

**Vedic Mathematics, Science & Technology  
Teacher Course**

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**Vedic SYSTEMS CHASE STEPS**

This day the course focus is upon 'Vedic systems chase steps'. It four folds aspects being taken up are as follows:

- 105. Linear order and spatial order
- 106. Sides and diagonals
- 107. Mathematics of  $\sqrt{2}$
- 108. Vedic systems chase steps

The values being covered are to be taught as lessons numbers 105 to 108 to the students of 4-space Vedic Mathematics, Science & Technology.

**LESSON-105**

**LINEAR ORDER AND SPATIAL ORDER**

1. Linear order may be defined, as '1-space playing the role of dimension'.
2. 2-space in the role of dimension makes a spatial order.
3. 3-space is a linear order space within a 3 dimensional frame of 3 linear dimensions (axes).
4. 4-space is a set up within a 4 dimensional frame of quadruple spatial dimensions.

5. 3-space has 4-space as origin, while 1-space has 2-space as origin.
6. 2-space plays the role of dimensions of 4-space.
7. In the background the poser is whether ir-rational numbers are part of linear order set up or of spatial order set up or of both.
8. This poser deserve to be answer properly has modern mathematics is forcing ir-rational number together with rational numbers to make a linear order continuum.
9. Modern mathematics, as such does not define a relation numbers accepts that all those number which are not relation is not irrational number.
10. This definition and approach inherently presume as if there is prior knowledge available as what is the wholesome domain of which relational number or a part.
11. If the wholesome domain is known as capital R then  $r$ - $r$ - $q$  (rational) get determine as a rational.
12. However the difficulty is that only  $q$  is known and in the absence of knowledge of  $r$ ,  $r$ - $q$  is being taken as a definite part of the same domain along with  $Q$ .



## LESSON-106

### SIDES AND DIAGONAL

13. Modern mathematics is approaching sides and diagonals (of a square) being constituted by identical constituents.
14. However, the side is a boundary component of square has a 2-space body / hyper cube 2, while diagonal is for it's in between set up between the pair of corner points

of points of a surface (area) of a square / domain fold of hyper cube 2.

15. One may have a pause here and to take note that edge as such is a set up of 1-space in the role of boundary fold of hyper cube 2, while in between portion of the diagonal of the square is a set up of domain fold of hyper cube 2 (2-space as domain of hyper cube 2).
16. This that way bring to focus a clear distinction, as that in between portion of the edge (between the pair of corner point) being a 1-space set up , while the in-between portion of a diagonal, between the pair of corner point) is a 2 –space set up.
17. As such but for the corner point's edges and diagonal of a square are diagonal are distinct dimensional set up.
18. As for as the corner point of concern, the same are emerging as the common meeting point in both cases.
19. Here as well point being a zero space entity and their being an availability of pair of points having being supply by a pair of edges, and such the synthesis pair of zero dimensional set ups leads to a spatial set up (as zero space plays the role of dimension of 2-space and  $(0, 0) = 2$  leads to a synthesis value for the set up of a spatial order).
20. One shall sit comfortably and permit the transcending mind to continuously remain in prolonged sitting of trans and to glimpse and imbibe the above feature and values of distinctive nature of edges and diagonal of square /hypercube 2, the representative regular body of 2-space.



## LESSON-107

## MATHEMATICS OF $\sqrt{2}$

21. To properly appreciate the mathematics of  $\sqrt{2}$ . Let us, first visit  $1 \times 1 = 1^2 = \text{area unit}$ , which is different than that of a length unit.
22. Further, let us distinctively comprehend and imbibe the distinctiveness of a pair of values sequences:
  - (I)  $(0, 1, 2, 3, 4, 5, 6 \dots)$ .
  - (II)  $(0 \times 1, 1 \times 1, 2 \times 1, 3 \times 1, 4 \times 1, 5 \times 1, 6 \times 1 \dots)$ .
23. The above first sequence goes parallel to a flow stream which may be phased has of steps  $(A, B, C, D, F \dots)$ .
24. The above second values sequence accepts expression has a pair of parallel flow stream permitting phased steps as under:
 

(A	B	C	D	E	F	$\dots$ ).
(a	b	c	d	e	f	$\dots$ ).
25. For comparative study of above both flow sequences, it may be taken has that the upper flow stream  $(A, B, C, D, E, F \dots)$  as under represent the first value flow sequence and the pair of flow of expression as under represent the second value sequence flow:
 

(A	B	C	D	E	F	$\dots$ ).
(a	b	c	d	e	f	$\dots$ ).
26. Taking that the above pair of flow of line together are making square unit has  $(Aa, Bb)$  has of edges of a first square unit,  $(Bb, Cc)$  has pair of edges of second square unit and so on.
27.  $(Ab)$  is the diagonal of first square unit,  $(Bc)$  is the diagonal of second square unit and so on.
28. The sides of these square units are of unit 1 each.

29. The diagonal of these square units are of values  $\sqrt{2}$  each.
30. One may have a pause here and to take note that the pair of flow line (A, B, C, D) and (a, b, c, d) are the set up of unit value 1 phases.
31. However, the diagonal flow is of unit value  $\sqrt{2}$  phases.
32. The pair of unit value '1' phases each are straight flow stream. While the diagonal flow stream of phase units  $\sqrt{2}$  is not a straight line flow stream and the same is sandwiched in between the pair of straight line flow stream.
33. The poser is how it can be justified that 2-space formatted diagonals superimposition upon straight line set up makes a justifiably unified set up of rationals and ir-rationals to constitute the wishful real numbers domain, has is being blissfully accepted by modern Real Analysts.



## LESSON-108

### VEDIC SYSTEMS CHASE STEPS

34. Ganita Sutra 1 is the source sutra and Ganita Upsutra 1 is the source Upsutra.
35. Ganita Sutra 1 is of value of sequential progression ordering, while Ganita upsutras is of value of proportionality symmetry by following the form as it is framed.
36. This pair of source value fountain a sequence of number value flow stream:  
 $\{ \{ (0, 1) \text{ as } 1 \}, \{ (0, 1, 2) \text{ as } 2 \}, \{ (0, 1, 2, 3) \text{ as } 3 \}, \{ (0, 1, 2, 3, 4) \text{ as } 4 \} \dots \}$ .

37. Parallel to it emerges:  
 [{(point, line) as line}, {(point, line, surface) as surface},  
 {(point, line, surface, solid) as solid}, {point, line,  
 surface, solid, hyper solid) as hyper solid} ...].
38. One may have a pause here and to permit the  
 transcendence mind to continuously remain in  
 prolonged sitting of *trans* to glimpse and imbibe the  
 above formatted feature values of Vedic mathematics  
 values steps.
39. A step head, it will take us to parallel set ups:  
 [{(hyper cube 0, hyper cube 1) in hyper cube 1}, {(hyper  
 cube 0, hyper cube 1, hyper cube 2) in hyper cube  
 2}, {(hyper cube 0, hyper cube 1, hyper cube 2, hyper  
 cube 3) in hyper cube 3}, {(hyper cube 0, hyper cube 1,  
 hyper cube 2, hyper cube 3, hyper cube 4) in hyper cube  
 4} ...].

