List of VM Consolidated documents of Dr. S. K. Kapoor

List 1 Different aspects of Vedic Mathematics

Aspect 5
SPACE CONTENT MANIFESTATION CHASE MATHEMATICS

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1. **Vedic Mathematics**

One definition of Vedic Mathematics is that it is a space content chase mathematics. This chase is of 16 steps as 16 Ganita Sutras. This 16 steps chase format becomes the chase format of 18 disciplines of Yoga of Geeta.

2. **Ganita Sutras and text of Geeta**

Ganita Sutras and text of Geeta are of parallel sequential steps as under:-

Interrelationship table of Geeta chapters Yogas and Ganita Sutras
Sh = Shalokas Lt = Letters

Geeta chapter with Yoga name and its TCV value	Sh	Ganita Sutra with TCV value	Lt
1 अर्जुनविषादयोग (TCV 55) ArjunVishad Yoga	47	10 यावदूनम् (TCV 41) Yavadunam	9
2 सांख्ययोग (TCV 32) Sankhya Yoga	42	11 व्यष्टिसमष्टिः (TCV 58) Vyastisamastih	14
3 कर्मयोग (TCV 26) Karam Yoga	43	1 एकाधिकेन पूर्वेण (TCV 75) Ekadhikena Purvena (also a orollary)	16
4 ज्ञानकर्मसंन्यासयोग (TCV 75) Gyankaramsanyas Yoga	42	13 सोपान्त्यद्वयमन्त्यम् (TCV 80) Sopantyadvayamantyam	20
5 कर्मसंन्यासयोग (TCV 54) Karamsanyas Yoga	29	2 निखिलं नवतश्चरमं दशतः (TCV 107) Nikhilam Navatascaramam	28
6 आत्मसंयमयोग (TCV 53) Atamsayam Yoga	47	15 गुणितसमुच्चयः (TCV 56) Gunitasamuccayah	16
7 ज्ञानविज्ञानयोग (TCV 63) GyanVighyan Yoga	30	3 ऊर्ध्वतिर्यग्भ्यायम् (TCV 56) Urdhva-tiryagbhyam	15
8 अक्षरब्रह्मयोग(TCV 53) Aksharbraham Yoga	28	**Vedic mathematics Base values**	---
9 राजविद्याराजगुह्ययोग (TCV 67) Rajvidyarajguhya Yoga	34	4 परावर्त्य योजयेत् (TCV 52) Paravartya Yojayet	17
10 विभूतियोग (TCV 41) Vibhuti Yoga	42	**Spiritual base values**	---
11 विश्वरूपदर्शनयोग (TCV 67) VishwarupaDarshan Yoga	55	5 शून्यं साम्यसमुच्चये (TCV 71) Sunyam Samyasamuccaye	20
12 भक्तियोग (TCV 28) Bhakti Yoga	20	12 शेषाण्यङ्.केन चरमेण (TCV 75) Sesanyankena Caramena	20
13 क्षेत्रक्षेत्रज्ञविभागयोग (TCV 84) KshetraKshetragyavibhag Yoga	34	6 (आनुरूप्ये) शून्यमन्यत् (TCV 76) (Anurupye) Sunyamanyat	19
14 गुणत्रयविभागयोग (TCV 57) Guntriyavibhag Yoga	27	14 एकन्युनेन पूर्वेण (TCV 84) Ekanyunena Purvena	17
15 पुरूषोत्तमयोग(TCV 61) Purshotamm Yoga	20	7 संकलनव्यवकलनाभ्याम् (TCV 85) Sankalana-vyavakalanabhyam	24
16 देवासुरसंपद्धिभगयोग (TCV 90) Devasur Sampadibhag Yoga	24	16 गुणकसमुच्चयः (TCV 55) Gunakasamuccayah	16
17 श्रद्धात्रयविभागयोग (TCV 62) Shardatriya Vibhag Yoga	28	8 पूरणापूरणाभ्याम् (TCV 68) Puranapuranabhyam	16
18 मोक्षसंन्यासयोग (TCV 64) Moksha Sanyas Yoga	78	9 चलनकलनाभ्याम् (TCV 56) Calana-kalanabhyam	16

3. Sankhiya Nishtha and Yoga Nishtha

Vedic processing system is unified of Sankhiya Nishtha and Yoga Nishtha. Sankhiya Nishtha presumes the existence of geometric formats and avails artifices of numbers parallel with dimensional frames. On the other hand Yoga Nishtha presumes the existence of artifices of numbers and avails dimensional frames

parallel with artifices of numbers. The basic number values (मूल अंक) / Mool Ank are whole numbers 1 to 9, parallel to which are 9 numerals of ten place value system. Further parallel with artifices of numbers 1 to 9 are the dimensional frames of 1-space to 9-space.

4. Dimensional Space

A space within a frame of n dimensions is designated as n dimensional space. The space content under the restrictions of n dimensions manifests as n space content domain of Hyper cube n, the representative regular body of n space within creator's space (4-space).

5. Creator's space (4-space)

Creator's space (4-space) is a spatial order space (2-space as dimension). The spatial order gives rise to a pair of distinct units, namely '2 as 1' and '1 as 2', which together give rise to (½ as a working unit). Creator's space (4-space) provides a manifestation format of four folds (parallel with its four dimensions) for dimensional bodies of all dimensional spaces. The spatial order results into a pair of distinct sequences of dimensional bodies parallel with full unit and half unit of creator's space (4-space).

For convenience of reference and handling, the following specific symbols and features attached to them are being mentioned hereunder : -

H_N is a full unit body of four folds $(N-2, N-1, N, N+1)$ where N is a whole number.

h_N is a half unit body of four folds $(N-1, N-½, N, N+½)$ where may be whole number or half whole number

Hh_N is a body of four folds $(N-2, N-1, N, N+1)$ where N may be a whole number or half whole number.

D_N is of four folds $(N, N-2, N-2, N-4)$ where N is a whole number

6. N-space content

N-space content (D_N) is the space content within n dimensional frame manifesting as domain fold of n-space body.

7. Parallel table of dimensional bodies and dimensional space content

C1= Dimensional frame, C2= Dimensional space content, C3= Dimensional body of full unit, C3a = Four folds of C3, C4= dimensional body of half unit, C4a = Four folds of C4.

C1	C2	C3	C3a	C4	C4a
1-space	D1	H1	$(-1, 0, 1, 2) = 2$	h1	$(0, ½, 1, 1½) = 3$
2-space	D2	H2	$(0, 1, 2, 3) = 6$	h2	$(1, 1½, 2, 2½,) = 7$
3-space	D3	H3	$(1, 2, 3, 4) = 10$	h3	$(2, 2½, 3, 3½,) = 11$

4-space	D4	H4	(2, 3, 4, 5) = 14	h4	(3, 3 ½ , 4, 4 ½,) = 15
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N-space	D_N	H_N	(N-2, N-1, N, N+1) = 4n -2	h_N	(N-1, N- ½, N, N+1) =4N-1

8. hyper cube $h_{N-½}$

Half unit bodies are of a pair of sequences h_N and $h_{N/2}$. Hyper cube $h_{N}/2$ is also a four fold manifested body (N- 1 ½, N-1, N – ½ , N) = 4N – 3.

Both sequences h_N and $h_{(N-½)}$ make an integrated sequence :

$$(h_½ , h_1 , h_{1½} , h_2, h_{2½} , -----)$$

of four folds summation values sequence (1, 3, 5, 7, 9,-----)

9. Numbers values and dimensional bodies

Parallel table of numbers values and dimensional bodies is as follows :-

Number value	Dimensional body
1	$h_½$
2	H_1
3	h_1
4	D3 = (3, 1, 1, -1) =4 Note :- four folds of D_{N+2} are (N+2, N, N, N-2) of summation value 4_N.
5	h 1 ½
6	H_2
7	h 2
8	D4 = (4, 2, 2, 0) =8
9	h 2 ½
10	H_3
11	h 3
12	D5 = (5, 3, 3, 1) =12
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10. Nine vowels

Sadkhas fulfilled with intensity of urge to be parallel with Vedic Systems shall specifically comprehend and imbibe the interlinking and interlocking values and features of nine vowels, nine numerals, nine versions of Hyper cube 4, nine geometries of 4-space, summation value 9 of transcendence flow of steps (5, 3, 1) of Transcendental domain (5-space) and space content conditioning as D1 to D9, their manifestation as Hyper cubes of full and half units within creator's space (4-space).

Nine vowels respectively and in sequence are of format and features of dimensional frames of 1-space to 9-space. Being of format and features of dimensional frames, these format a flow for the dimensional domains of first phase for domain to dimension and of second phase from dimension to dimension of dimension. Such Transcendental flow comes to be of the values as follows :-

Vowel	Dimensional frame	Transcendence flow	Flow value
अ	1-space	(1,-1,-3); (1) x (-1) x (-3)	3
इ	2-space	(2, 0,-2); (2) x (0) x (-2)	0
उ	3-space	(3, 1,-1); (3) x (1) x (-1)	-3
ऋ	4-space	(4, 2, 0); (4) x (2) x (0)	0
लृ	5-space	(5, 3, 1); (5) x (3) x (1)	15
ए	6-space	(6, 4, 2); (6) x (4) x (2)	48
ओ	7-space	(7, 5, 3); (7) x (5) x (3)	105
ऐ	8-space	(8, 6, 4); (8) x (6) x (4)	192
औ	9-space	(9, 7, 5); (9) x (7) x (5)	315

11. Synthesis of dimensions of order 1 to order 9

A synthesis of 1 to 9 dimensions of order 1 to 9 are of values as follows

C0 = dimensional order, C1 = Single dimension, C2 = Two dimensions …. C9 = Nine dimensions synthesis value

C0	C1	C2	C3	C4	C5	C6	C7	C8	C9
1	1	3	6	10	15	21	28	36	45
2	2	4	6	8	10	12	14	16	18
3	3	5	6	6	5	3	0	-4	-9
4	4	6	6	4	0	-6	-14	-24	-36
5	5	7	6	2	-5	-15	-28	-44	-63
6	6	8	6	0	-10	-24	-42	-64	-90
7	7	9	6	-2	-15	-33	-56	-84	-117
8	8	10	6	-4	-20	-42	-70	-104	-144
9	9	11	6	-6	-25	-51	-84	-124	-171

Note :- Geeta text of repeated shalokas ranges are five chapters of shalokas 47, 42, 28, 34 and 20 are of summation value = 171.

12. Cosmic windows

With take off of boundary component there is created a cosmic window. The strip off of a boundary component dimensionalizes the outer space of the order of the boundary. Illustratively the spatial boundary components of Hyper cube 3 dimensionalizes outer space as of a 4-space of spatial order. The solid boundary component of Hyper cube 4 dimensionalizes outer space of a 5-space of a solid order. Through these cosmic windows happens inflow of the outer space structural features and values and same transcend through the domain and reach uptil the origin and get dissolved as the origin is of the same dimensional order as being of the inflow structures of the outer space. Illustratively the structural inflow of 4-space of spatial order, with its transcendence with 3-space domain reaches uptill 4-space origin of spatial order and that way gets absorbed here within the origin.

13. Transcendental cavity

The origin being of a higher dimensional order than that of domain, as such origin creates a Transcendental seat for the domain at its origin seat. It is with melting of this seal, there happens a two fold transcendence from the origin, upward through the domain and inward through the Transcendental cavity created at the seat of origin.

14. Outward and inward transcendence

Sadkhas fulfilled with intensity of urge to be parallel with Vedic Systems shall sit comfortably and to permit the transcending mind to glimpse and imbibe the values and features of two fold transcendence phenomenon at the seat of origin, firstly the upward transcendence through domain and secondly downward transcendence through the Transcendental cavity. The domain split (D_N) as of four folds $(N, N-2, N-2, N-4)$ is of features of split of a domain as a pair of (D_{N-2}) domains and dimension of dimension domain (D_{N-4}) reaches Transcendental cavity. One shall further sit comfortably and to permit the transcending mind to be in prolonged sitting of trans and to follow the sequential split and the range of Transcendental cavities emerging as of sequential order (1, 2, 5, 12, 29, 70, 169, 408, 985). One may have a pause here and take note that $1000 = 985 + 15$ brings us face to face with the Transcendental base. 5-space base of dimensional value 15.

15. Origin as seat of compactified range of origins

Sadkhas fulfilled with intensity of urge to be parallel with vedic processing systems shall sit comfortably and to permit the transcending mind to be parallel with the features and values of the origin seat being a seat of compactified origins of whole range of dimensional spaces and same manifests as the fifth fold (base fold) for the four fold manifested creations.

The transition and transformation for four fold manifested creations into five fold transcendence ranges is the feature and value which deserves to be comprehended thoroughly.

Illustratively 5-space in the role of origin of 4-space manifests as the base fold. Being at the origin seat, it acquires values of full unit and half unit Hyper cubes 4.

One may have a pause here and take note that H4 + h4 = 14 + 15 = 29 = TCV (ब्रह्मा), a step ahead 6-space as origin of 5-space that the origin acquires a full unit and a half unit values H5 + h5 = 18 + 19 = 37 = TCV (श्रीभगवान्).

 One may have a pause here and take note that Lord Krishan is participating in the divine dialogue of Geeta as Sribhagwan, and as such the enlightenment being bestowed by Lord as Sri Bhagwan is to be comprehended and imbibed as the enlightenment about the 5-space domain as the same can be reached fully from its origin (6-space).

16. Knowledge and enlightenment of Geeta

The knowledge and enlightenment of Geeta bestowed upon Arjuna by Lord as Sribhagwan is all about Transcendental domain (5-space) and the representative regular bodies of 5-space of full unit (H5) = (3, 4, 5, 6) of summation value (3 + 4 + 5 + 6 = 18 manifests the organization format of 18 disciplines of Yoga of 18 chapters of Geeta.

Further this manifestation being within 4-space of spatial dimensional order making dimensional frame of value 2^4 parallel with dimension of domain value 18, and as such the interrelationship and interlocking of the organization of 16 Ganita Sutras and 18 disciplines of Yoga of Geeta.

Sadkhas fulfilled with intensity of urge to be parallel with this interrelationship and interlocking shall sequentially comprehend and imbibe the values and features of text organization of chapters 1 to 18 of Geeta in the background of the values and features of the text of Ganita Sutras 1 to 16. However, the sequential flow of the organization of Ganita Sutras 1 to 16 for the organization of chapters 1 to 18 of Geeta is to be as per the structural organization features of dimensional bodies of 1-space to 9-space.

One may have a pause here and to permit the transcending mind to be parallel with the organization format of domain – dimension interloking for the four folds manifestation of Hyper cubes. The domain boundary ratio AN : 2N BN-1= and the emerging 2N +1 versions for Hyper cube N as 2N + 1 bodies of 2N + 1

bodies of 2N + 1 geometries, deserves to be comprehend well. It will help us comprehend and imbibe, interlocking and interrelationship of

i.   Geeta 3-space with Ganita Sutra 1, as 1-space has 3 geometries
ii.   Geeta 5-space with Ganita Sutra 2, as 2-space has 5 geometries
iii.   Geeta 7-space with Ganita Sutra 3, as 3-space has 7 geometries
iv.   Geeta 9-space with Ganita Sutra 4, as 4-space has 9 geometries
v.   Geeta 11-space with Ganita Sutra 5, as 5-space has 11 geometries
vi.   Geeta 13-space with Ganita Sutra 6, as 6-space has 13 geometries
vii.   Geeta 15-space with Ganita Sutra 7, as 7-space has 15 geometries
viii.   Geeta 17-space with Ganita Sutra 8, as 8-space has 17 geometries

Further Geeta Chapter 1 with Ganita Sutras 10 brings us face to face with the interlocking of (01 and 10) as a reflection pair of double digit numbers where digits swap their places. Also sum of digits of 01 is 0 + 1 = 1 which is equal to sum of digits '10' as 1 + 0 = 1.

Still further Geeta chapter 02 with Ganita Sutra 11, as here in this case sum of digits for 02 is 0 + 2 = 2 which is equal of sum of digits of 11 i.e. 1 + 1 = 2.

Still ahead Geeta chapter 04 with Ganita Sutra 13, as here in this case sum of digits for 04 is 0 + 4 = 4 which is equal of sum of digits of 13 i.e. 1 + 3 = 4.

Likewise chapter 06 of Geeta with Ganita Sutra 15, as here in this case sum of digits for 06 is 0 + 6 = 6 which is equal of sum of digits of 15 i.e. 1 + 5 = 6.

One may have a pause here and have a fresh visit the relationship of interlocking and interlinking of Ganita Chapter 18, being the last chapter. Value 18 is equal to the number of boundary component of Hyper cube 9, the representative regular body of 9-space / Brahman space. so the interrelationship and interlocking of Geeta chapter 18 with Ganita Sutras 9 'Chalna kalnabhyam' whose simple rendering is compilation (reservoir of values) of dynamic state.

The interrelationship and interlocking of Geeta chapters (12, 14 and 16) respectively with Ganita Sutras 12, 14 and 16 is there as system is to have initiation from 6-space for its reach uptill 9-space as origin. The values triple (12, 14 and 16) is parallel with (12, 14, 16) boundary component of Hyper cube (6, 7 and 8).

The pair of chapters of 8 and 10 of Geeta sandwiched chapter 9 of Geeta

| 9 राजविद्याराजगुह्ययोग (TCV 67) Rajvidyarajguhya Yoga | 34 |

17. Chapter 9

Chapter 9 of Geeta is of 34 shalokas range. Value 34 is parallel with the summation value of four folds (7, 8, 9, 10) of Hyper cube 9. Chapter 8 answers

the seven questions which stood culminated by Gyan Vighan Yog of Chapter 7 and remained unanswered. Value 7 is parallel with seven geometries reach of 3-space of a linear order. As such it is the upper limit for linear order system. To transcend ahead is to be a reach of value 8 which is parallel with the 8 boundary components of 4-space of spatial order. Chapter 8 answers the seven questions of chapter 7. Chapter 8 as such becomes the base value chapter of Vedic mathematics. Likewise chapter 10 is about the Transcendental features and the same that way becomes the base values chapter of Brahman Vidhya (spiritual knowledge). Chapter 9 is the bridge. Parallel to it Sutra 4 is the bridge. Sadkhas fulfilled with intensity of urge to be parallel with Vedic systems and further to be parallel with interlocking and interrelationship of yoga discipline of Geeta and mathematical domain of Ganita Sutras may begin with chapter 9 of Geeta and Sutra 4 and to sequentially be through the whole range of interlocking and interrelationship of text of Geeta and text of Ganita Sutras.

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