VM006-Doc004

Vedic Mathematics, Science & Technology Teacher Course

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LINEAR AXIS WITH SPATIAL BASE

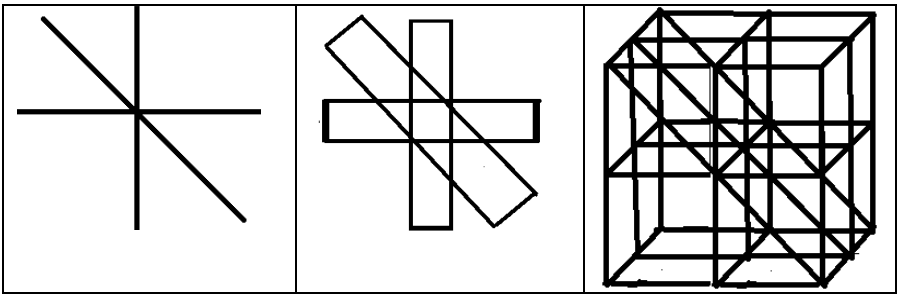
This day the course focus is upon 'Linear axis with Spatial Base'. It four folds aspects being taken up are as follows:

5. Of linear and spatial dimensions
6. Dimensional frame split
7. Quadruple internal diagonals
8. Synthesis of half dimensional frames.

The values being covered are to be taught as lessons numbers 5 to 8 to the students of 3-space Vedic Mathematics, Science & Technology.

LESSON-5

OF LINEAR AND SPATIAL DIMENSIONS



LINEAR DIMENSION:-

1-space playing the role of dimensions is designated as linear dimension.

LINEAR AXES:-

Line, the 1-space body, as dimension is designated as linear axis.

LINEAR ORDER:-

The 3-space bodies creation by linear dimension is designated as linear order creation.

SPATIAL DIMENSION:-

2-space playing the role of dimensions is designated as spatial dimension.

SPATIAL AXES:-

Plane, the 2-space body, as dimension is designated as spatial axis.

SPATIAL ORDER:-

The 4-space bodies creation by spatial dimension is designated as spatial order creation.

3 DIMENSIONAL FRAME:-

3 dimensional frame of linear order is a set up of 3 linear dimensions and origin. Each of the 3 linear dimension accepts a spatial base.

LINEAR DIMENSIONAL FRAME WITH SPATIAL BASE:-

As each Linear dimension is having a spatial dimension as its base, as such linear dimensional frame is designated as a dimensional frame of spatial base.

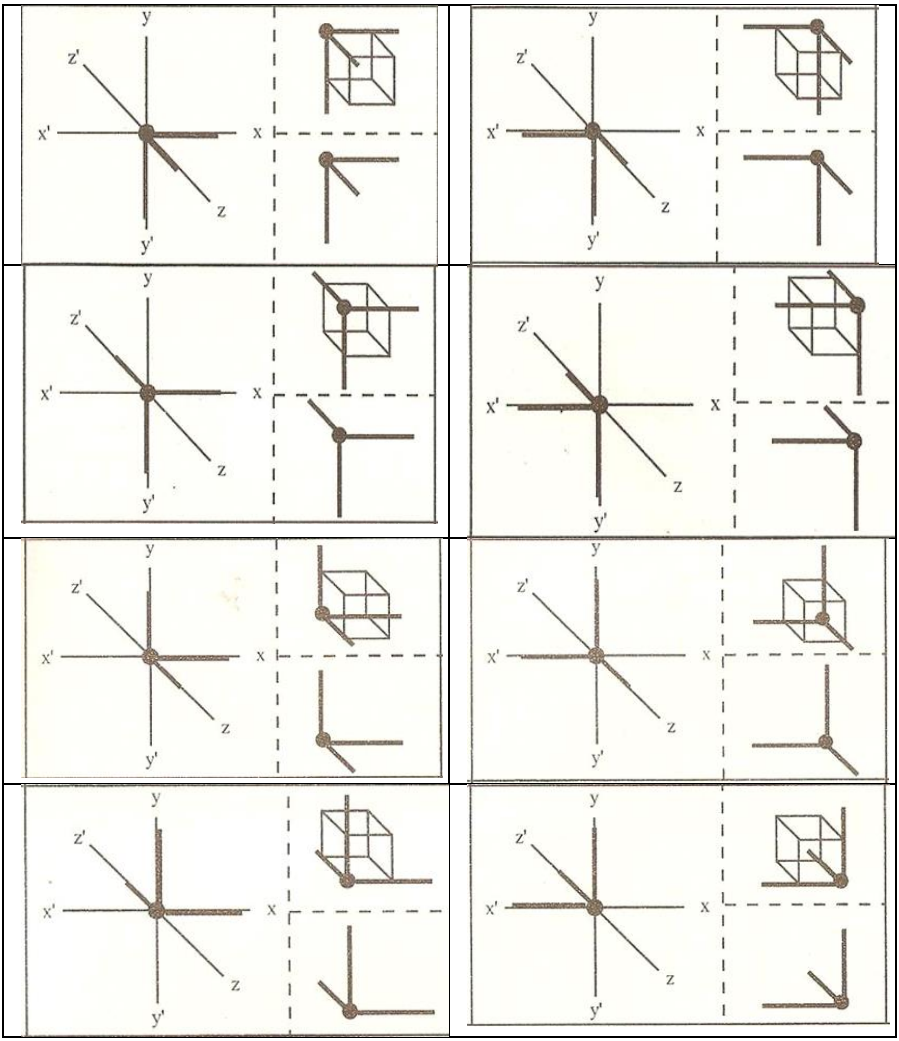
LET US REVISIT SET UP OF CUBE:-

Let us revisit the set up of the cube and we shall be face to face with its linear dimensional frame being of a spatial base. It is because of this that cube split into 8 sub cubes and 3-space split into 8 octants. Further, it is because of this feature that centre of cube accepts a dual status, firstly as like any other point of the cube and secondly the centre be uniquely distinct than all other points of the cube as that centre is equi-distant from all the corner points while no other point of the cube as this feature.

It would be blissful to re-chase set up of cube firstly with three linear dimensions, and secondly in-terms of 3 spatial dimensions. ■

LESSON-6

DIMENSIONAL FRAME SPLIT



1. Let us revisit the set up of the cube.
2. Each corner point of the cube is a meeting point of 3 edges.
3. These 3 edges which meet at the corner point, as such are half dimensions.
4. These 3 edges (as half dimension), together constitute a 3 dimensional frame of half dimensions, with corner point as the origin of this dimensional frame.
5. This dimensional frame of 3 half dimensions, together with the corner point as there meeting point, as origin, makes a 3 dimensional frame of half dimensions.
6. It would be a blissful exercise to extend said 3 edges in the space outside the cube.
7. With this extension, each half dimension will become full dimensions.
8. In this extended form, will stand constructed a 3 dimensional frame of full dimensions.
9. Likewise a 3 dimensional frame of full dimension can be constructed at each corner points as origin of this dimensional frame.
10. One may have a pause here and, take note that, this way, there would stand constructed, as many as, 8 three dimensional frame of full dimension.
11. It would be blissful to take note that each have so constructed three dimensional frame of full dimension, its split shall be leading us to a pair of 3 dimensional frame of half dimensions.
12. It would further be blissful to take note that of these 16 three dimensional frame of half dimension, 8 of them are within cube, while remaining of 8 them are in space outside the cube.

13. This phenomenon of a split of a three dimensional frame into a pair of three dimensional frame of half dimension, deserves to be comprehend well.
14. It would be a blissful exercise to extend a 3 dimensional frame of half dimension into a three dimensional frame of full dimension.
15. It would further be a blissful exercise to split a three dimensional frame of full dimensions into a pair of 3 dimensional frame of half dimensions.

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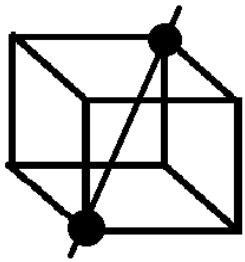
LESSON-7

QUADRUPLE INTERNAL DIAGONALS



1. Let us revisit the structural set up of the cube.
2. Of this structural set up, let us have a focus upon the internal structural set up of cube, that is, upon the structural set up of the volume of the cube.
3. The three dimensional frame with origin at the centre of the cube is one feature which deserves to be comprehend well.
4. The ten directional frame accepted by the volume of the cube is an another feature of the cube which deserves to be comprehend well.
5. The other feature, which deserves to be comprehended, is the set of quadruple internal diagonals of the cube.
6. These diagonals pass through centre of the cube.
7. Each diagonal coordinates a pair of corner points.
8. The pair of corner points and the centre, as such make a 3 point fixation for a diagonal of the cube.
9. All the 8 corner points of the cube are coordinated by the quadruple diagonals of the cube.
10. These diagonals are designated as the internal diagonals of the cube.

11. One may have a pause here and take note that end point of the diagonals are superimposed upon the respect corner points of the cube.
12. Further as that, each corner points of the cube is the origin of the respective three dimensional frame of half dimensions embedded in the corner point.
13. It would be a blissful to take note that pair of 3 dimensional frames of half dimensions (embedded in the respective end points of the respective diagonal) are of dimension of opposite orientation.
14. This feature (of dimensions being of opposite orientation) makes these said pair of 3 dimensional frames, as both of them being of inward orientation towards centre of the cube.
15. This structural set up of said pair of 3 dimensional frame, as such, avail respective diagonal as there translation path.
16. Both these dimensional frames, translate along this path of diagonal format and the translation beginning with the end point of the diagonal / corner point of the cube. Processes towards the centre of the cube.
17. It would be a blissful to take note that with reach at centre of the cube, this pair of dimensional frames acquire a synthetic set up of a 3 dimensional frame of full dimensions.
18. It is this feature of this translation which deserves to be comprehended well.
19. Such synthetic set up along each diagonal, that way will make available a set of quadruple synthesized three dimensional frame of full dimensions.
20. It would further be blissful to take note that these quadruple three dimensional frame of full dimensions

together with three dimensional frame of full dimension origin at the center come already available makes availability of as many as five 3-dimensional frame of full dimensions.

21. Each of these five 3-dimensional frame of full dimension makes a solid dimension (3-space in the role of dimension).
22. Further at that, these five solid dimensions, together constitute a solid dimensions frame of five dimensions of 5-space.
23. These features deserve to be comprehended well.

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LESSON-8

SYNTHESIS OF HALF DIMENSIONAL FRAMES

1. Synthesis of half dimensional frames deserves to be chased for its full appreciation and complete comprehension.
2. One way to chase it would be to follow the translation of pair of three dimensional frames of half dimensions from the corner points of a given internal diagonal till their reach at the centre of the cube (middle point of the diagonal).
3. One shall have a pause the movement the both of this pair of three dimensional frames of half dimensions reach at centre of the cube (middle of the diagonal).
4. This phase and stage, is going to be feature and values:
   (i) Origins of both three dimensional frames of half dimensions gets super imposed upon centre of the cube (middle point of the diagonal).
   (ii) Three pairs of half dimensions of opposite orientations of same dimension gets synthesized as a set of three full dimensions together making a three dimensional frames.
   (iii) From the centre there happens to be a structural flow along each diagonals along its both orientations.
5. The angular placement of diagonal in reference to three dimensional frames with origin at the centre being responsible for split of the cube into 8 sub cubes by availing spatial base of three linear axes, deserves to be comprehended well.
6. The continuation of translation for both three dimensional frame of half dimensions, ahead a centre of

the cube / middle of the diagonal, shall be sequentially have a reach uptill the opposite corner points.

7. One may have a pause here and to permit the mind to glimpse this happening of a three frame of half dimensions beginning translation from a given corner point and attaining reach at the other end point of the diagonal super imposed upon respective corner of the cube.
8. It would further be blissful to chase and comprehend further translation which shall be taking in the outward space making it a synthesis phenomenon of construction of a three dimensional frame of full dimensions at the second end point of the diagonal.
9. One shall chase this translation firstly beginning with the first corner point of the diagonal having is reach upitll centre of the cube / middle point of the diagonal and secondly beginning with centre of the cube/ middle point of the diagonal and attaining the second end point of the interval.
10. It would be a blissful exercise to chase this 2 phased translation for all the three dimensional frame of half dimensions embedded in all the 8 corner points cube.

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