VEDIC MATHEMATICS ON

ORGANIZATION FORMAT OF GANITA SUTRAS

Conceptual Base Information

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CONCEPTUAL BASE INFORMATION

I
Vedic Systems Processes

1. Two established processes of Vedic systems are Sankhiya Nishtha and Yoga Nishtha.
2. Sankhiya Nishtha on its ultimate analysis avails artifices of numbers presuming the existence of geometric formats of dimensional frames, while Yoga Nishtha on its ultimate analysis avails dimensional frames presuming the existence of artifices of numbers.
3. Sankhiya Nishtha and Yoga Nishtha, as such run parallel to each other and are complementary and supplementary of each other at every step.
4. With it, artifices of number n and dimensional frame of n-space run parallel to each other being of parallel values and processing steps.
5. Here it would be relevant to mention that NVF (Artifices) = 90 and NVF (Numbers) = 92 constitute pairing (90, 92) parallel to pairing of (n, n+2) / (n-space) playing the role of dimension of n + 2 space.

II
Dimensional Synthesis Mathematics

6. N-space plays the role of dimension of n + 2 space.
7. Synthesis of a pair of dimensions of order n shall be requiring glue of unit value of (n-2) space.
8. With it dimensional synthesis value of synthesis of pair of dimensions of order n comes to be:
   $N - (N-2) = N +2$
9. Dimensional Synthesis value for synthesis of 3 dimensions shall be equal to the synthesis dimensional value of 2 dimensions plus third dimension value minus two units of dimensional value of dimension of dimensional space. In other words the dimensional synthesis value of 3 dimensions of order n is equal to :
   $(N+2) + N - 2 (N-2) = 6$
10. In general if 'Sr' is the dimensional synthesis value of 'r' dimensions of value n, then: $Sr = Sr-1 + N - (r-1)(n-2)$ where Sr-1 is the dimensional synthesis value of r-1 dimensions of order N.

11. As such the sequential values (S1, S2, S3, S$_4$, ---) for dimensional order N would be N, N + 2, 6, 12 – 2 N, 20 – 5 N, --- .
12. For N =1, the sequential values would be (1, 3, 6, 10, ---) and for N = 2, the sequential values would be (2, 4, 6, 8, 10, ----).
13. For N = 3, the sequential values would be (3, 5, 6, 5, 3, ---).
14. For N = 4, the sequential values would be (4, 6, 6, 4, 0, -2, -4, ----)

III
Polygons Sequence

15. Polygon of single side is the interval itself.
16. Polygon of two sides is a bended interval, that is, interval of two units with one joint in between.
17. Polygon of three sides is an interval having two joints in between permitting bend at each joint .
18. Polygon of n sides is interval of (n-1) joints in between permitting bend at each such joint.
19. It may be relevant to note that such bended intervals shall be having a pair of disjoint such points of the interval.
20. When the pair of end points of such intervals get joined together, these shall be constituting polygons as close curves.
21. Proper polygons may be defined which separates internal and external portion of the surface with the help of bended intervals like triangle, square, pentagon, hexagon, heptagon and so on.
22. Here it would further be relevant to note that the sum of internal angles of n polygon = 2   while the sum of the external angles of n polygon shall be (n-2) .
23. One may have a pause here and permit the transcending mind to comprehend this coordination feature of internal and external angles of n polygon.
24. It shall be leading us parallel to pairing of artifices N, N-2 and of N-2 space being dimension of N space.

IV
Numbers line and geometric line

25. In the light of the above features of artifices of numbers and dimensional spaces, it would be blissful to chase the numbers lines of following values
    i.   ---- -3, -2, -1, 0, 1, 2, 3, ----
    ii.   ----, -6, -4, -2, 0, 2, 4, 6, ----

26. As (-1) space plays the role of dimension of +1 space, as such the above numbers line (i) shall be a synthetic set up 1 space set up and of +1 space set up.

27. It is going to be the synthetic set up of dimension and of domain.

28. However the numbers line (ii) is synthetic set up of (-0) space in the role of dimension and + 0 space in the role of dimension.

29. One may have a pause here and permit the transcending mind to chase + 0 space and (-0) space.

30. + 0 space shall be sequentially leading to 2 space with 0 space as its dimension, then to 4-space with 2-space as its dimension, and ahead in that sequence and order.

31. However -0 space as domain shall be leading to -2 space as its dimension then -4 space as dimension of -2 space and ahead in that sequence and order.

32. One may have a pause and permit the transcending mind to be face to face with the distinguishing feature of the range 0, 2, 4, 6, ---) from that of the range of values (-0, -2, 4, -6).

33. Here one may have a pause and permit transcending mind to chase the sequential values of synthesis of quadruple dimensions of order 4, 5, 6 and so on.

34. From the dimensional synthesis mathematics rule we know that these values are $6 + N - 3 (N-2) = 12 - 2 N$, for all values of N.

35. As such for N = 1, value would be $12 - 2 = 10$;
for N=2 value would be N $=12-4=8$
For N = 3, value would be $12-6 = 6$,
For N = 4, value would be for N= $12-8 = 4$,
For N = 5, value would be for N = $12-10= 2$ and
for N = 6 it would be N = $12 - 12 = 0$ and

36. For N =7 onwards, the values sequence range would be (-2, -4, -6, -8, ---).

37. Here it would be relevant to note that 4-space, is a spatial dimensional set up as that 2-space plays the role of dimension of 4-space and $2 + 2 = 2 \times 2 = (-2) \times (-2)$.

38. Further it also would be relevant to note that the linear equivalence for the spatial dimensional order set up of 4-space will make it as of linear order 2×4. In other words 4-space accepts linear dimensional value as $2 \times 4 = 8$.

39. Therefore the above values sequence for N = 7 onwards for synthesis of quadruple artifices, namely (-2, -4, -6, -8, ---) shall be taking us for N = 7 as value (-2) shall be leading to for n = 8 as value (-4) as -4 space playing the role of dimension of (-2) space.

40. One may have a pause here and permit the transcending mind to be face to face with the numbers line (ii) (----8, -6, -4, -2, 0, 2, 4, 6, 8, ----).
41. It would be blissful to comprehend that two sub ranges namely (0, 2, 4, 6, 8, ---) and (0, -2, -4, -6, -8, ---) shall be leading to different formats, as much as that while the above first range is the sequential range of values being 2-space as dimension leading to 4-space as domain, then 4-space as dimension leading to 6-space and so on.
42. On the other hand the values range (-2, -4, -6, -8, ---) shall be of the format along which -2 space as domain leads to -4 space as dimension, then -4 space as domain leads to -6 space as dimension and so on.

V
Polygons sequence

43. Pentagon onwards polygons sequence is of distinct values features format, as much as that if every corner of pentagon onward polygons is connected internally with all other corner points of the polygon, then around the center of the polygon would stand constructed another internal polygon of same order.
44. Illustratively when every corner of pentagon is internally connected with all other corners of the pentagon then within the original pentagon there would stand constructed another internal pentagon around the center of the original pentagon.
45. Likewise would be a case for all pentagon onwards polygons of the sequence.

VI
Perimeter of polygon of order 3 onwards

46. The perimeter of the triangle consists of 3 sides of the triangle and 3 vertices of the triangle .
47. Perimeter of square consists of four sides and 4 corner points.
48. Likewise perimeter of polygon – n consists of n sides and n vertices of polygon. This shall be helping us conclude as that polygon n is enveloped within boundary / perimeter of 2n components.
49. It would further be relevant to note that of 2n components of boundary / perimeter of polygon n, half of them are sides and remaining half of them are points.

50. Further it would be relevant to note that both points as well as sides are devoid of area and as such these are of zero area and that way there are two types of zeros.

51. One may have a pause here and permit the transcending mind to transcend through the following structural features

   (i)   The domain boundary ratio of hyper cubes namely interval, square, cube and hyper cubes accepts coordination relationship A^n: $2n B^{n-1}$.

   (ii)   Ganita Sutras organization at the phase and stage of Ganita Sutra-5 and 6 manifest 2 fold features of Sunyam (zero).

   (iii) Within 5 polygon there exists internal pentagon with common center for external and internal pentagons. In other words as within every pentagon there exists another internal pentagon around the center, as such there would exist infinite range of internal pentagons and the center of pentagon shall be the limit value of pentagons.

   (iv)   As pentagon being the first member of the sequence of polygons having above property, as such it is of prime feature of organization formats.

   (v)   Every polygon infact is the printout in 2-space of the hyper cubes of orders parallel to that of the polygons. Illustratively triangle is the printout of 3-space set up in 2-space. Square is the printout of 4-space in 2-space. Pentagon is the printout of 5-space in 2-space.

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