए | ऐ | ओ | |

| Sr. | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Letters | क् | ख् | ग् | ड. | च् | ज् | ञ | ट् | ण् | त् | |
| | | | | | | | | | | | |
| Sr. | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | |
| Letters | थ् | द् | ध् | न् | प् | भ् | म् | य् | र् | ल् | |
| | | | | | | | | | | | |
| Sr. | 31 | 32 | 33 | 34 | 35 | 36 | | | | | |
| Letters | व् | श् | स् | ष् | . | : | | | | | |