

Sri – Om VEDIC MATHEMATICS AWARENESS YEAR

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'Credit goes to Swami Bharti Krshna Tirtha Ji Maharaj to focus the attention of present generation about the values of Ganita Sutras (mental Mathematics Sutras)'

All are invited to join Awareness program

All are warmly invited to join the awareness program of Vedic Mathematics. All teachers, parents and students are invited to Learn and Teach Vedic Mathematics for proper intelligence growth at School.

Dr. S. K. Kapoor
Sh. Rakesh Bhatia
Sh. Bhim Sein Khanna
Sh. Deepak Girdhar
- Organizers

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श्री ॐ (Sri Om)

शिव पुराण (Shiv Puran)

Vedic Mathematics, Science & Technology

SOURCE SCRIPTURE

रुद्र संहिता और उमा संहिता

Rudra Samhita and Uma Samhita

1. Rudra Samhita and Uma Samhita respectively are of second and fifth placement of seven samhitas range of Shiv Puran text.
2. This pair of samhitas are intimately interrelated, as much as that, (i) Uma उमा (ii) Satidevi सतिदेवी and (iii) Parvati Devi पार्वती देवी are three folds of Goddess Shiva शिवा, the transcendental (5-space) consort of transcendental (5-space) Lord Shiv (शिव).
3. Here it would be relevant to note that Lord Shiv, five head lord is the overlord of 5-space, which is of a solid dimensional order (3-space in the role of dimension of 5-space) and parallel to it there are three eyes in each of the five heads of idol of Lord Shiv.
4. This solid dimensional order marks its presence in the creative boundary fold (4-space) as boundary of transcendental (5-space) domain.
5. The creative boundary (4-space as boundary), is also of the format of four fold manifestation layer of hyper cube 4 being 2, 3, 4, 5/ 2-space as dimension, 3-space as boundary, 4-space as domain, 5-space as origin)

6. The coordination of spatial dimension (2-space as dimension) with transcendental (5-space) origin, on its chase will help us comprehend and appreciate the organization features of the text of Shiv Puran as that:

(I) Second samhita is of five parts, namely

(i) सृष्टि खण्ड Srishti Khand (ii) सति खण्ड Sati Khand (iii) पार्वती खण्ड Parvati Khand (iv) कुमार खण्ड Kumar Khand (v) युद्ध खण्ड Yudh Khand

(II) Fifth samhita namely उमा संहिता Uma Samhita is of format and features of Existence Phenomenon of solid order transcendental (5-space) domain. Here It would be relevant to note that TCV (उमा) = 15 = TCV (पंच). Here further it also would be relevant to note that 'पंच' means 5 and $15 = 3+3+3+3+3$. And further as that $15 = 1 \times 3 \times 5$ is parallel to linear equivalence of the solid dimensional order of transcendental (5-space) domains.

7. TCV (रुद्र) = 17 which as a dimension fold value (17), shall be sequentially leading us to boundary fold value ($17+1=18$), domain fold value ($18+1=19$) and origin fold value $19+1=20$.
8. This origin fold value leads to the formulation र्ु उदर.
9. This feature of the formulation, as such transits and transforms TCV (रुद्र) = 17 to TCV (र्ु उदर.) = 20 and the same as such becomes the ultimate TCV value of formulation (रुद्र).
10. This transition and transformation, that way makes 'काल' as Mahakaal and as result thereof, 'गतिवाहक' / carriers transits and transforms into 'Ativhas transcendental carriers
11. Formulation 'Rudra' with its TCV (रुद्र) = 20 = TCV (देव) as a dimensional order (fold) shall be sequentially leading to boundary fold value ($20+1=21$), domain fold value ($21+1=22$) and origin fold value ($22+1=23$).
12. Still further it also would be relevant to note that $23 = (3+5) + (3 \times 5)$.
13. This re-organization $(3+5) + (3 \times 5)$ is of the format and values of the set up of super imposition of addition and multiplication operations.
14. Further: TCV (कैलाश) = 20, that way shall be helping us comprehend and appreciate the virtues and values of transcendental (5-space) format and features of sixth (कैलाश संहिता) of Shiv Puran text.
15. Still further TCV (वाव्य) = 24 = 4×6 and parallel to it the matrix format 4 rows and 6 columns set up shall be providing format for double digit numbers of five place value system with its numerals range (0, 1, 2, 3, 4) as under

10	11	12	13	
14	20	21	22	
23	24	30	31	
32	33	34	40	
41	42	43	44	100

16. It would be a blissful exercise to have a comparative chase for double digit numbers expressions for five place value system with double digits expression for ten place values system.
17. It would be blissful to note that the triple digit expression (100) is of value (100) along ten place value system while it (100) has only value (25) for five place value expression format placement (6, 4, 1),
18. Henceforth the organization format of Shiv Puran taken up for its further features. However in the context it would be relevant to recapitulate that the Shiv Puran text itself is of fourth placement of the range of 18 purans.
19. This being so, the coverage of first three purans namely Braham Puran, PAdam Puran and Vishnu Puran would be presumed being there with us. Before proceeding further it would be relevant to have acquaintance with them accordingly, these aspects would be taken up for proceeding further the format and features Shiv Puran Text.
20. Shiv Puran text being of fourth placement, as such it is to be sequentially approached in continuity with the attainments of Puans of first to three placements.

28-11-2014

Dr. S. K. Kapoor, *(Ved Ratan)*

News and Views

Invitation for participation in Vedic Mathematics textbooks project

INVITATION

1. We are undertaking the project of settling Vedic Mathematics text books for schools.
2. This project is for settlement of text books of Vedic Mathematics for classes eight to twelfth.
3. Text book for each class would be of three parts
Part – 1 ‘Vedic Mathematics for class VIII
(likewise for class 9, class 10, class 11 and class 12)
Part – 2 ‘Vedic Mathematics exercises for class VIII’
(likewise for class 9, class 10, class 11 and class 12)
Part – 3 ‘Teaching and evaluation manual of Vedic Mathematics for class VIII’
(likewise for class 9, class 10, class 11 and class 12)
4. Each sutra and Upsutra would be taken up in separate section exclusively devoted to particular Sutra / Upsutra.
5. This way in all, there would be 29 sections for coverage of all the sixteen Sutras and 13 Upsutras.
6. Participants may contribute for all the 29 sections but each Sutra and Upsutra shall be taken up as independent aspect of values of mathematics as every Sutra values are to be covered in distinct section.
7. The intellectual contribution of participants shall be duly recognized and same shall be properly respected.
8. In the light of this theme, we shall be making separate requests for each sutra and upsutra.

Request of participation about the values of Ganita Upsutra 5-9

1. We feel privileged to request all to participate in our project of Vedic Mathematics text books for classes eight to twelfth.
2. We request you all to participate and contribute your intellectual inputs about the values of Ganita Upsutra 5-9.

3. Also contribute about the values of Ganita Upsutra 5-9 as being complemented and supplemented by the values of other Sutras and Upsutras.
4. We shall be highly thankful for this participation and contribution.
5. We shall be duly recognizing this participation and contribution of intellectual inputs about the values of Ganita Upsutra 5-9.
6. We shall be highly being our respects and thanks in recognition of the intellectual inputs of participants.
7. It is a noble cause.
8. Please participate.

28-11-2014

Sh. Rakesh Bhatia
 Sh. Bhim Sein Khanna
 Sh. Deepak Girdhar
 - Organizers

(CHAPTER FROM BOOK 'VEDIC MATHEMATICS (ORGANIZATION FORMAT OF GANITA SUTRAS) OF DR. S. K. KAPOOR)

CENTRAL CORE OF GANITA UPSUTRAS

1. Parallel to the organization of Ganita Sutras as 5+6+5, the Ganita Sutras are organized as 4+5+4.
2. The Central core of Ganita Upsutras is constituted by Ganita Upsutras-5 to 9.
3. Before proceeding further, one shall have a fresh look at the text of these five Upsutras.

5	वेष्टनम्	<i>Vestanam</i>
6	यावदूनं तावदूनम्	<i>Yavadunam Tavadunam</i>
7	यावदूनं तावदूनीकृत्य वर्गं च योजयेत्	<i>YavadunamTavadunikrt yaVarganca Yojayet</i>
8	अन्तयोर्दशकेऽपि	<i>Antyayordasake'pi</i>
9	अन्तययोरेव	<i>Antyayoreva</i>

4. Conceptual catch for this range of five steps is 'osculation', 'deficiency', 'square', 'summation ten' and the 'endings'.
5. 'Osculation' conceptually is a chase of 'folding' and these 'folds', on the one hand for Sankhya Nishtha / artifices of numbers are 'the base values'/place values of number systems, of which the central focus is upon ten place value system.
6. However on the other hand, for Yoga Nishtha/geometric formats are the dimensional domains which accept geometric envelopes/boundaries like hyper cubes.

7. These, also express as the manifestation layers.
8. The 'deficiency' is essentially in reference to the 'base value' and also in the context of missing boundary components of hyper cubes.
9. The 'deficiency' also is viewed as the 'complement part' for supplementing the given value.
10. Illustratively artifice 7, as such is to be supplemented by 3 as its deficiency from base value '10'.
11. Here '3' is complement for 7 and by supplementing by 3 takes it to a base value 10.
12. 'Square' is the attainment phase and stage for linear order.
13. One shall have a pause here and have a fresh look at the set up of 'square'.
14. Square is a representative regular body of 2 space.
15. Parallel to it, circle is also a regular body of 2 space.
16. Amongst its different roles, 2 space has a prominent role of origin fold for the manifestation layer created by a reverse linear order / (-1) space.
17. One shall have a pause here and have a fresh look at the four fold expression for this manifestation layer being (-1, 0, 1, 2) / (-1) space as dimension, 0 space as boundary, 1 space as domain and 2 space as origin.
18. It may be relevant to have a note of different roles of 2 space as folds of manifestation layers:

-1	0	1	2
0	1	2	3
1	2	3	4
2	3	4	5

19. It may be relevant to note that sum of all the values of this 4 x 4 matrix comes to be $2 \times 16 = 32$, of the order and value of Anustup meter, in which is composed the illustrative shloka composing the value of $\Pi / 10$ up till 32 places in alphabetical code language as

गोपीभाग्यमधुवात श्रुडि शोदधिसन्धिग ॥

खलजीवितखाताव गलहालरसंधर ॥

19. The Vedic alphabetical code, attaches numerical values to consonants of Devnagri alphabet as under

क	ख	ग	घ	ङ	च	छ	ज	झ
1	2	3	4	5	6	7	8	9
ट	ठ	ड	ढ	ण	त	थ	द	ध
1	2	3	4	5	6	7	8	9
प	फ	ब	भ	म				
1	2	3	4	5				
य	व	र	ल	श	ष	स	ह	
1	2	3	4	5	6	7	8	

20. In this code, vowels are not attached numerical values.
21. Further in this code, the consonants not followed by vowels are also not attached numerical values. Illustratively the syllable X; would get numeral value only for the letter ;. ; '1'.

22. Applying these numerical values, the shaloka would get decoded as

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
गो	पी	भा	ग्य	म	धु	वा	त	श्रु	डिग	शो	द	धि	स	न्धि	ग
3	1	4	1	5	9	2	6	5	3	5	8	9	7	9	3

17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
ख	ल	जी	वि	त	खा	ता	व	ग	ल	हा	ल	र	सं	ध	श्र
2	3	8	4	6	2	6	4	3	3	8	3	2	7	9	2

23. As such, we are having

$$\Pi/10 = \begin{array}{cccccccccccccccc} .3 & 1 & 4 & 1 & 5 & 9 & 2 & 6 & 5 & 3 & 5 & 8 & 9 & 7 & 9 & 3 \\ 2 & 3 & 8 & 4 & 6 & 2 & 6 & 4 & 3 & 3 & 8 & 3 & 2 & 7 & 9 & 2 \end{array}$$

24. Square and circle both being the representative regular bodies of 2 space, as such firstly the circle within square and secondly the square within the circle, and then both simultaneously, when chased would give us the insight of inter connection of their set ups.

25. The values of area and perimeter of square and of area and circumference of circle within the square of side=1=diameter shall be taking us to:

square	side	area	perimeter
□	1	1 x 1=1	1 x 4 =4
Circle	diameter	Area	Circumference
○	1	$\Pi \times \frac{1}{2} \times \frac{1}{2} = \Pi/4$	$2 \times \Pi \times \frac{1}{2} = \Pi$

26. One may have a pause here and note as that the value of Π gets geometrical fixation as circumference of a circle within a 1 x 1 square.

27. With it, it becomes amply clear as that 10 x 10 square shall be taking us to the value of 10 Π .

28. This format shall be providing us a practical rule of reaching at the value of Π up till first decimal place.

29. One can draw a circle within 10 x 10 square and measure the length in complete units of the circumference, it shall be 31 full units. With it we shall be reaching at the value of Π uptill first decimal place as 3.1.

30. Like that by drawing a circle within 100 x 100 square, the number of full units for the circumference of the circle as 314 shall be taking us to the value of Π uptill two decimal places as 3.14.

31. The process steps would ensure value of Π up till any desired decimal place.

32. It may look like a crude physical steps method but it is a reality of sure success, and the same in the background of the attainment neither may be bore nor tedious, nor a non mathematical approach as it is a process of attaching numerical values in terms of a geometrical measure/counting units in terms of a measuring rod.

33. The more sophisticated approach for the manifested formats which takes us to '3 as 3 space' and '1 as 1 space' and as a linear dimensional order of 3 space, and taking us to a manifestation layer with 4 space as origin fold, and then ahead to 5 space transcendental base and still further to 6 space attainable in transcendental steps from '2 to 4' and further from 4 to 6, are

the features which would help us appreciate the role of circumference of a circle and hence of Π in our existence phenomenon, as a range as its value sequentially unfolds for $\Pi/10$ as .(31), (31) (41), .(31) (41) (59), (31) (41) (59) (26), -----Such double digit folds, in terms of number value format would be of features (31)=NVF(CAVE), (41)=NVF (AFFINE), (59)=NVF (SOLID), (26)=NVF (GOD), ----.

34. One may have a pause here, and have a fresh look at the set up of square and permit the transcending mind to revisit its order, values and potentialities by having a focused attention upon the formulation NVF(SQUARE)=NVF (A CREATOR).
35. Ancient wisdom enlightens us as that Lord Brahma, the four head lord, creator the supreme, sits comfortably on a lotus seat of eight petals and meditates gracefully upon the lord Shiv, the lord of transcendental worlds within cavity of his heart and multiplies 10 fold.
36. It is this attainment which is of the order and values of the creative boundary (4 space in the role of boundary) of the transcendental worlds (5 space)/ hyper cube 5, a solid order set up.
37. Before proceedings further, one may have a pause and think about the meditation process itself.
38. The ancient wisdom enlightens us about it as a Discipline of mind, which of its own transcends and attains.
39. NVF (MEDIATATION)=NVF (SUN LIGHT)
=NVF(SKY, SKY)=NVF (SPACE BED, SPACE BED)
40. It is as such, the chase of the value of $\Pi/10$ in sequential steps as (31)/linear order, (41), spatial order manifestation, (59) solid domain and ahead (26) as the 26 element range manifesting as a geometric envelope of 26 components for the cube, and also as a 26 primes thread stitching up till 1 to 100 numbers range. And then four steps order to be followed as an order of the creator space / of a square.
41. Here it would be relevant to note that for a square of a side=4 shall be taking us to an interesting feature of the square and circle as that.

square	side	Area	perimeter
□	4	4x 4=16	4 x 4 =16
Circle	diameter	Area	Circumference
○	4	$\Pi \times 2 \times 2 = 4 \Pi$	$2 \times \Pi \times 2=4 \Pi$

42. One may have a pause here and have a fresh look at the above feature whereby the area of the square is equal to perimeter of the square, as being of 16 units.
43. Further as that the area of the circle is equal to circumference of the circle, as being of 4Π units.
44. Now the value of 4Π is $12 < 4 \Pi < 13$.
45. Here one may further have a pause and have a comprehension of this feature of the role of artifices 16 and 13.
46. It would be relevant to note that the linear units are of the order 1^1 while the spatial / area units are of the order 1^2 and it is only in terms of the

affine value as that 16 linear units and 16 spatial units are to be equated and to be dealt with.

47. It is in this context as that the value of $\Pi / 10$, in its first step takes us to (31) = NVF (CUBE)=NVF (CAVE) and in second step it takes us to (41)=NVF (AFFINE)=NVF (LOCK)=NVF (KEY).
48. It is in this context that the organization format of 4 x 4 matrix, and in general n x n, matrix deserves to be appreciated for its features of sequential order along sides and affine order diagonals.

1	2	3	4
2	3	4	5
3	4	5	6
4	5	6	7

49. Further it also should be comprehended as that in above organization, the square format is so availed as to sustain the cube values as, illustratively, in the above, the rows summation values being respectively 10, 14, 18, 22 which together add up $64 = 4 \times 4 \times 4$.
50. Like 4 x 4 leading to 4 x 4 x 4, in general n x n leads to n x n x n for all values of n. Illustratively for n = 3 the expression would be

1	2	3	with row value	$1+2+3=6$
2	3	4	with row value	$2+3+4=9$
3	4	5	with row value	$3+4+5=12$

With total value being $6 + 9 + 12 = 27 = 3 \times 3 \times 3$.

51. With it, one shall, permit the transcending mind to chase the role of 'beginnings' and 'endings' of sequential ranges.
52. More particularly, regarding the role of 'endings'.
53. This is of more important as the chase for the infinite ranges, as manifestations along geometric formats of representative regular bodies as framed domains within lesser order boundaries as endings.
54. This as such, in a reverse order, shall be taking us to the affine state by eating up the sequential features and the attainments would be reaching back to the beginnings.
55. Here in the context it would be relevant to note as that the last double digit folds for value of $\Pi / 10$ up till 32 places is (92)=NVF (REVERSE) =NVF (A MIRROR).
56. Here one may have a pause and have a fresh look at the sequential increase from 1 to 9, and then to have a reverse chase from 9 to 1, and one shall be blissfully reaching at the format of Upsutra 10: (समुच्चयगुणितः/Samuccayagunitah)/foldings rolled back).

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