

GRAHA BHĒDA CHART FOR MĒLAMs

	generating mēlam (<i>śuddha madhyamam</i>)	resulting mēlam with the new tonic note taken as					
		ri	ga	ma	pa	dha	ni
1	kanakāṅgi	51	×	×	×	×	×
2	ratnāṅgi	52	×	19	×	×	×
3	gānamūrti	54	×	55	×	×	×
4	vanaspati	×	×	25	×	×	×
5	mānavati	×	×	61	×	×	×
6	tānarūpi	×	×	×	×	×	×
7	sēnavati	63	×	×	×	17	×
8	hanumatōḍi	65	28	20	×	29	22
9	dhēnuka	66	×	56	×	35	×
10	nāṭakapriya	×	64	26	×	×	23
11	kōkilapriya	×	×	62	×	×	×
12	rūpāvati	×	×	×	×	×	×
13	gāyakapriya	69	×	×	×	×	×
14	vaḷābharaṇam	71	×	21	×	×	58
15	māyāmālavagaḷa	72	×	57	×	×	×
16	cakravākam	×	×	27	×	×	59
17	sūryakāntam	×	7	63	×	×	×
18	hāṭakāmbari	×	43	×	×	×	×
19	jhaṅkārādhvani	×	×	×	2	53	×
20	naṭabhairavi	×	29	22	8	65	28
21	kiravāṇi	×	×	58	14	71	×
22	kharaharapriya	8	65	28	20	×	29
23	gaurimanōhari	10	×	64	26	×	×
24	varuṇapriya	×	×	×	32	×	×
25	māraṅjani	×	×	×	4	×	×
26	cārukēśi	×	×	23	10	×	64
27	sarasāṅgi	×	×	59	16	×	×
28	harikāmbhōji	20	×	29	22	8	65
29	dhīraśaṅkarābharaṇam	22	8	65	28	20	×
30	nāganandini	×	44	×	34	×	×
31	yāgapriya	×	×	×	×	×	×
32	rāgavardhani	×	×	24	×	×	×
33	gāṅgēyabhūṣaṇi	×	×	60	×	×	×
34	vāgadīśvari	×	×	30	×	44	×
35	śūlini	×	9	66	×	56	×
36	calanāṭa	×	45	×	×	×	×

	generating mēlam	resulting mēlam with the new tonic note taken as					
		(prati madhyamam)	ri	ga	ma	pa	dha
37	sālagam	×	×	×	×	×	×
38	jalārṇavam	×	×	×	×	×	×
39	jhālavārāli	×	×	×	×	×	×
40	navanītam	×	×	×	×	×	×
41	pāvani	×	×	×	×	×	×
42	gavāmbhḍhi	×	×	×	×	18	×
44	bhavapriya	×	34	×	×	30	×
45	śubhapantuvarāli	×	×	×	×	36	×
46	ṣaḍvidhamārgiṇi	×	70	×	×	×	×
47	suvarṇāṅgi	×	×	×	×	×	×
48	divyamaṇi	×	×	×	×	×	×
49	dhalāmbhari	×	×	×	×	×	×
50	nāmanārāyaṇi	×	×	×	×	×	×
51	kāmavardhani	×	×	×	×	×	1
52	rāmapriya	×	×	×	×	×	×
53	gamanaśrama	×	19	×	×	×	2
54	viśvambhari	×	55	×	×	×	3
55	śyāmaḷāṅgi	×	×	×	3	54	×
56	ṣaṇmukhapriya	×	35	×	9	66	×
57	simhēndramadhyamam	×	×	×	15	72	×
58	hēmavati	14	71	×	21	×	×
59	dharmavati	16	×	×	27	×	×
60	nītimati	×	×	×	33	×	×
61	kāntāmaṇi	×	×	×	5	×	×
62	iṣabhapriya	×	×	×	11	×	×
63	latāṅgi	×	×	×	17	×	7
64	vācaspati	26	×	×	23	10	×
65	mēcakalyāṇi	28	20	×	29	22	8
66	citrambari	×	56	×	35	×	9
67	sucaritra	×	×	×	×	×	×
68	jyōtisvarūpiṇi	×	×	×	×	×	×
69	dhātuvardhani	×	×	×	×	×	13
70	nāsikābhūṣaṇi	×	×	×	×	46	×
71	kōsalam	×	21	×	×	58	14
72	rasikapriya	57	×	×	×	×	15

Here is the listing of 20 possible groups of *mēlam*s, where each member in the same (bracketed) group is obtained by *graha bhēdam* technique from another member of the "same" group.

1.	(1, 51)
2.	(2, 19, 53)
3.	(3, 54, 55)
4.	(4, 25)
5.	(5, 61)
6.	(7, 17, 63)
7.	(8, 20, 22, 28, 29, 65)
8.	(9, 35, 56, 66)
9.	(10, 23, 26, 64)
10.	(11, 62)
11.	(13, 69)
12.	(14, 21, 58, 71)
13.	(15, 57, 72)
14.	(16, 27, 59)
15.	(18, 43)
16.	(24, 32)
17.	(30, 34, 44)
18.	(33, 60)
19.	(36, 45)
20.	(46, 70)

The above list accounts for 56 *mēlam*s. The remaining 16 *mēlam*s do not admit any *graha bhēdam*. They are: 6, 12, 31, 37, 38, 39, 40, 41, 42, 47, 48, 49, 50, 52, 67, 68.

Re-grouping these :

- *mēlam* pairs in *graha bhēdam*: (1, 51), (4, 25), (5, 61), (11, 62), (13, 69), (18, 43), (24, 32), (33, 60), (36, 45), (46, 70) = 10 pairs
- *mēlam* triples in *graha bhēdam*: (2, 9, 53), (3, 54, 55), (7, 17, 63), (15, 57, 72), (16, 27, 69) and (30, 34, 44) = 6 triples
- *mēlam* quadruples in *graha bhēdam*: (9, 35, 56, 66), (10, 23, 26, 64), (14, 21, 58, 71) = 3 quadruples
- *mēlam* sextuple in *graha bhēdam*: (8, 20, 22, 28, 29, 65) = one sextuple.

Note that each triplet (a, b, c) yields three distinct pairs (a, b) , (a, c) , (b, c) . Each quadruple (a, b, c, d) yields six pairs (a, b) , (a, c) , (a, d) , (b, c) , (b, d) , (c, d) . Similarly, each sextuple yields 15 pairs.

So, if we looking for the number of "*mēlam* pair" in *graha bhēdam*, (each member in the pair is obtained by a *graha bhēdam* of the other member), then the total number will be: $10 + (6 \times 3) + (3 \times 6) + (1 \times 15) = 61$ pairs!!

DR. P. P. NARAYANASWAMI