

Phase 11
Vedic Ganita Sutras

11.2
First pair of letters of Text of
Ganita Sutras & Upsutras

PART – I

Ganita Sutras & Upsutras Text

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PART – I

Ganita Sutras & Upsutras Text

I

FIRST PAIR OF LETTERS

(ए, क्)

1. First letter of the Text is vowel.
2. Second letter of the Text is consonant.
3. First letter of the Text is sixth vowel (ए).

4. Second letter of the Text is first consonant (क).
5. First consonant is first varga consonant.
6. There are 9 vowels and 33 consonants.
7. In this set up of 42 letters, first consonant is the 10th letter.
8. Number value 42 is parallel with summation value of four folds (9, 10, 11, 12) of Hyper cube 11.
9. Number value 10 is parallel with summation value of four folds (1, 2, 3, 4) of Hyper Cube 3.
10. Number value 10 is parallel with is set up of 10 directions (directional frame) within 3-space.
11. 11th direction takes from origin of cube into 4-space.
12. 4-space is a spatial order space.
13. Number value 42 is a double digit number of digits values '4' and '2' respectively.
14. Sahtapatya of '4' is of features of 4-space.
15. Sathapatya of '2' is of features of 2-space.
16. 2-space plays the role of spatial order of 4-space.

II

SECOND LETTER OF THE TEXT

(क / 1.1)

17. Letter 'क' is the first letter of first row of 5 x 5 varga consonants.
18. Letter 'क' is also the first letter of the first column of 5 x 5 varga consonants.
19. TCV (क) = 1, of Sathapatya of linear order .
20. First row is a set up of 5 letters (क, ख, ग, घ, ङ) of TCV values (1, 2, 3, 4, 5) and of Sathapatya of sequential folds 'linear, spatial, solid, creative and transcendental'.

21. First column is a set up of 5 letters (क्, च्, ट्, त्, पू) of TCV values (1, 2, 3, 4, 5) and of Sathapatya of sequential orders 'linear, spatial, solid, creative and transcendental'.

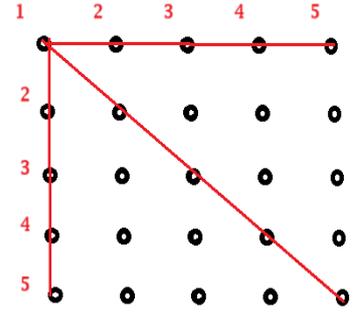
क	ख	ग	घ	ङ
च	छ	ज	झ	ञ
ट	ठ	ड	ढ	ण
त	थ	द	ध	न
प	फ	ब	भ	म

22. 'क्' being a varga consonant, as such it is of Sathapatya of spatial axis feature (pair of linear axes).

23. Synthesis of pair of linear axes is of value '3' = (1, 1).

24. Diagonal wise letter 'क्' to 'म्' is a set up of five letters of TCV values (1, 3, 5, 7, 9) of Sathapatya features

$G_1^0, G_3^1, G_5^2, G_7^3, G_9^4$; 1, 3, 5, 7, 9 geometries of H_0, H_1, H_2, H_3, H_4 .



25. Sathapatya feature of single linear axis of

(क्) first varga consonant gives rise to TCV (क्) = 1,

26. Sathapatya feature of pair of linear axes of (क्) placement as first varga consonant gives rise to a set up of spatial order of creator (4-space)

Four head lord (Brahma ब्रह्मा) is the presiding deity.

27. Scriptures preserve this value and feature as 'क ब्रह्मा';

TCV (क्) = 4

28. Triple axes manifests solid order 5-space, presided by 5 head lord Shiv (शिव).

29. Scriptures preserve this value and feature as 'क शिव';

TCV (क्) = 5

30. First word formulation (एकाधिकेन) of first Ganita Sutra is of TCV value (i) (एकाधिकेन) = 34 for TCV (क्) = 1.

(ii) (एकाधिकेन) = 40 for TCV (क्) = 4.

31. TCV (क्) = 5 is the Anubanda of Maheshwara Sutra – 2 .

(ऋ, लृ, क्)

III Ganita Sutras are self referral

32. By self referral means, Ganita Sutras format unfolds from within and makes Ganita Sutras domain as self sustained domain.
33. First impression may be, as if 'one' is not defined and without defining it, it is made as operational base.
34. Let us revisit the text of Ganita Sutra 1 (एकाधिकेन पूर्वेण).
35. First word formulation text, as it is of three ladder :
- (i) (एक / Ek / One)
 - (ii) (अधि/ Adhi /more)
 - (iii) (केन / ken / more than what)
36. This three steps is of a question format and is raising a question as to 'one is more than what?'
37. Second word formulation 'पूर्वेण' is the answer of the question raised in first word formulation 'एकाधिकेन',
38. The answer is 'पूर्व / previous bound as is framed'.
39. This previous bound as is framed, in the context of 'one' is 'zero'.
40. Let us sequentially chase the text 'पूर्वेण', a composition of 'seven letters : (i) प् (ii) ऊ (iii) र् (iv) व् (v) ए (vi) ण् (vii) अ.
41. Letter 'ए' sixth vowel, is a composite set up of first and second vowels:

$$'ए' = अ + इ$$
 Formulation 'पूर्वेण', emerges as a set up 'पूर्व इण'
42. TCV (इ) = 2 of Sathapatya 2-space of zero order
 'ण' = 'ण् अ'; 'ण्' is anubandha / bound for (अ, इ, उ) ण्, the first Maheshwara sutra.

IV Query :

43. The first impression of text of Ganita Sutra 1 is, as if this operational rule 'one more than before' is to be applied / availed only once and the functional mathematics of Ganita Sutra 1 is only this much.

44. The answer is 'yes' as well as 'no'.
45. It is 'yes' as it takes to 'one' being more than 'previous bound'.
46. It is 'no' as it is not once is to be applied, it is to sequentially applied, as becomes more explicit when we shift to placement of Ganita Sutra 1 along integrated format of 16 Ganita Sutras and 13 Upsutras, together being 29 formulations as 29 is of feature as $29 = TCV$ (ब्रह्मा); as is also of Sathapatya feature of 29 versions of Hyper Cube 14, as representative regular bodies of 14 space; value 14 is parallel with summation value of four folds of Hyper Cube 4 of spatial order.
47. In integrated format, Upsutra 1 is of placement in between Ganita Sutra 1 and Ganita Sutra 2.
48. Ganita Upsutra 1 'आनुरूप्येण'; a four steps ladder :
- '(i) 'अ', (ii) 'अनु' (iii) 'रूप्य' (iv) 'इण' / follow the form as it is framed
49. Both operational / functional rules, together make it amply explicit as that the operational rule 'one more than before' / is available sequentially, as many number of times, as being the inherent demand of second to twenty ninth phase of integrated format of Ganita Sutras and Upsutras. Starting with Ganita Sutra 2 'all from nine to last from ten', whose one of the feature being that shift is going to be from ten place value supply of Ganita Sutra 1 to twenty place value supply of Ganita Sutra 2.

V

Addition & multiplication of values & synthesis of axes Sathapatya

50. Vedic Mathematics, is having 'synthesis of axes Sathapatya' operation, in addition to 'addition and multiplication' operations.
51. Under multiplication operation, $1 \times 1 = 1^2 = 1$.
52. Under addition operation $1 + 1 = 2$.
53. Under Sathapatya operation $(1, 1) = 3$.
54. The addition and multiplication operations with respective identities '0' and '1', individually as groups and together as 'field', takes uptill the reach :

$$(0 + 0) = 0, (1 \times 1) = 1, (0 + 1) = 1, (1 \times 0) = 0$$

55. Under these a pair of operations, a situation emerges as :

$$2 + 2 = 4, 2 \times 2 = 4, (-2) \times (-2)$$

$$4^2 = 2^4 = 2^{(2^2)} = (2^2)^2$$

Where after individually application of addition and multiplication operations, the operated value and also of application of multiplication operation for negative value element (-2), becomes the same, amounting to in separably distinguishable addition and multiplication operations, particularly when

$$4^2 = 2^4 = 2^{(2^2)} = (2^2)^2$$

56. Vedic Mathematics operation, the Sathapatya operation, brings to focus that here there is a breakthrough from linear order to a spatial order being of a reach from 3-space domain to 4-space domain.

57. This breakthrough, sequentially follows from linear order 3-space to spatial order (4-space) ; spatial order (4-space) to solid order 5-space; solid order (5-space) to creative order (6-space); and so on, as integrated format of Ganita Sutras and Upsutras is potentialized.

PART – II

Enrichment values

I

Way to glimpse and reach at values of Vedic Ganita Sutras

1. Swami Bharti Krishna Tirtha Ji Maharaj, the first interpreter of Ganita Sutras, has shared and preserved in his Books as that he reached at structural keys of Sutras by meditation and consultation of ancient wisdom dictionaries and lexicons over a prolonged period of about eight years in forest solitude. This, that way emerges as that ‘mediation and ancient wisdom dictionaries and lexicons consultation ‘is the way to reach at values of Vedic Ganita Sutras’.

2. Kenneth Ronald Williams has shared and preserved in his celebrated Book 'Crowning Gem', as that 'Petrons recognition is the way path of values reach of mathematics of Vedic Ganita Sutras'

II

Enrichment values

1. Maheshwara Sutras

There are 14 maheshwara Sutras

- 1 अ इ उ ण् ॥ 2 ऋ लृ क ॥ 3 ए ओ ङ् ॥ 4 ऐ औ च् ॥
 5 ह य व र ट ॥ 6 ल ण् ॥ 7 ज म ङ् ण न म् ॥ 8 झ भ ञ ॥
 9 घ ढ ध ष् ॥ 10 ज ब ग ड द श् ॥ 11 ख फ छ ठ थ च ट त व् ॥
 12 क प य ॥ 13 श ष स र ॥ 14 ह ल् ॥

2. Saraswati Mantras

- 1 ॐ प्रणो देव इति 2 ॐ आ नो दिव इति
 3 ॐ पावका न इति 4 ॐ चेदचित्रीति
 5 ॐ महो अर्ण इति 6 ॐ चत्वारि वागिति
 7 ॐ यद्वागवदन्तीति 8 ॐ देवी वाचम्इति
 9 ॐ उत त्व इति 10 ॐ अम्बितम्इति

3. Samhita Braham

TCV (संहिता) = 30

TCV (ब्रह्म) = 28

TCV (संहिता ब्रह्मा) = 58

TCV (कृष्णद्वैपायन) = 58

Numbers range 1 to 28 is of 56 factors; $56 = 28 + 28$

Numbers range 1 x 1 to 1 x 28 is of 84 factors; $84 = 28 + 28 + 28$

Numbers range 1 to 30 is of 60 factors; $60 = 30 + 30$

Numbers range 1 x 1 to 1 x 30 is of 90 factors; $90 = 30 + 30 + 30$

Numbers pair (28, 30) is the unique pair as that in both cases ranges of respective numbers are double of the numbers.

First four perfect numbers (6, 28, 496, 8128).

C0 = Serial number C1 = Perfect number C2 = proper divisors C3 = biggest proper divisor C4 = biggest prime factor, C5 = Number of all divisors of perfect number C6 = product of all proper divisors of perfect number.

C0	C1	C2	C3	C4	C5	C6
1	6	1, 2, 3	3	3	1, 2, 3, 6	6^2
2	28	1, 2, 4, 7, 14	14	7	1, 2, 4, 7, 14, 28	28^3
3	496	1, 2, 4, 8, 16, 31, 62, 124, 248	248	31	1, 2, 4, 8, 16, 31, 62, 124, 248, 496	496^5
4	8128	1, 2, 4, 8, 16, 32, 64, 127, 254, 508, 1016, 2032, 4064	4064	127	1, 2, 4, 8, 16, 32, 64, 127, 254, 508, 1016, 2032, 4064, 8128	8128^7

PART – III

Exercises

1. Compile TCV dictionary of word formulation of first two words formulations of text of Ganita Sutra – 1.
2. Compile Sathapatya referencer of word formulations of first two words of text of Ganita Sutra – 1.

3. Reach at factors of values ranges :
 - a) 1 to 4, 1 to 5, 1 to 6, 1 to 8
 - b) 1 to 7, 1 to 9, 1 to 14, 1 to 23
 - c) 1 to 10, 1 to 16, 1 to 29
 - d) 1 to 11, 1 to 17, 1 to 30

4. Reach at factors amongst
 - a) 1 to 200
 - b) 201 to 400
 - c) 401 to 600
 - d) 601 to 800
 - e) 801 to 1000

5. Reach at spectra in 4-space of
 - a) 3-space content
 - b) 4-space content
 - c) 5-space content
 - d) 6-space content
 - e) 7-space content
 - f) 8-space content
 - g) 9-space content

6. Visualize, different applications of Ganita Sutra 1.

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