

ORGANIZATION FORMAT OF GANITA SUTRAS

Step – 67 : Ganita Sutra-12

शेषाण्यङ्केन चरमेण ।

(Sesnyankena Caramena)

| SUTRA - XII | | | | | | | | | |
|--------------------|----|----|--------|----|--------|----|------------|----|----|
| शेषाण्यङ्केन चरमेण | | | | | | | | | |
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 |
| श | ए | प् | आ | ण् | य् | अ | ङ् | क् | ए |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| न् | अ | च् | अ | र् | अ | म् | ए | ण् | अ |
| Total Letters | | | Vowels | | Nasels | | Consonents | | |
| 20 | | | 9 | | - | | 11 | | |

1. For proper appreciation of the values of the working rule of Ganita Sutra 12, reappraisal of the values of the working rules of Ganita Sutra-2 and Ganita Upsutra-2 in particular may be of good help.
2. Ganita Sutra-2 focuses upon the values of numerals of ten place value systems and in particular of the largest numeral '9' vis-à-vis the place value numeral '0' manifesting sequential place values as powers of '10'.
3. Ganita Upsutra-2 gives definition of 'remainder' and simultaneously it in reference to Ganita uputra-1 transits from 'symmetry' to 'asymmetry'.
4. The working rule of Ganita Sutra-12 'remainder by the last digit', shall be leading to the features of the sequential remainders for the ten place value expression for numbers in the form:
' $A_n x^n + A_{n-1} X^{n-1} + \dots + A^2 X^2 + A^1 X^1 + A^0 X^0$ ',
Being $(A^0 X^0)$, $(A^0 X^0 + A^1 X^1)$, $(A^0 X^0 + A^1 X^1 + A^2 X^2)$ and so on.
5. The coefficients of above polynomial of variable X (of value 10) shall be of values of the range of numerals 0, 1, 2, 3, 4, 5, 6, 7, 8, 9.

6. The focus of the format beneath the double, triple and multiple digit numbers shall be upon the interlinking of sequential place value in terms of powers of place value system, which here is being the ten place value system.
7. With it the focus would be upon the interlinking of the sequential term 10^0 , 10^1 , 10^2 , ---
8. One may have a pause here and permit the transcending mind to be face to face with these place values sequential terms being of the format of dimensional order of single dimension, double dimensions, triple dimensions and so on.
9. It shall be leading to interval, square, cube and hyper cubes 4 onwards being the dimensional bodies within dimensional frames of 1 dimension, 2 dimensions, 3 dimensions and so on.
10. One may have a pause here and take note that the above features would be common for all place value systems and that the same are not restricted to only ten place value system.
11. The only difference shall be in respect of the range of numerals of the particular place value system which shall be providing values of choice for the coefficients.
12. One may have a pause and take note that for the ten place value system, the numbers 90, 91, 92, 93, --- 89 and for the 9 place value system the numbers 80, 81, 82, 83, --- 88 despite common looking expressions say for 80 to 88 for both ten place value system and 9 place value system are going to be of different values all together as these expressions are place value specific.
13. It would be relevant to note that number '91' of ten place value system is coordinating the biggest numeral '9' with the first number '1'.

14. This feature of coordination of the biggest numeral with the first numeral, as such for 9 place value system shall be of expression format '81'. However the expression 'value' for 9 place value system shall be equal to $8 \times 9 + 1 = 73$ of ten place value system.
15. One may have a pause here and note that NVF (Mirror) = 91 while NVF (Format) = 73.
16. It is this focus upon mirror in the context of ten place value system and upon format in the context of 9 place value system, makes all the difference and same deserves to be appreciated and to be comprehended well and to be imbibed thoroughly.
17. Simultaneously it would be relevant to note that NVF (Square) = 81 under ten place value system while '81' under 9 place value system is equal to 73 value under ten place value system.
18. This way the formulation 'square' in the context of ten place value system and formulation 'format' in the context of 9 place value system shall be providing us further insight about the coordination of different places values under different place value systems.
19. However the coordination format for all the systems, remains common as the sequential dimensional bodies namely interval, square, cube and hyper cubes.
20. With this, the focus naturally is to be upon the set ups of hyper cubes, particularly upon the measuring rods of hyper cubes, in other words the availability of points and lines within 1-space, points, line and surfaces within 2-space, points lines, surfaces and solids within 3-space and so on shall be helping settle coordination of different place value of a particular place value system.
21. Still further it would be relevant to note that ten place value system, in particular is sequentially availing the creative boundary 4-space as a boundary of transcendental domain (5-space).

22. One may have a pause here and note that the creative boundary of ten components of transcendental domain leads to 100 creative components with transcendence at the ten transcendental origins of ten creative components of transcendental domain and sequential progression continues with further transcendence at 100 transcendental origin and so on.
23. This may help comprehend as that the sequential place value of ten place value system are coordinated as ten creative components, 100 creative components, 1000 creative components and so on emerging with sequential transcendence at boundary of transcendental domain
24. With this the coordination of artifices along ten place value system would be parallel to the coordination of creative components at boundary of transcendental domain.
25. Likewise the coordination of artifices of numbers along different place value systems can be chased along respective geometric formats.
26. In the context, it would be relevant to note that the numerals of ten place value systems being parallel to geometries range of 4-space while the place value being parallel to the boundary of the transcendental domain, this feature as such shall be in respect of the numerals of place value system shall be focusing upon respective geometries ranges.
27. In particular the biggest numeral '9' of ten place value system, shall be taking to the last, i.e. $(2 \times 4 + 1)$ th geometry of 4-space and in general $(n - 1)$ th numeral of n place value system shall be leading to $[(2 \times n - 1) + 1]$ th geometry of $(n - 1)$ space.
28. This, this way would amount to putting a focus upon the domains completely stripped of their boundaries.
29. One may have a pause here and permit the transcending mind to sequentially chase back from the organization format of Ganita Sutra 12 and to reach at the organization format of Ganita Sutra-11 and ahead at the organization formats of Ganita Sutras 10 and 9 respectively.

30.To comprehend and to imbibe the features of de-manifestation as well as of transcendence.

31.One may further have a pause and permit the transcending mind to be face to face with the transcendence from the organization format of Ganita Sutra-12 to the organization format of Ganita Sutra-13 being of the features that the manifestation as transcendental phenomenons are to remain confined along the format of domain boundary ratio $A^n : 2n B^{n-1}$ because of the transcendental flow from within is to lead uptill the end of the domain format on either side of the middle of the domain.

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