Sri – Om
VEDIC MATHEMATICS AWARENESS YEAR

E-Newsletter Issue no 83 dated 11-01-2015

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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.

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ISSUE NO 83

VMS & T Text books
(Classes 9, 10, 11 & 12)

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Outline of Text Book Class X

4-space

Lesson – 1 Lord Brahma
Lesson – 2 Lotus
Lesson – 3 4-space mathematics, Science & Technology
Lesson – 4 4-space content

Lesson – 5
4-space body

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1. 4-space body is hyper solid.
2. 4-space regular body is of hyper cube 4 format.
3. 4-space content manifests as domain fold of hyper cube 4.
4. 4-space body, as such is a 4-space content lump
5. It has hyper volume.
6. The fixation of a point of hyper domain is fixed in reference to boundary fold.
7. This fixation is also attained in reference to the dimensional frame with placement for the origin of dimensional frame and center of hyper cube 4 / origin of 4-space
8. The coverage for hyper domain is reached in terms of a measuring rod syntehesised as hyper cubes 1, 2, 3 and 4.
9. This reach as of 4 steps is of the format and features of interval, square, and cube and the set up of 8 sub cubes enveloping center of the cube.

10. The fourth step namely the fixation of the point of 4-space in terms of 8 sub cubes of cube at center of the cube as a seat for the inner most corner points of 8 sub cubes deserve to be comprehended well.
11. Also, simultaneously, there can be nine 4-space points fixation at eight corner points and 9^{th} at center of the cube.
12. One may have a pause here and take note that in each corner of the cube is embedded a three dimensional frame of half dimensions.
13. At center of the cube is embedded a three dimensional frame of full dimensions.
14. The split of cube into 8 sub cubes and further split of each cube into 8 sub sub cubes will work out further simultaneous fixation of multiple points of 4-space like fixation of 4-space points in terms of 3-space body (cube), the 4-space body itself will help have a fixation for a 5-space point.
15. The chase of 4-space body in terms of 3-space body is a process and technique of many aspects.
16. First aspect as has been elaborated above being of the features of fixation of the center of the cube.
17. The second aspect in the context is form of enveloping of 4-space body with the help of 8 solid boundary components.
18. Further as origin of 4-space is of a solid dimensional order, as such the availability of five solid dimensions shall be providing reference formats for fixation of 4-space body.
19. 4-space body in the role of dimension shall be leading to the set up of 6-space.
20. That way the dimensions of dimensional frame of 6-space as well shall be focusing upon different features of 4-space body
21. 4-space body in its different roles like dimension fold, boundary fold, origin fold shall be further providing proper comprehension in respect of different features and values of 4-space body
22. 4-space as creative boundary of 5-space is one such feature and value which deserve to be comprehended well.
23. The split of creative boundary of 5-space into 10 components is one glaring feature which deserve to be comprehended well.
24. The artifices triple (4, 2, 0) parallel to it transcendence steps triple (4-domain, 2-space as dimension, 0 space as dimension of dimension) will lead us to further set of features of 4-space domain / 4-space` body.
25. The artifices triple (6, 4, 2) and parallel to it transcendence steps triple (6-space as domain, 4-space as dimension, 2-space as dimension of dimension) shall be further bringing us face to face with different features of 4-space domain / 4-space body).
26. The spatial dimensional order of 4-space on chase shall be leading us to another set of features of 4-space / 4-space body.

27. Solid boundary of 4-space shall be further leading us to features of 4-space / 4-space body transcendental (5-space) origin of 4-space shall be still further leading us to glaring features of 4-space / 4-space body.
28. The location of 4-space at origin 3-space / as origin of 3 dimensional frame / at center of cube will provide us significant Reality of Existence format and features of 4-space point being the structured point full of structures of 4-space.

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Lesson - 6

Spatial Dimensional order

1. 4-space is of spatial dimensional order i.e. 2-space plays the role of dimension of 4-space.
2. Surfaces are of the format and features of 2-space content set up.
3. The chase of Sequence of polygons leads to comprehension of the dimensional setups of four fold manifested creations along the format of Idol of Lord Brahma / hyper cube 4 format.
4. Triangle as polygon 3 is having 2π external angle and 1π internal angle
5. Square as polygon 4 is having 2π as external angle and 2π as internal angle.
6. Polygon 5 is having 2π external angle and 3π internal angle.
7. In general polygon n is having 2π external angle and (n-2)π as internal angle
8. This feature is parallel to n-space having (n-2) space as its dimension.
9. Let us have a fresh look at the set ups of polygons again.
10. Triangle (polygon 3) is having no internal diagonal.
11. Polygon 4 is having 1 internal diagonal from each of the four corner points.
12. In general polygon n is having (n-3) internal diagonals from each of its corner points.
13. This feature is parallel to n-space as origin and (n-3) as dimension.
14. Let us again have a fresh look at the set ups of polygons.
15. For joining a pair of points there is need of 1 line
16. For joining a center with 1 corner point of polygon, there would be need of 1 connecting line.
17. For joining a center with 2 corner point of polygon, there would be need of a pair of lines.
18. In general, for joining center with n corner points of polygon there would be need of n connecting lines.
19. This features is parallel to the value of synthesis of two dimensions of order n is equal to the sum of values of two dimensions (i.e. n + n) – the value of dimension of n-space (i.e. n-2) which shall be making total synthesis value for pair of dimensions of n order to be [(n+n) – (n-2)] = n +2.
20. A step ahead the synthesis value of three dimensions of order n would be [(n+n+n)-2 (n-2)]= 6.

21. A step ahead the synthesis value of 4 dimension of order n would be [(n+n+n+n)-3 (n-2)]=n+6 and like that sequentially the synthesis values of any numbers of dimensions of order n can be reached at.
22. For n=1, we shall be reaching at sequential synthesis values for single, double, triple, and so on of dimensions of linear order as (1, 3, 6, 10, ---).
23. For n= 2, we shall be reaching at sequential synthesis values for single, double, triple, and so on of dimensions of spatial order as (2, 4, 6, 8, 10, ---).
24. For n = 3, we shall be reaching at sequential synthesis values for single, double, triple, and so on of dimensions of solid order as (3, 5, 6, 6, 5, ---).
25. For n = 4, we shall be reaching at sequential synthesis values for single, double, triple, and so on of dimensions of creative order (4-space) order as (4, 6, 6, 4,-).
26. For n = 5, we shall be reaching at sequential synthesis values for single, double, triple, and so on of dimensions of transcendental (5-space) order as (5, 7, 6, --).
27. These features are carried forward by the spatial order and are embedded in the set ups of manifested creations along the format of hyper cube 4 i.e. along 4 fold manifestation layer (2, 3, 4, 5).
28. This feature of spatial dimensional order, in particular deserve to be comprehended well and to be appreciated and to be imbibed fully for thought insight of spatial dimensional order.

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Lesson - 7

Solid boundary

1. One distinguishing feature of hyper cube 4 from the set ups of other hyper cubes is that hyper cube 4 is having solid boundary.
2. The solid boundary of hyper cube 4 permits split as of 8 components.
3. This split is parallel to the split of a cube into 8 sub cubes.
4. Further it is parallel to the split up of 3-space into 8 octants.
5. The volume of Cube is enveloped by the set up of 26 components (8 corner points, 12 edges, 6 surfaces).
6. This as such enveloped boundary makes a set up of 27 components.
7. As such single cube accept association of value 27 = 3^3.
8. Set up of 2^3=8 cubes shall be accepting value 6^3
9. However the synthesis of 8 cubes as sub cubes into a cube shall be leading to 5^3 components (value).
10. This, that way shall be associating triple values set up (2^3, 6^3, 5^3)
11. Likewise 3^3 = 27 cubes synthesizing as a cube shall be leading us to values triple (3^3, 9^3, 7^3).
12. A step ahead 4^3 = 64 cubes synthesizing as a cube shall be leading to values triple (4^3, 12^3, 9^3)

13. A step ahead synthesis of $5^3 = 125$ cubes as a cube shall be leading us to values triple (5^3, 15^3, 11^3)
14. In general n^3 cubes on synthesis as a cube shall be leading us to values triple $(n)^3$, $3n^3$, $(2n+1)^3$
15. One may have a pause here and take note that the format n, n x n, n x n x n with organization of values along n x n x n as under leads to value n3

1	2	3-------	n
2	3	4------	n+1
3	4	5-------	n+2
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n, n + 1, n + 2, ---- 2 n-1

16. One may further have a pause here and take note that the center of the synthesized cube by 8 sub cubes is parallel to a seat of 4-space enveloped within solid boundary of 8 components.
17. Further it also would be relevant to note that the value of synthesized cube, in this case, comes to be $5^3 = 125$ and its difference value from 6^3 being 91, the same as such deserve to be chased.
18. One may further have a pause here and take note that the reflection operation and transcendence Phenomenon come into play in the process of synthesis attainment in this case.
19. However during subsequent synthesis process in case of 3^3, 4^3, 5^3 sub cubes, the center of synthesized cube is having a middle placement of the middle layer of cubes.
20. It is this feature which deserve to be comprehended well.
21. It is this feature of synthesis process which brings us face to face with as to how the fixation of the middle point at center of the middle layer dominantly adds to the features of the middle point
22. One shall further have a pause here and sequentially chase the placement of middle point in the middle layer set up of sub cubes (3^3, 4^3, 5^3, ---) .
23. One may further have a pause here and take note that these sequential features bring to focus compactification of origins
24. Further it also brings to focus the transcendental (5-space) base of creative 4-space domain as origin.
25. This as such, further brings to focus the role and contribution of transcendental base of creative origin.
26. This further shall be bringing us face to face with as to how the third element (fire) plays it role in transition and transformation for the second element ‘water’

27. One shall have a pause here and have a fresh look at the set ups of 4-space content.
28. One shall concentrate as to how the features of 4-space content (second element water) from those of 5-space content (third element fire).

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11-01-2015 Dr. S. K. Kapoor, *(Ved Ratan)*