

COMPOSITIONS OF THE TRINITY IN SANKARABHARANAM AND KALYANI RAGAS

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It has been felt that not much work of a scientific nature has gone into the study of Karnatak Music.¹ If the work that is done is of a fairly sophisticated type using the latest tools of mathematics and statistics, it becomes almost unintelligible to practising musicians — who, after all, are the 'conveyres' of music to the common man. Hence in this paper, an attempt will be made to present an analysis of some of the compositions of the Trinity of Karnataka music — in two of the commonly known *raga-s*.

The *raga-s* chosen are *Sankarabharanam* and *Kalyani* — both well known and well utilised by almost all the three composers. The scales represented by both these *raga-s* have been in vogue from very early times not only in our country but elsewhere also. *Sankarabharanam* was known to the Greeks and to the ancient Tamils as *Pazhampanjaram*; *Kalyani* too figures as one of the several ancient modes of Greek Music. This is the earliest known *Pratimadhyama raga*. That these two differ only in the *Madhyama* note is well known. Both are known as *sarvasvara-gamaka-varika-rakti raga-s* and are supposed to be well distributed, affording much scope for elaboration.

When we analyse any *raga*, we have to start only with the *svara-s* comprising the *raga*. Hence, we have to take some standard compositions in that *raga*. We have considered the compositions of Tyagaraja, Syamasastri and Deckshitar in these two *raga-s*. It is also generally conceded that the '*svara-ppaduttudal*' (notation) might be different for the same song if done by different people. To avoid, therefore, any discrepancy on this score, we have confined ourselves to the notation done by R.R. Ayyangar². The number of songs analysed are given in Table I. on Page No. 11.

The list includes *all* the available songs of Tyagaraja and perhaps omits a very few songs of the other two composers.

TABLE I

<i>Raga</i>	<i>Composer</i>	<i>No. of songs</i>
<i>Kalyani</i>	Tyagaraja	19
	Syamasastri	4
	Deekshitar	6
	Total	29
<i>Sankarabharanam</i>	Tyagaraja	29
	Syamasastri	3
	Deekshitar	8
	Total	40

Distribution of Svaras

It is recognised that some compositions are classified as belonging to the higher octave or *tara sthayi* and some others specialise in *mandara* (lower) *sthayi svara-s*. To clearly illustrate these songs, we calculate the number of times each note occurs — from lower *Panchama* (LP) to the *tara* (higher) *Panchama* (HP) — a range of two octaves (but generally known as *Tristhayi*). These figures are converted to percentages for each *svara* with respect to the total number of *svara-s* in that song and histograms (pictorial representations) are drawn giving the proportions in a diagrammatic form. The histograms are serially arranged as follows :

<i>Kalyani</i>	Tyagaraja	Histograms	1-19	(Reference 3)
	Syamasastri	„	20-23	(At the end of the paper)
	Deekshitar	„	24-29	„
<i>Sankarabharanam</i>	Tyagaraja	„	30-58	„
	Syamasastri	„	59-61	„
	Deekshitar	„	62-69	„

The conversion to percentages is done so that there may be comparability from one song to another. Separate histograms are drawn for each song of each composer. Since each of these composers are known to have distinct styles of their own, for all the songs of *one raga* of *one* composer, a separate histogram is drawn. Let us first analyse the six histograms for the totals of the three composers in the two *ragas*. Histograms for Total are numbered as TK (Tyagaraja — *Kalyani*), SK (Syamasastri — *Kalyani*), DK (Deekshitar — *Kalyani*), TS (Tyagaraja-*Sankarabharanam*) and SS and DS similarly.

Kalyani

Deekshitar's has the most uniform distribution of *svara-s* in the two octaves among the three composers. There is a slight preponderance of higher octave notes (HS, HR, HG, HM, HP) than lower octave notes (LP, LD, LN); this tendency is more marked in Tyagaraja's songs. Syamasastri's *kriti-s* do not exhibit this feature; the histograms appear with a definite shift to the left — the percentage of higher octave notes in Syamasastri is 5% only, whereas for Tyagaraja it is 20% and 19% for Deekshitar.

The predominant notes for Tyagaraja are PA, DA and HS; for Syamasastri they are SA, RI, MA and PA. In Deekshitar's *kritis* GA, PA and DA dominate. Thus PA is a common dominant note for all the composers.

Sankarabharanam

Compared to the Histograms of *Kalyani raga*, those of this *raga* are definitely not uniform. Tyagaraja's is most uniform of all the three; even here, as in *Kalyani*, PA and HS dominate, with GA, MA, DA, NI and HR almost with equal frequencies. The higher octave notes are more (30%) of which HS alone accounts for 15%. Syamasastri is rather uneven — PA, MA, GA occurring as predominant notes in that order. The percentage of higher octave notes is rather small — 15%. Deekshitar's is slightly askew to the left — showing a tendency for lower order notes. Even here PA dominates over all others, with GA, MA, DA, HS being almost equally frequent. The Percentage of higher octave notes is rather high compared to Syamasastri, 21% — practically midway between the figures for the other two composers. Comparison of the Lower octave notes (LP, LD, LN) for the three composers shows : Tyagaraja — 2.7%; Syamasastri — 7.5%; Deekshitar — 2.5%.

Thus it would appear that Syamasastri's *kriti-s* tend towards lower *sthayi svara-s* while Deekshitar's and Tyagaraja's prefer notes of higher *sthayi*.

SPECTRUM OF THE SONGS

KALYANI : Tyagaraja (Hist. 1-19) :

There are 19 songs in this group and the Histograms 1-19 give the spectrum of each one of them. On the average 1.5 percent of notes belong to the lower octave while nearly a fifth of the notes belong to the higher octave. The songs which could be very definitely classified as *tara sthayi* are — *Rama rama rama* (HIST 17), *Nammi vachchina* (12), *Sandehamu ela* (13), *Sundari nee* (7), *Enduko nee* (2) and *Karuyelpulu* (6); while the songs *Bhajanaseyave* (9), *Rama nee vadu* (16) belong more to the lower *sthayi*. It will be generally

seen that all the Histograms have a shift towards the right — indicating the higher frequency of *Tara sthayi svara-s*. The song 3 (*Etavunara*) appears to have a marked leftward shift — with a large concentration on RI; songs 10 (*Nidhichala*) and 18 (*Vacchunu Hari*) have a fairly uniform distribution of *svara-s*—indicating that these songs are more evenly spread over the three *sthayis*.

KALYANI — Syamasastri (Histograms 20-23)

Out of the four songs, the first (*Sankari Sankari*) has a uniform distribution, with RI, GA, PA, DA slightly more frequent. *Talli ninnu* (2) has an unequal distribution with GA as most frequent note — followed closely by RI and PA. The third song (*Himadrisute*) is almost a repetition of the second. In *Ninnu vina* (4) PA. and DA dominate and this is the only song in which the histogram has a noticeable shift towards the left. The *svara-s* are quite confined, so to say, as they never reach LP or HP — in some cases not even LD or HM even, in these *kriti-s* of Syamasastri.

KALYANI — Deekshitar (Histograms 24-29)

The shift towards notes of higher frequency is noticeable in Histograms 28 (*Sivakamesvareem*) and 29 (*Kamalambam*), while 25 and 27 (*Kamakshim* and *Srimangala*) show slight preference for lower *svara-s*. The spectrum of the song *Kamakshim* is rather peculiar — the range of the *svara-s* is from LP to HG (quite wide we should say) but most of the notes occurring are from SA to DA only. PA is most frequent in *Abhayambam* (24), *Bhajarere* (26) and 27 and 28 — but is found to be least in 29. This song shows a fairly uniform spread of all the notes.

SANKARABHARANAM — Thyagaraja (Histograms 30-58):

A general feature of many of the songs is the preponderance of the notes PA and HS — especially these songs are to be noted — 31, 37, 38, 46, 50 and 55. In some songs, one or two other notes appear prominent. GA is most frequent in 32, 43, 44, 48 and 49; NI is dominant in songs 1 (*Evaraku*) and in 36 (*Vallagadanaka*). In *Vishnuvahanu* (54), HR is most frequent; and in song 37 (*Sundaresbaruni*) PA has the highest frequency for any note in any of these 29 *kritis* (25.56%).

Songs which have fairly well spread distribution throughout the two octaves are 47, 49, 53, 54 and 56 while 31, 35, 37 and 38 are much less so. Songs 42, 50, 52, 54 have a higher occurrence of *tara sthayi svara-s*. Songs 32, 34, 36, 38 and 44 show a tendency to be longtailed towards the left. the songs 51, 56 and 55 have no notes below SA — i.e. no *mandara sthayi* notes at all. They also do not have any notes higher than HR either. Tyagaraja appears to be quite economical in the use of *svara-s* in these songs. Histograms 32 and 57 show a beautiful pyramid-like structure.

SANKARABHARANAM — Syamasastri (Histograms 59-61) :

Under this category only three songs are available. The first song shows a predominance of SA, PA and HS. (This is conforming to the general impression that whatever the *raga* be, we sing SA, PA and HS notes most frequently.) Together these three notes total upto 42% and so the song has a very unequal distribution of notes and contains more lower octave notes. The second song (60) also has a similar appearance — but with a higher apex at PA (26.5%). In *Nammu karuninchi* (61), the predominant note is GA — a feature observed in a few Tyagaraja *kriti*-s as well. Except for a slight preference for higher octave notes, the *svara*-s have arranged themselves quite evenly.

SANKARABHARANAM — Deekshitar (Histograms 62-69) :

The pre-eminent occurrence of PA and HS is noticed here also in 62, 64, 65, 66 and 67. Except for this feature 62 appears to have uniform distribution of *svara*-s. Histogram 63 has the appearance of the Empire state building in New York. The note GA soars very high over all others. Preference for higher notes is shown by Histograms 64, 65 and 66 while 62 and 68 are biased towards lower notes. *Dakshinamoorte* (64) has fairly equal share of *svara*-s and so also the song *Sreekamalambike* (69).

DISTRIBUTION OF THE SEVEN SVARA-S

It has already been remarked that both the *raga*-s selected are called *sarvasvara gamaka raga*-s — i.e. there is no particular *svara* or *svara*-s which could be said to be characteristic of the *raga*. Let us examine this factor in detail with the help of the available songs. If there is complete freedom in the choice of the *svara*-s, then, on an average, each of the seven *svaras* should occur with a percentage near to 14. The percentages of the totals of all the songs for the three composers is given below :

KALYANI RAGA

	SA	RI	GA	MA	PA	DA	NI
Tyagaraja	19.3	14.3	12.7	9.6	15.8	15.3	13.0
Syamasastri	16.4	15.5	17.3	11.0	16.2	13.6	10.0
Deekshitar	17.9	14.5	16.2	8.2	15.3	15.3	12.6

It is seen that SA has nearly 20% occurrence in Tyagaraja *kriti*-s, while PA follows as second. The notes MA, GA and NI are less frequent in that order. For Syamasastri, GA has the highest frequency, while NI and MA are less frequent. Deekshitar's appears to be a mixture of these two features

— SA being the highest — followed by GA. Here too MA, NI occupy the lowest rung on the ladder. It looks as though SA and GA (and of course PA) are the three notes which are most needed to expose this *raga* — the percentages of these three alone accounting for 48% (Tyagaraja); 50% (Syamasastri) and 47% (Deekshitar) of the total of seven *svara*-s.

It is indeed rather surprising to note that the *pratimadhyama* — the only note which distinguishes this *raga* from its counterpart *Sankarabharanam* is least frequent having only 10% occurrence on the average.

Let us analyse the compositions of the individual composers in some detail in this light.

Tyagaraja :

The most uniform distribution of *svaras* is found in the song 9 (*Bhajanaseyave*) with 12.5, 13.9, 16.3, 13.5, 17.4, 15.0, 11.4 from SA to NI and this song eventually has the largest occurrence of M. The song *Isa pahi mam* (14) is next best with figures 18, 11, 13, 13, 17, 14, 13. Some songs which have other predominant *svara*-s than the usual are : *Rama rama rama* and *Amma ravamma* (DA — 18%), *Etavunara* and *Evaramaduguru* (RI — 20%), *Vacchunu Hari* (RI — 19%), *Sive paahi mam* (NI — 18%). Songs which have a particular note (except MA) occurring less than 10% are : *Etavunara*, *Evaramaduguda* and *Vachunu Hari* (NI), *Sive pahi maam* (RI), *Rama rama rama* (GA). It appears as though when NI is most frequent, RI is less frequent and *vice versa*. The same case appears true for DA and GA also.

Syamasastri :

There is more diverse distribution of *svara*-s among Syamasastri's *kriti*-s. SA is most frequent in song 3 (*Himadrisute*) 22%; while GA is so in song 2 (*Talli ninnu* — 23%). The fourth song (*Ninnu vina*) with figures 16, 14, 12, 10, 19, 17, 12 is perhaps the most uniform. The note MA has a better occurrence among these *kriti*-s than either in Tyagaraja's or Deekshitar's compositions. The predominance of SA and PA notes is seen less in these songs.

Deekshitar :

No song appears to have a fairly uniform distribution. MA appears least frequent in Deekshitar's songs. Only in the song *Kamakshim* is the frequency 11 — otherwise it is 9% or less. The smallest value (6%) is in song 6 (*Kamalambam*). Songs which have some other note (apart from PA or SA) predominate are :

DA — *Abhayamba* (1), *Sivakamesvarim* (5)

GA — *Bhajarere* (3), *Srimangalam* (4), *Kamakshim* (2)
 RI — *Kamalambam* (6)

Also in song (6) NI is least frequent (9%)

SANKARABHARANAM

The percentages of the seven *svara*-s for the three composers are given below (Total of all songs in that *raga*)

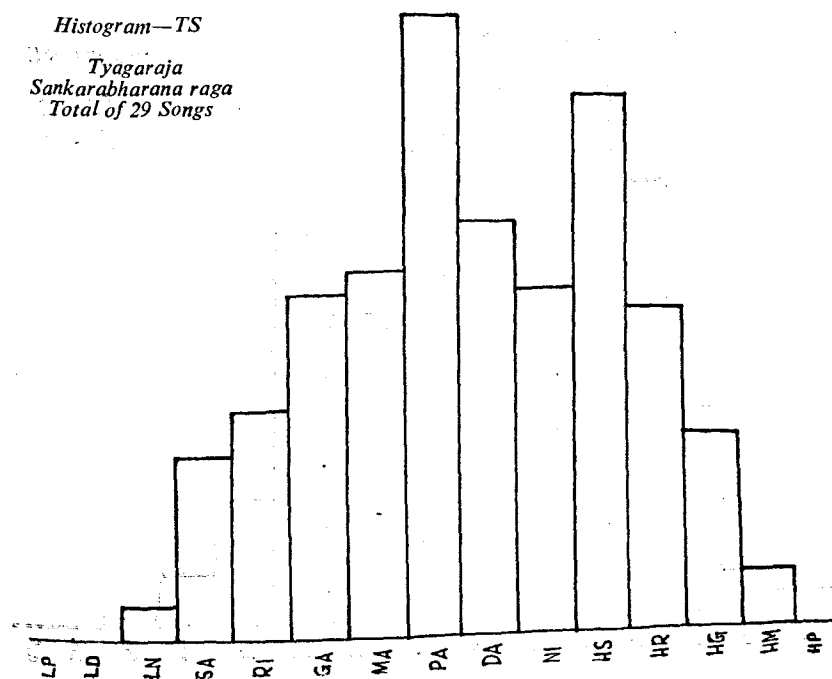
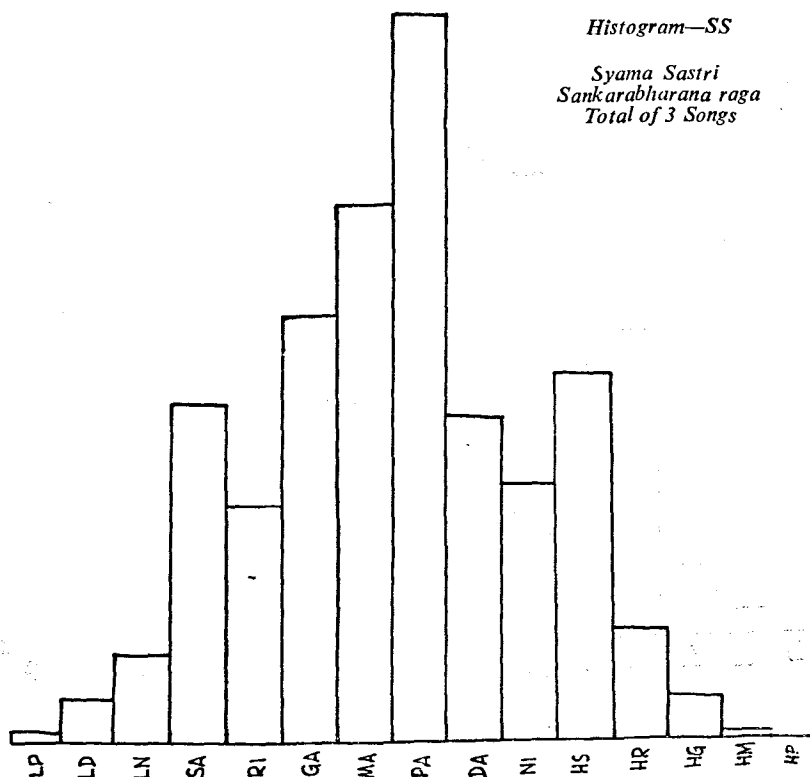
	SA	RI	GA	MA	PA	DA	NI
Tyagaraja	20.0	15.0	14.6	11.6	17.1	11.5	10.2
Syamasastri	20.0	9.9	13.4	15.4	20.9	10.4	10.0
Deekshitar	20.7	12.7	15.1	13.7	17.9	11.0	8.9

As in *Kalyani*, the notes most frequent are SA and PA in that order — except for Syamasastri for whom PA has a slight edge over SA. Nearly 40% of the notes sung in this *raga* are of these varieties only. Tyagaraja and Deekshitar appear to have fairly close values while Syamasastri has widely differing values of the *svara*-s. He appears to use MA more than the other two — a feature observed in *Kalyani raga* also. It is the third most frequent note. Tyagaraja favours RI and GA while Deekshitar votes for GA. The notes DA and NI appear in about 10% of cases each, while in *Kalyani* they had higher frequencies. This would lend some support to the statement that *Sankarabharanam* prefers notes with a lower frequency, while *Kalyani* favours notes of a higher frequency comparatively. Even in the study of histograms this tendency was observed.

The distribution of the seven *svara*-s within the songs of each composer is analysed next.

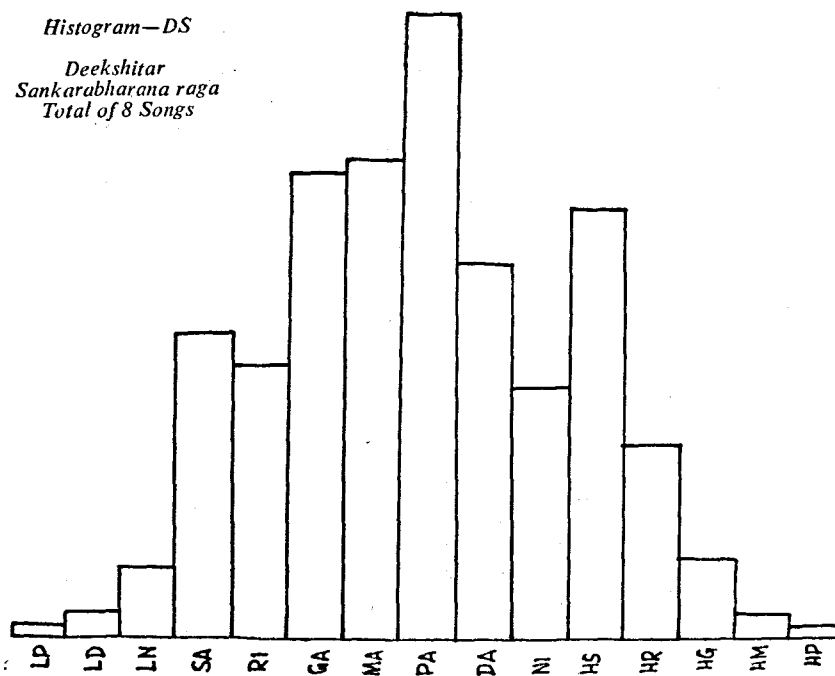
Tyagaraja :

SA occurs with a frequency of more than 25% in the following songs — 2, 6, 7, 14; and in the following songs, SA and PA together constitute more than 45% or nearly half the notes in that song. 2, 8 and 9. The lowest values (around 12%) are found in songs 20, 22 for SA and PA each. RI occurs with the second largest value in the following songs: 21, 25 (first 25%), 27, 29. GA gets the second place in 3 (first 21%), 6, 18, 20 (first 20%), 22, 24 (first 18%). It should not be concluded RI and GA are more frequent in all the songs — there are a few songs in which these two are the least frequent. They are 2, 7, 8, 17. Especially in song 8, the combination of RI and GA yields only 15% (whereas that of DA and NI in the same song is 23%). MA too occurs with



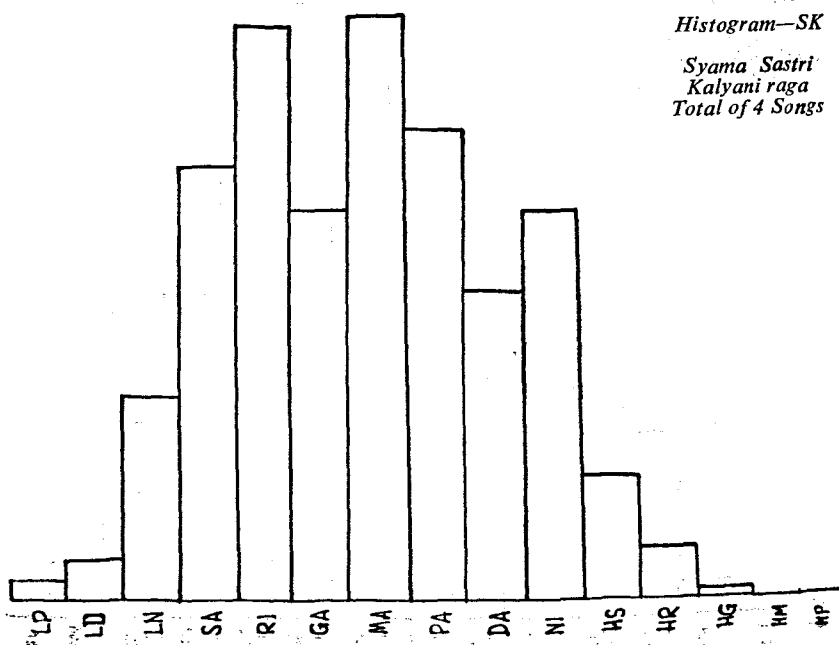
Histogram—DS

*Deekshitar
Sankarabharana raga
Total of 8 Songs*



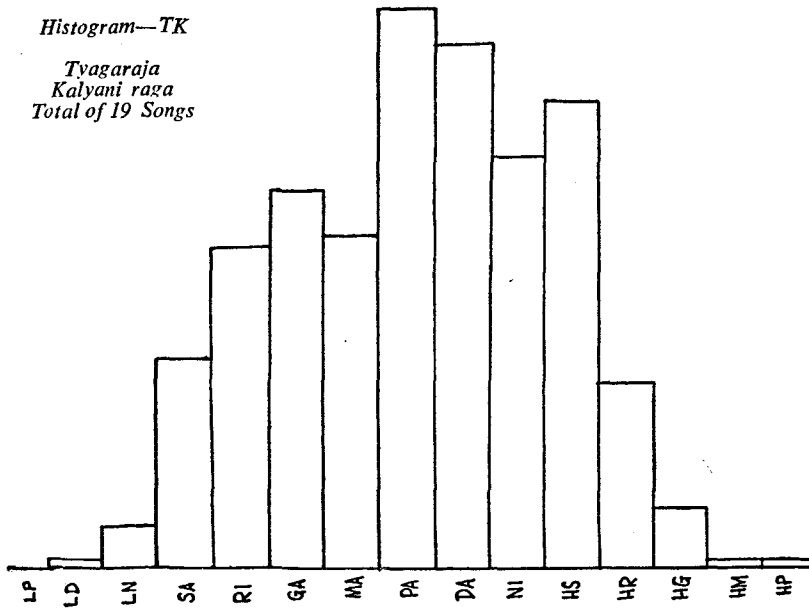
Histogram—SK

*Syama Sastri
Kalyani raga
Total of 4 Songs*



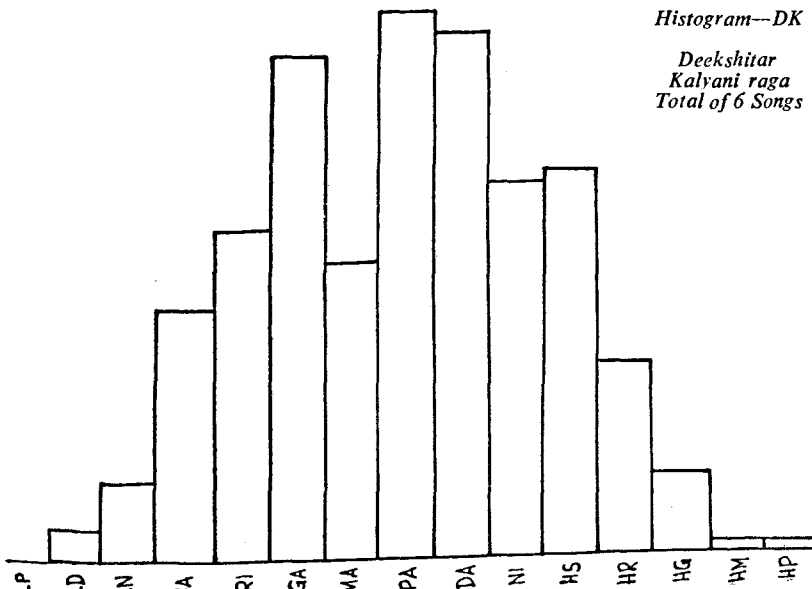
Histogram—TK

*Tyagaraja
Kalyani raga
Total of 19 Songs*

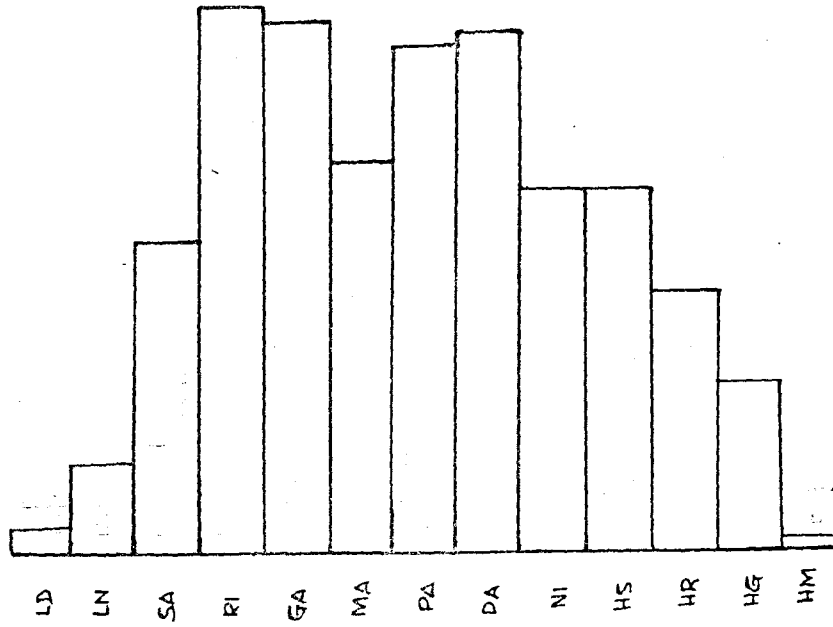


Histogram--DK

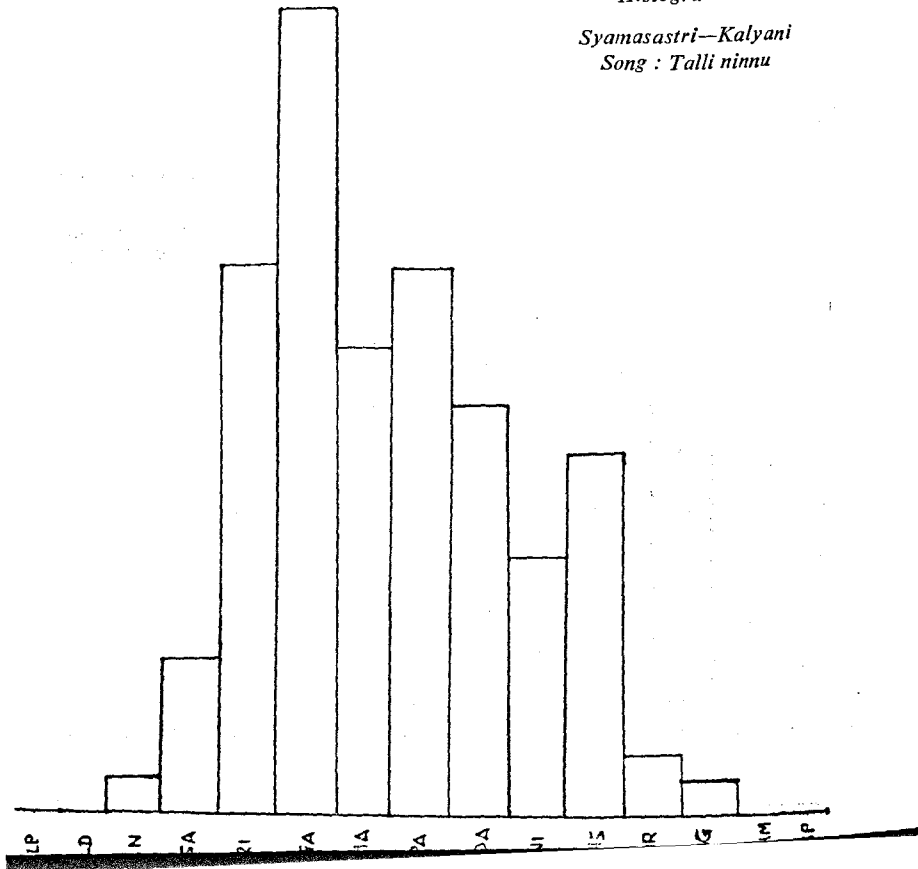
*Deekshitar
Kalyani raga
Total of 6 Songs*



Histogram—20
 Syamasastri—Kalyani
 Song : Sankari Sankari Karuna

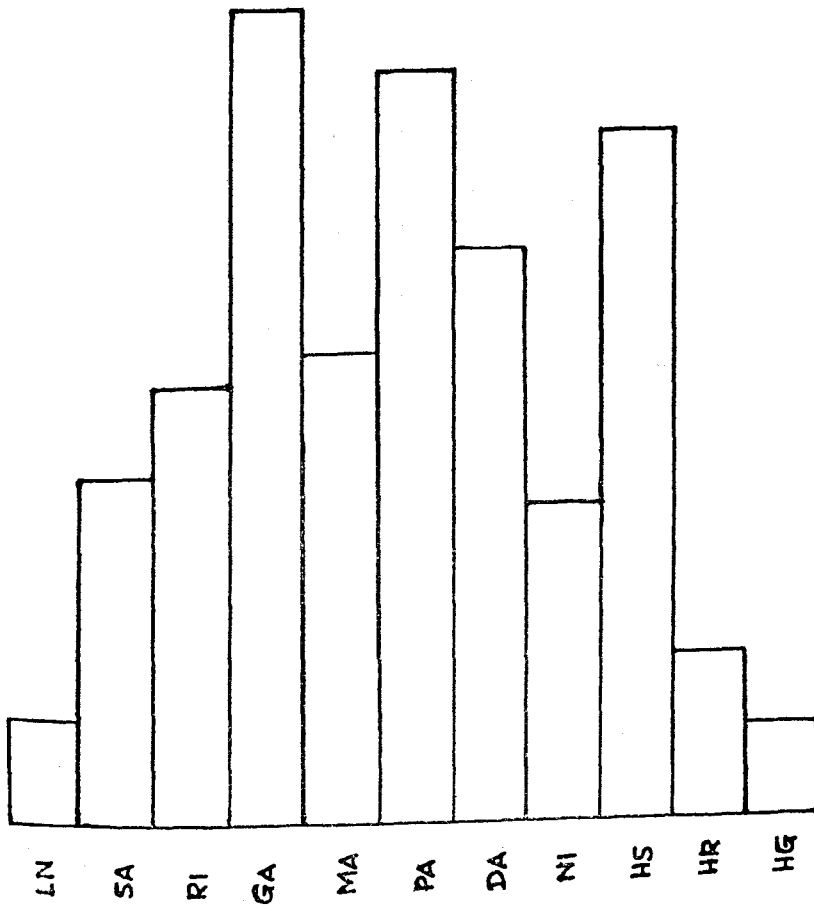


Histogram—21
 Syamasastri—Kalyani
 Song : Talli nimu



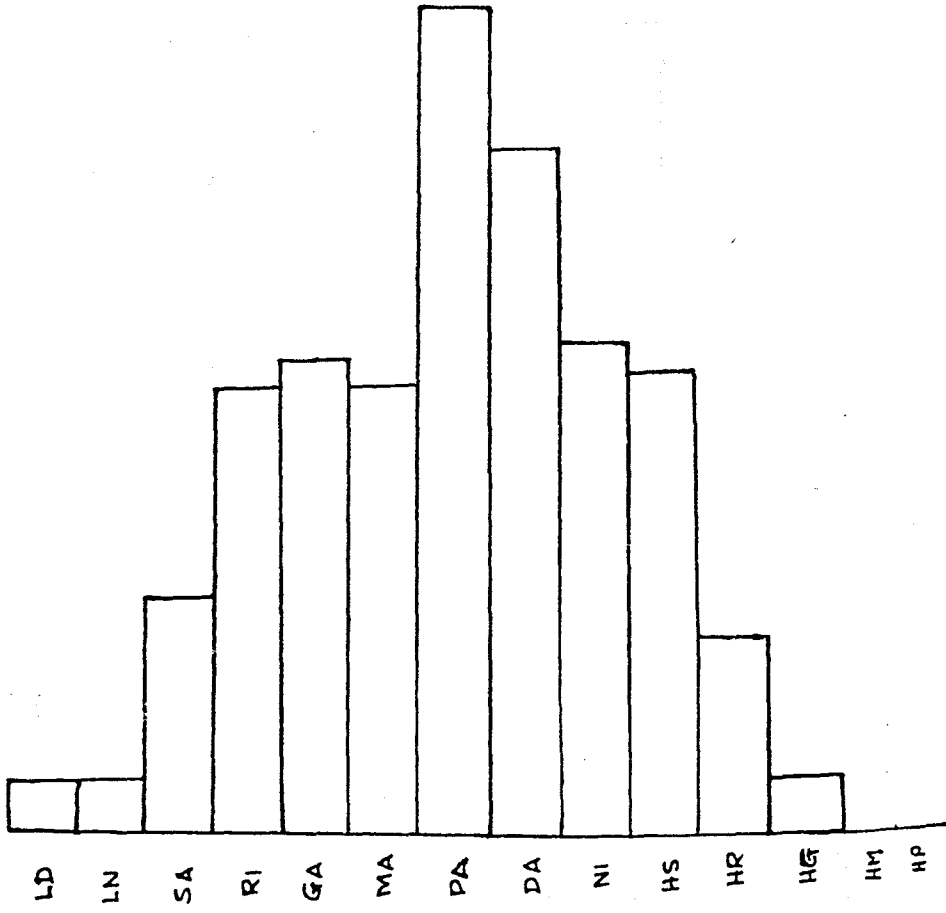
Histogram—22

Syamasastri—Kolyani
Seng : Himadrisute



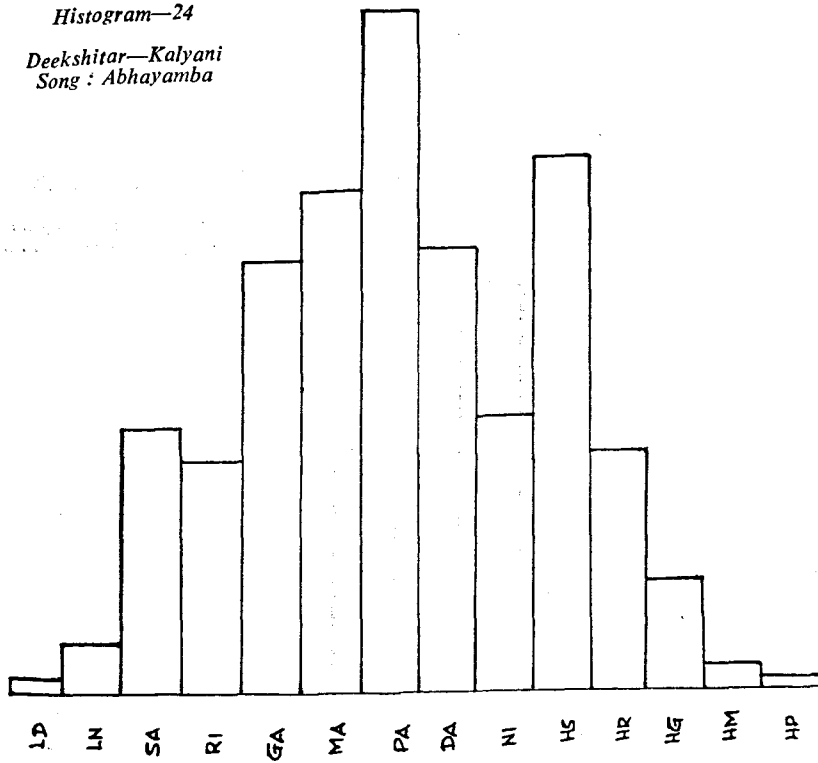
Histogram—23

Syamasastri—Kalyani
Song : Ninnuvina



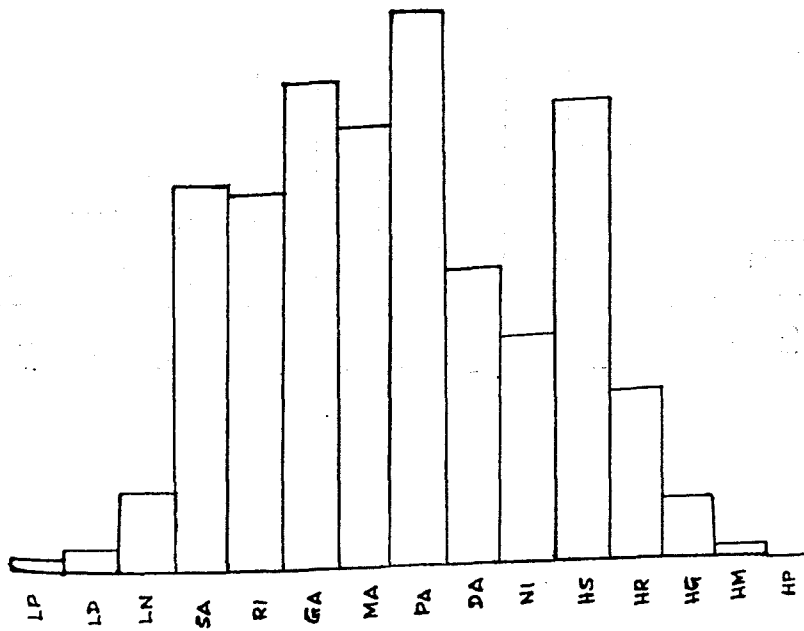
Histogram—24

Deekshitar—Kalyani
Song : Abhayamba



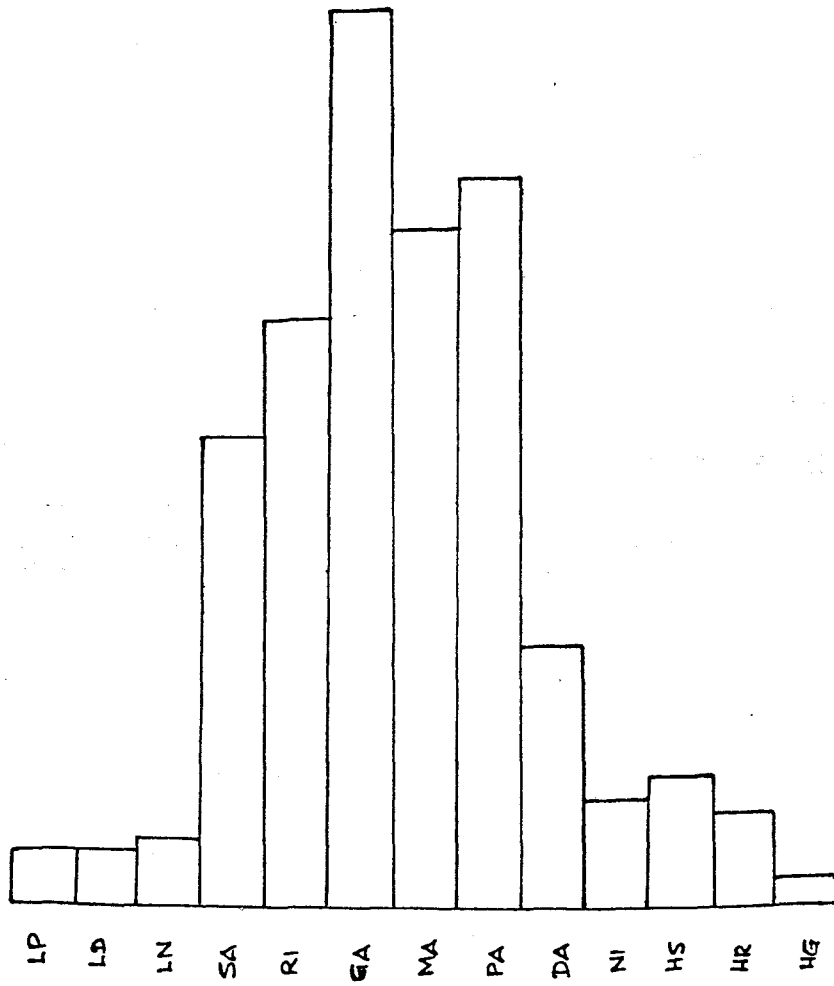
Histogram—25

Deekshitar—Kalyani
Song : Kamakshim



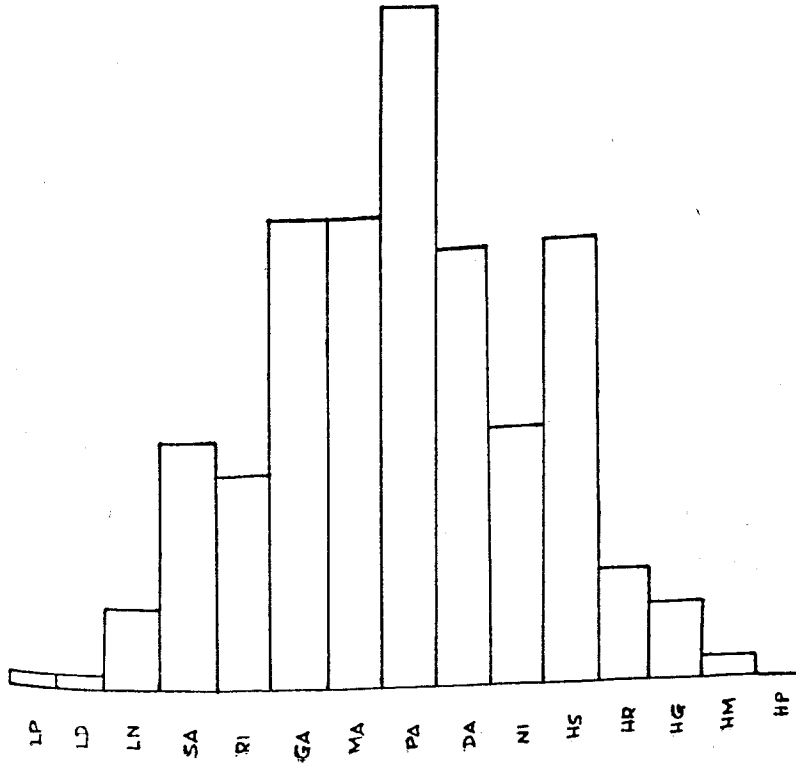
Histogram—26

Deekshitar—Kalyani
Song : Bhajare rechiita



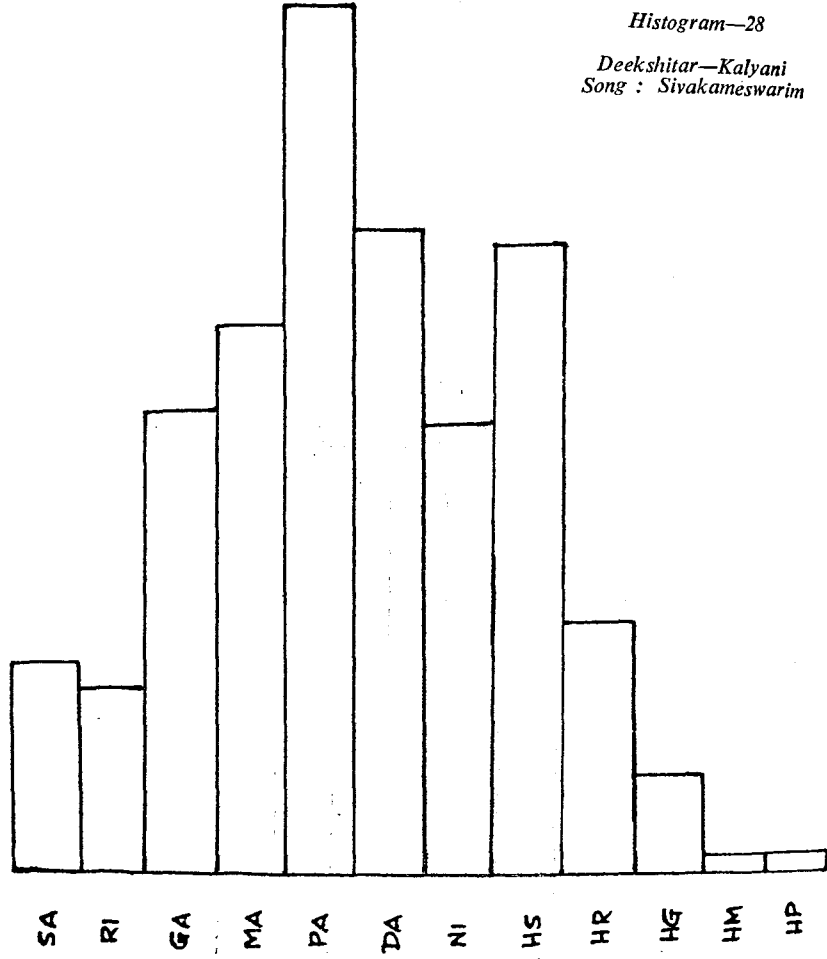
Histogram—27

Deekshitar—Kalyani
Song : Sri mangalasnbika



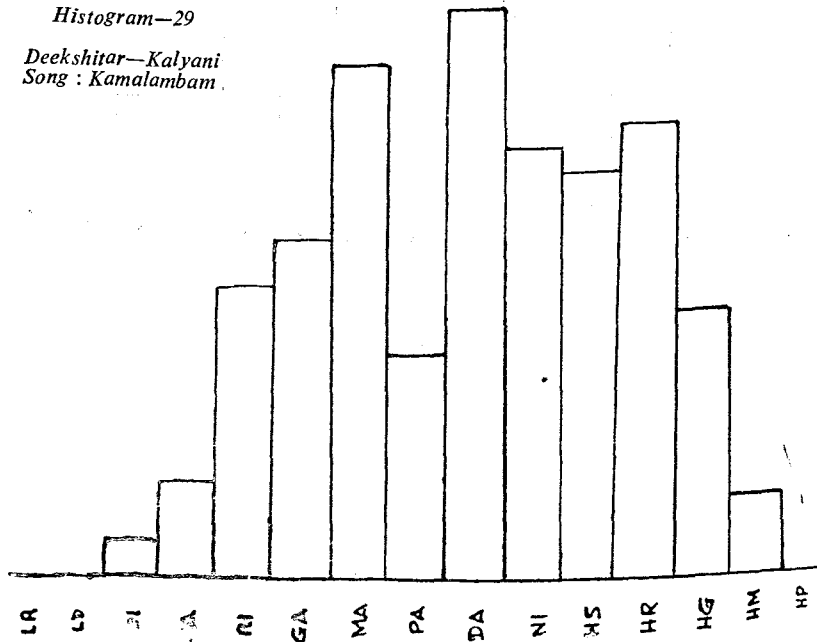
Histogram—28

Deekshitar—Kalyani
Song : Sivakameswarin



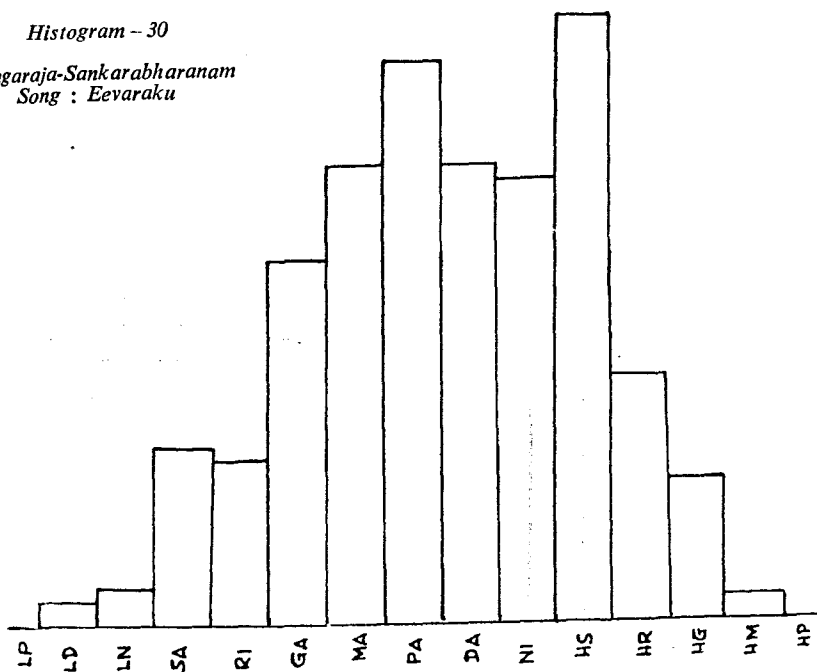
Histogram—29

Deekshitar—Kalyani
Song : Kamalambam



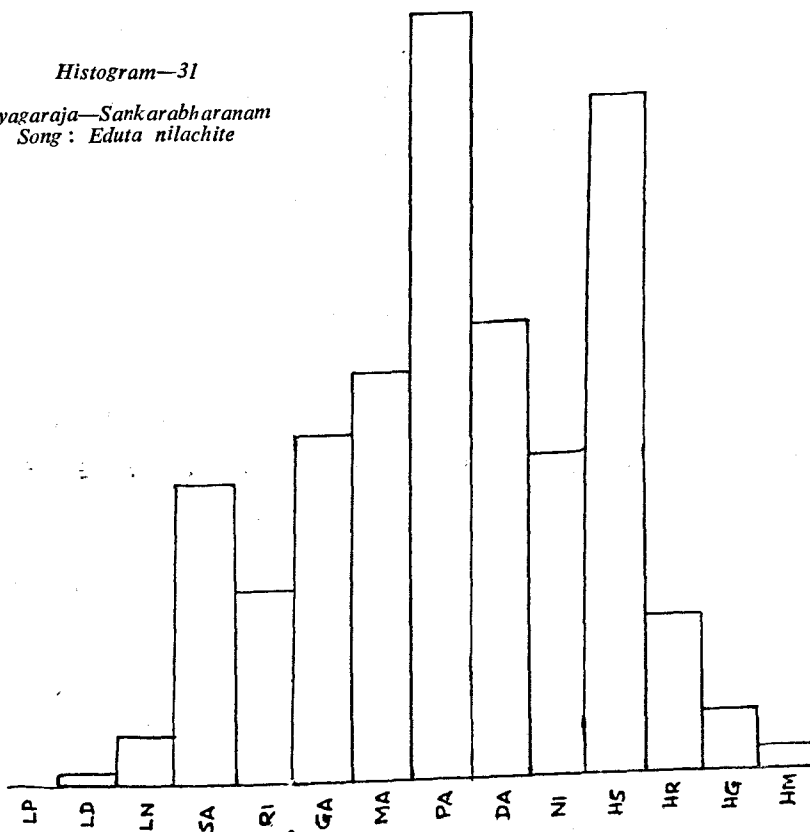
Histogram -- 30

Tyagaraja-Sankarabharanam
Song : Eevaraku



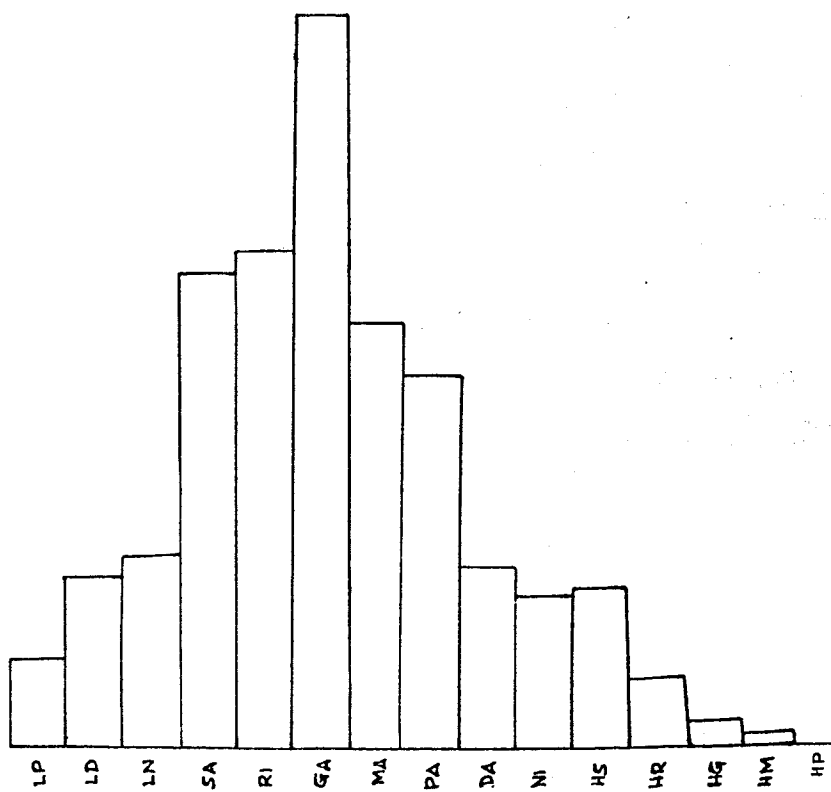
Histogram--31

Tyagaraja-Sankarabharanam
Song : Eduta nilachite



Histogram—32

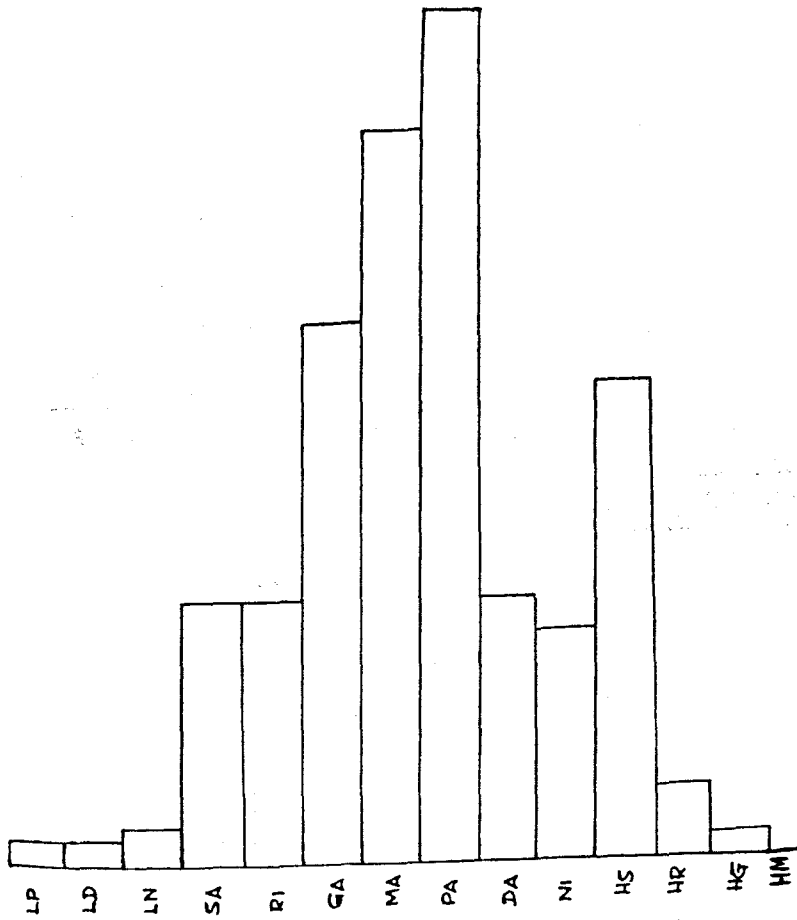
Tyagaraja—Sankarabharanam
Song : Emi neramu

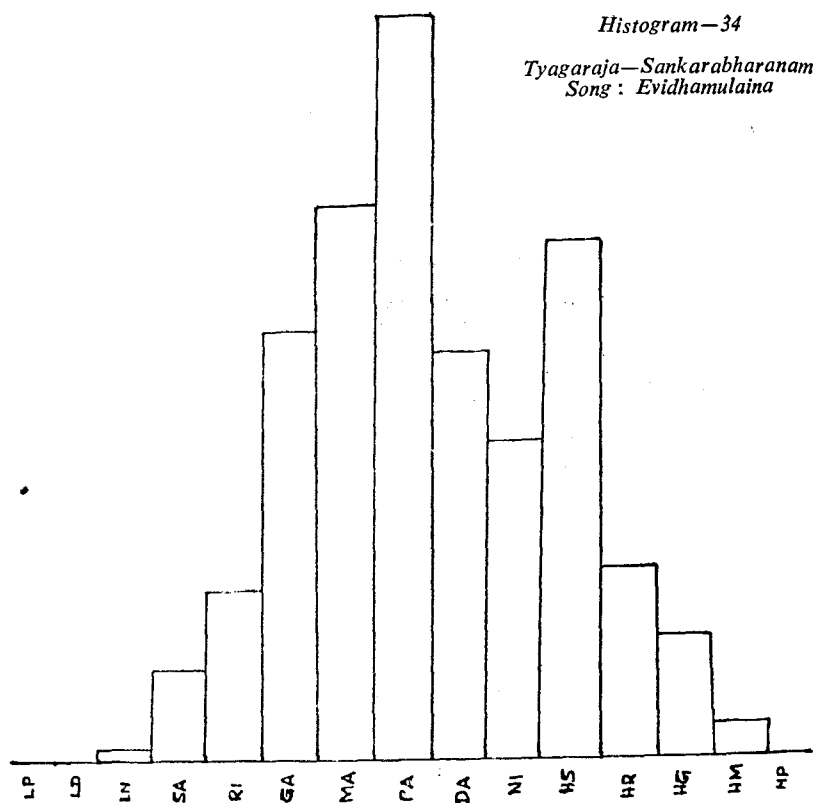


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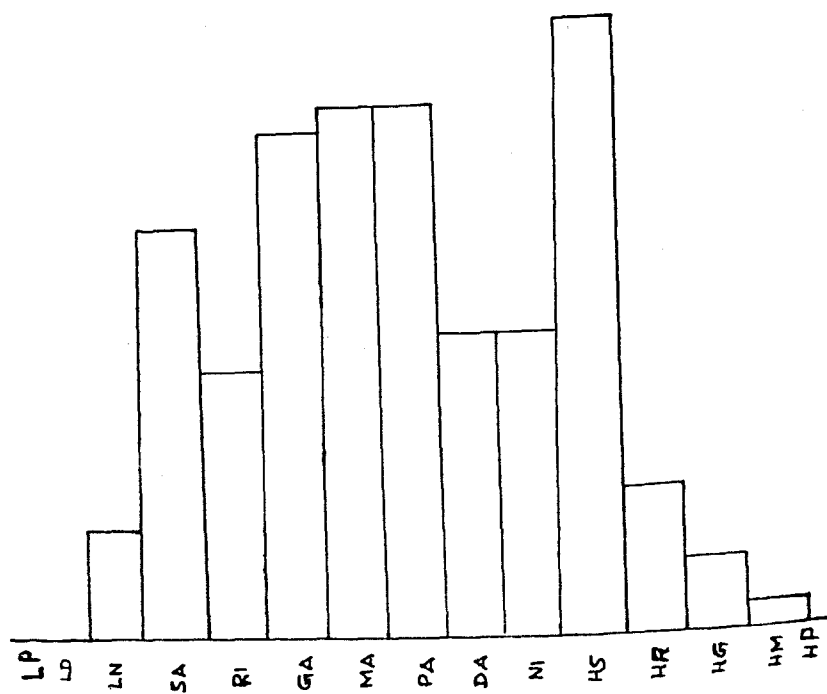
Histogram—33

Tyagaraja—Sankarabharanam
Song : Enduku peddaka



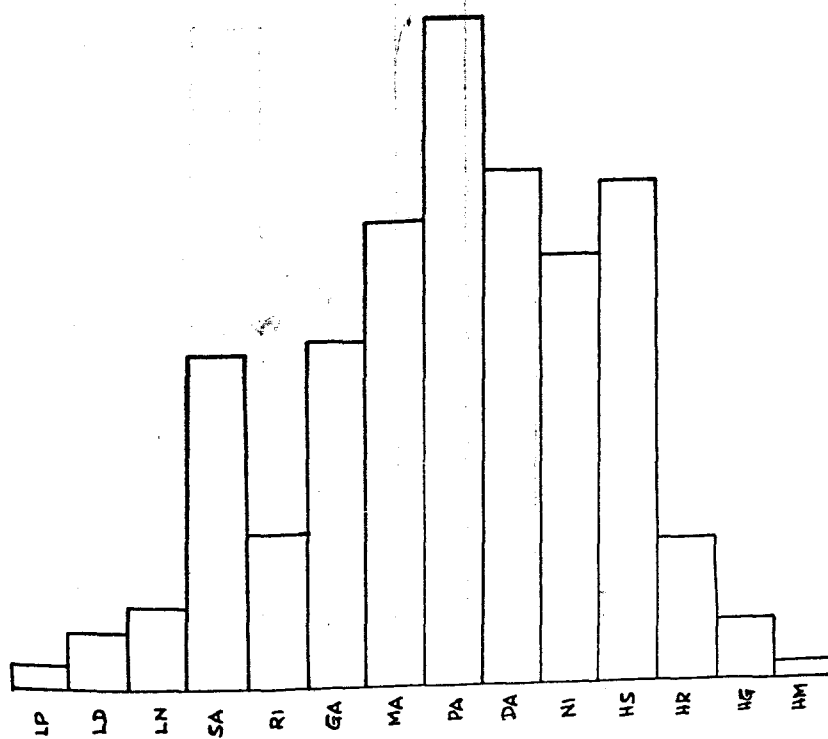


Histogram—35
Tyagaraja—Sankarabharanam
Song : Buddhi radu



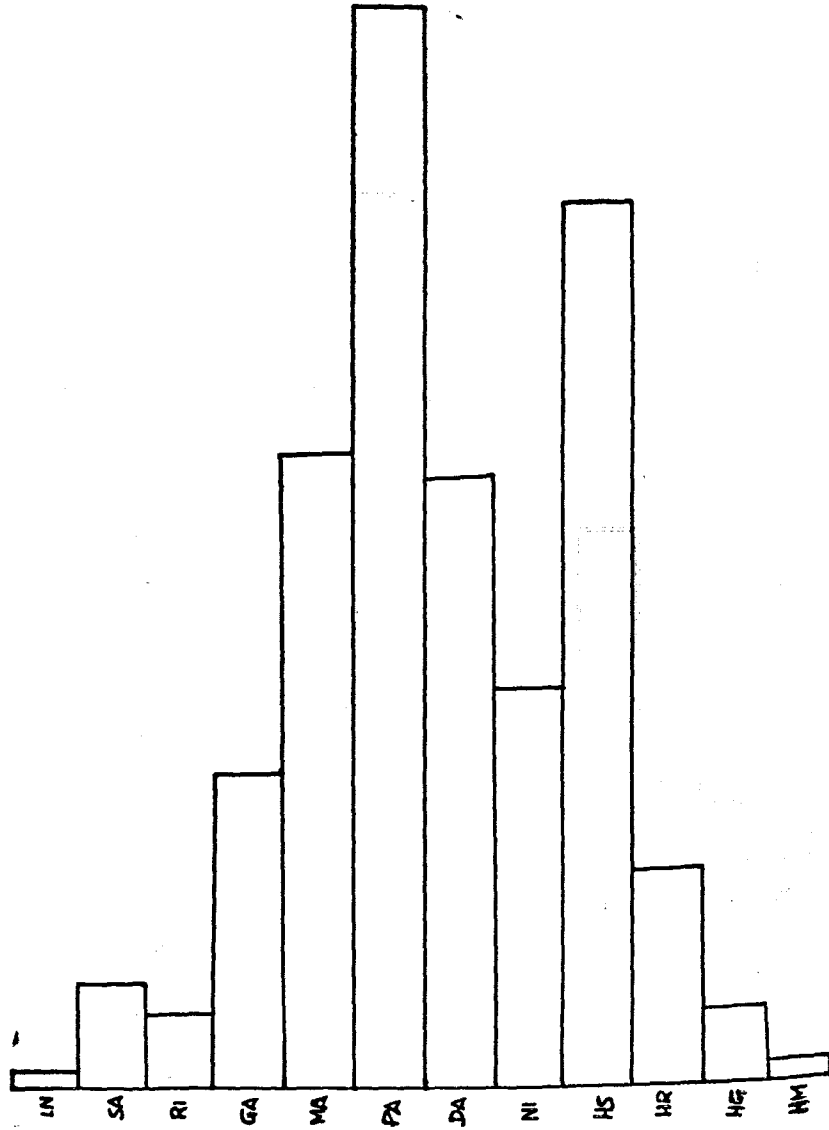
Histogram—36

Tyagaraja—Sankarabharanam
Song : Vallaganaka



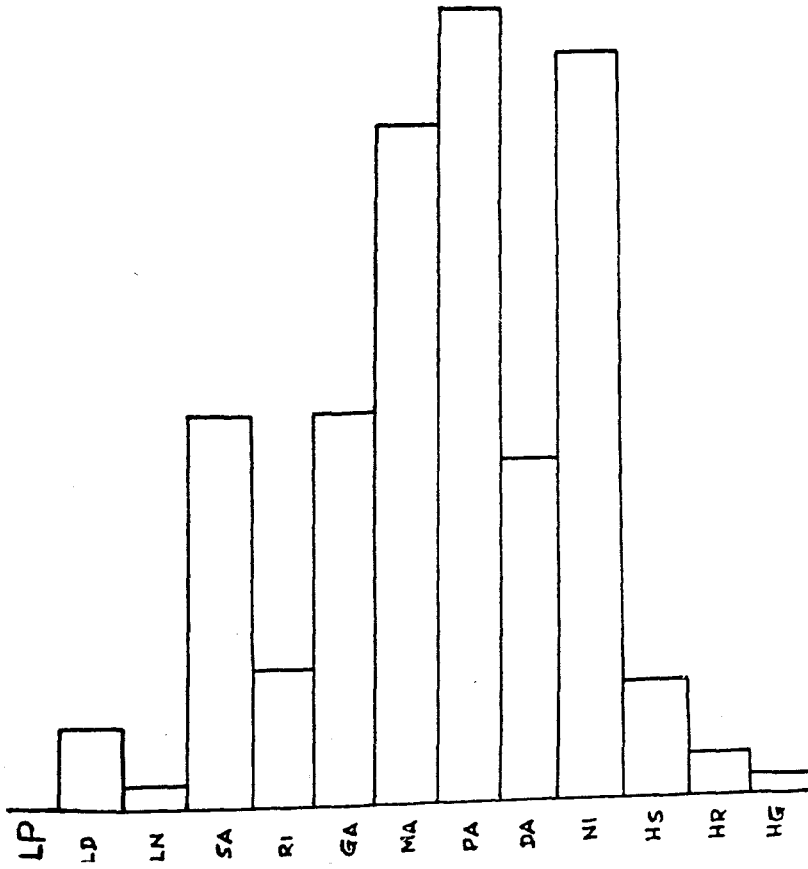
Histogram—37

Tyagaraja - Sankarabharanam
Song : Sundaresvaruni



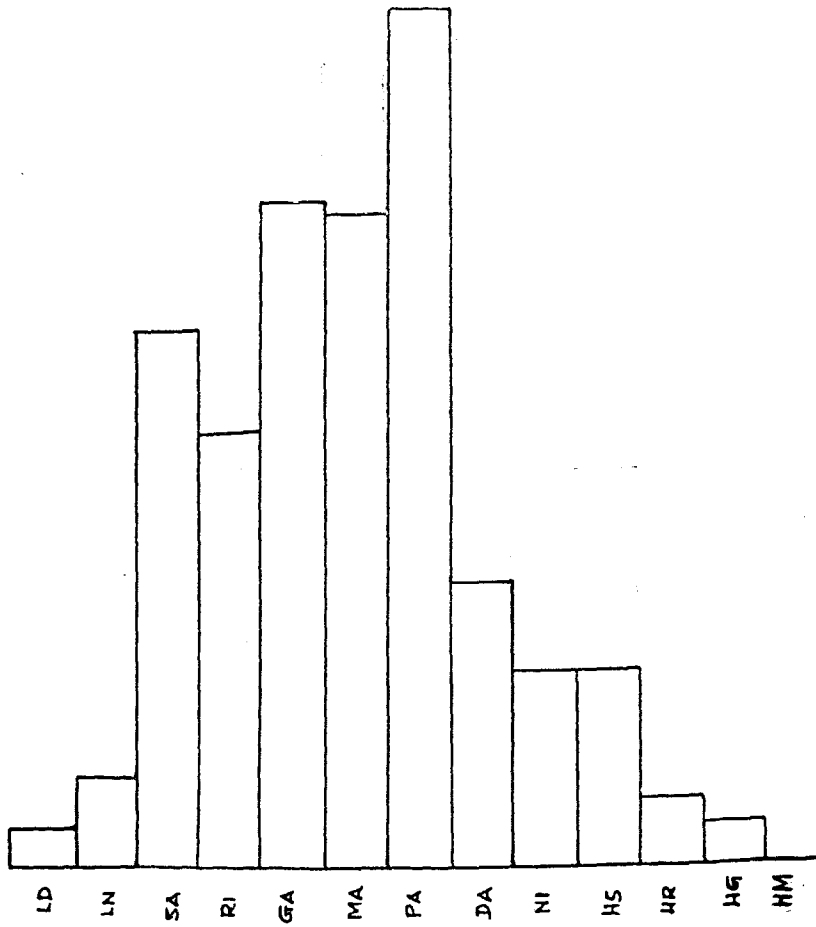
Histogram—38

Tyagaraja—Sankarabharanam
Song: Manasu svadhina



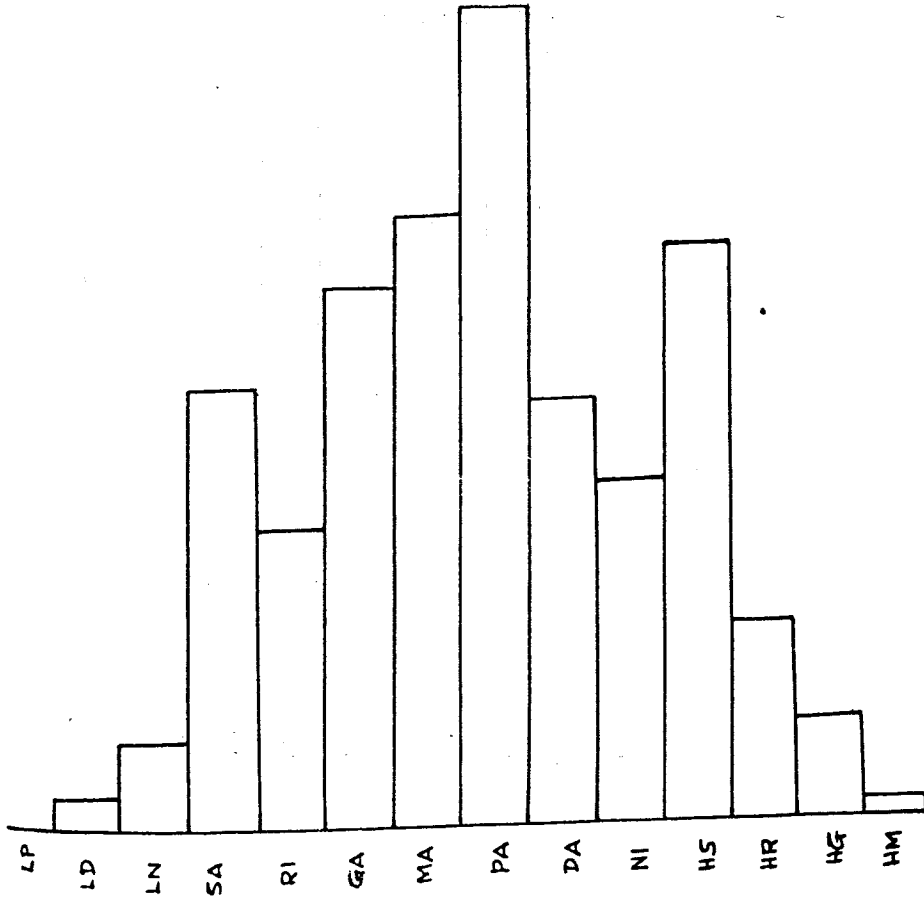
Histogram—39

Tyagaraja—Sankarabharanam
Song: Nannubrovakanu



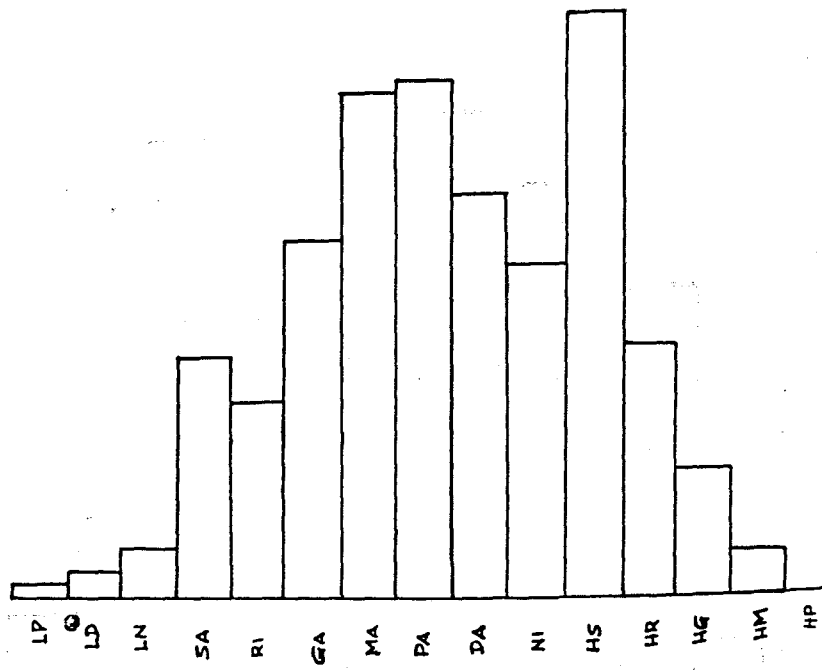
Histogram--40

Tyagaraja—Sankarabharanam
Song : Rama ninnu vina



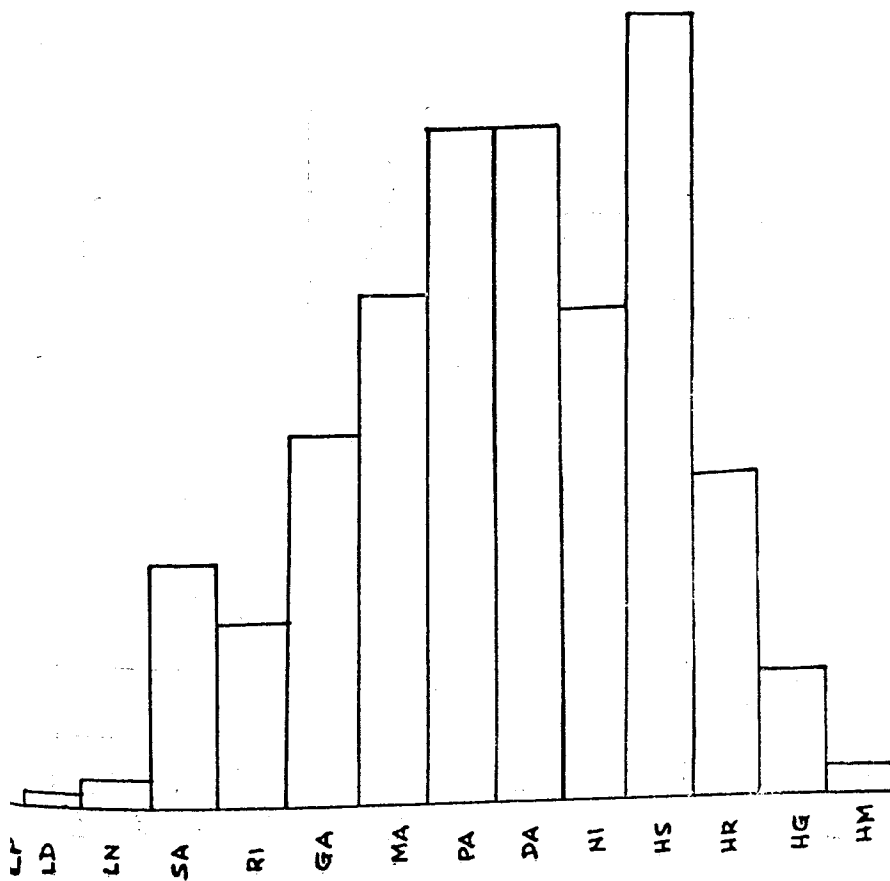
Histogram—41

Tyagaraja—Sankarabharanam
Song : Rama ramana



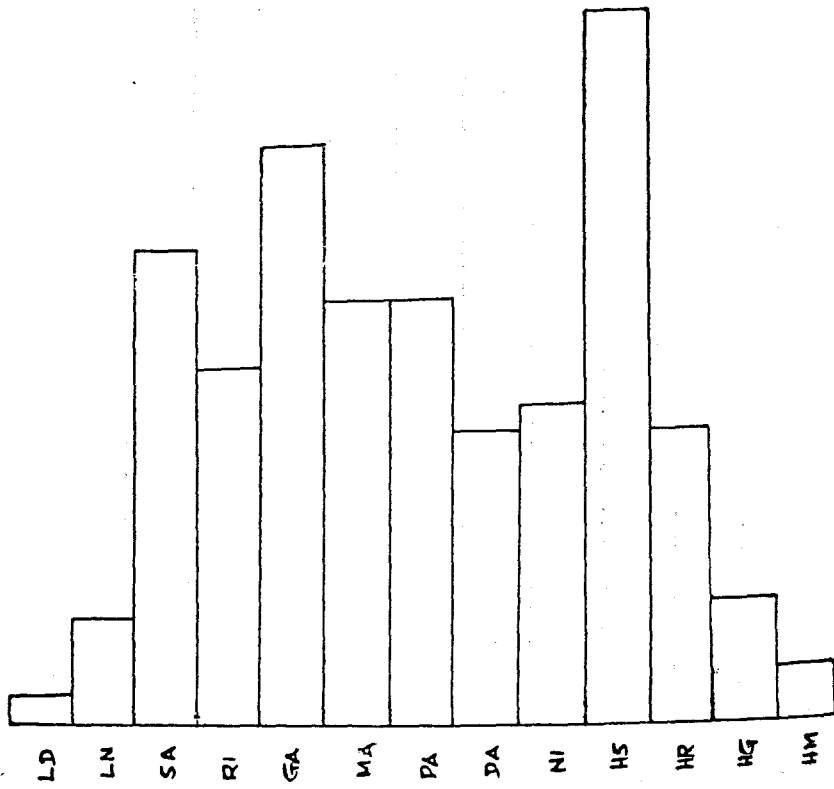
Histogram—42

Agaraja—Sankarabharanam
Song : Enduki chalamu



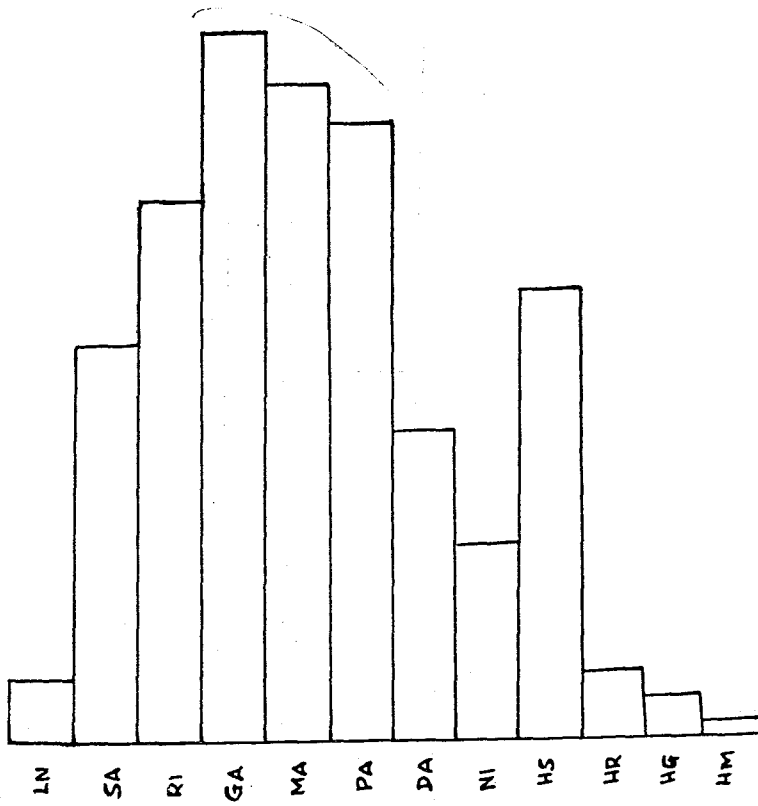
Histogram—43

Tyagaraja—Sankarabharanam
Song : Ehi trijagadisa



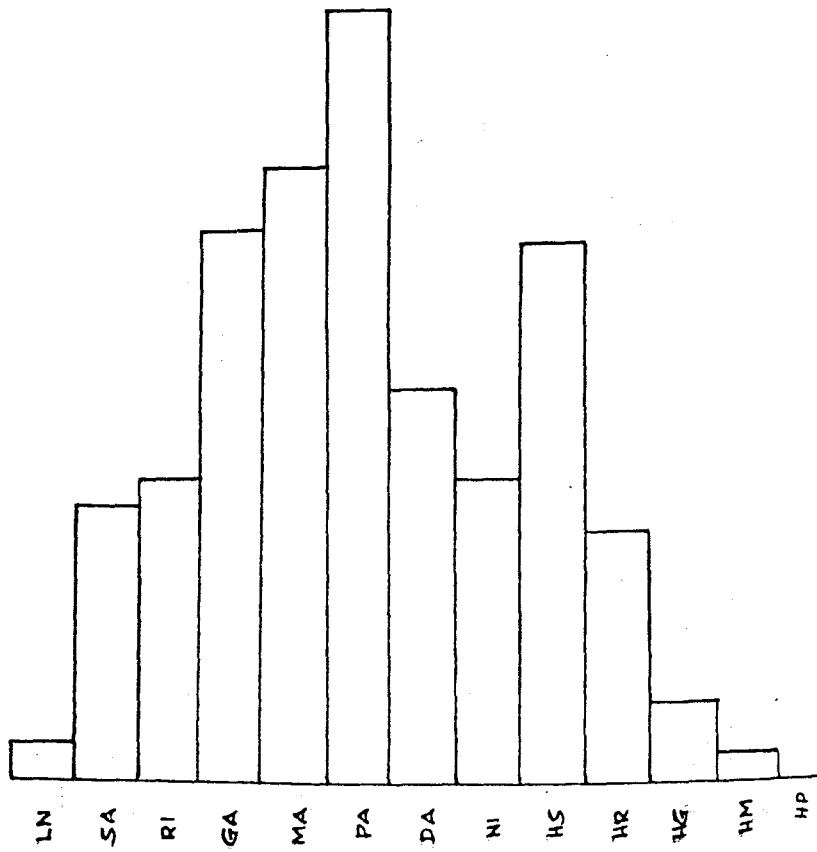
Histogram—44

Tyagaraja—Sankarabharanam
Song : Svararaga



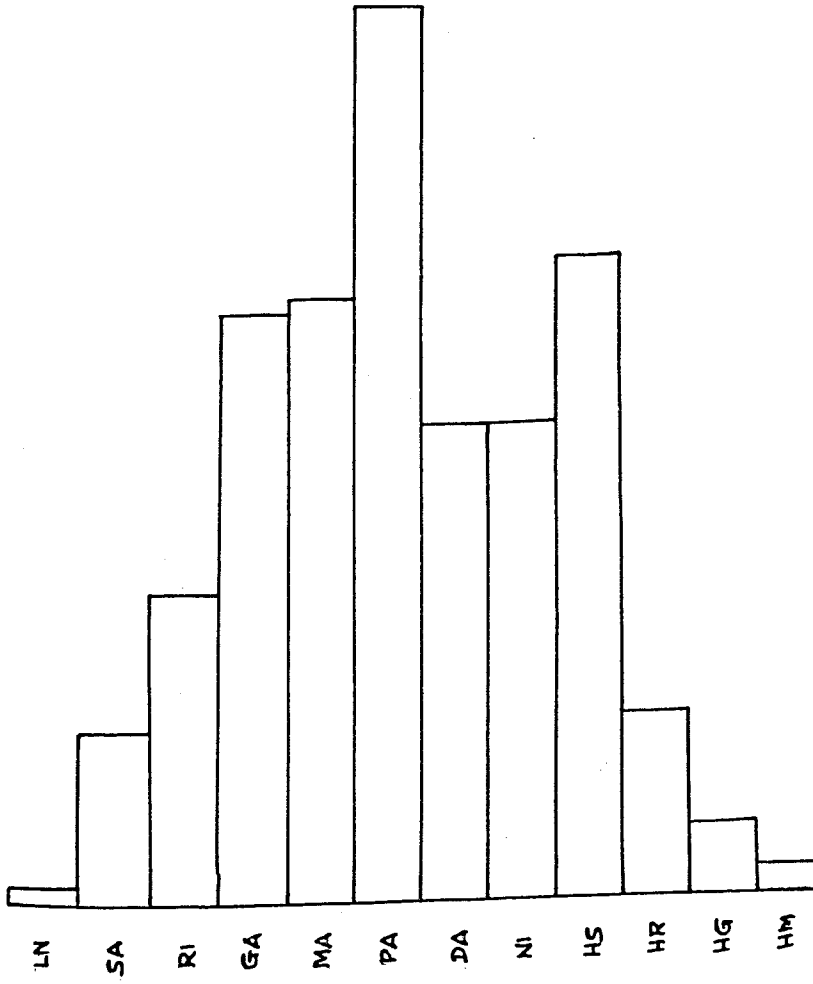
Histogram—45

Tyagaraja—Sankarabharanam
Song : Bhakti bicha



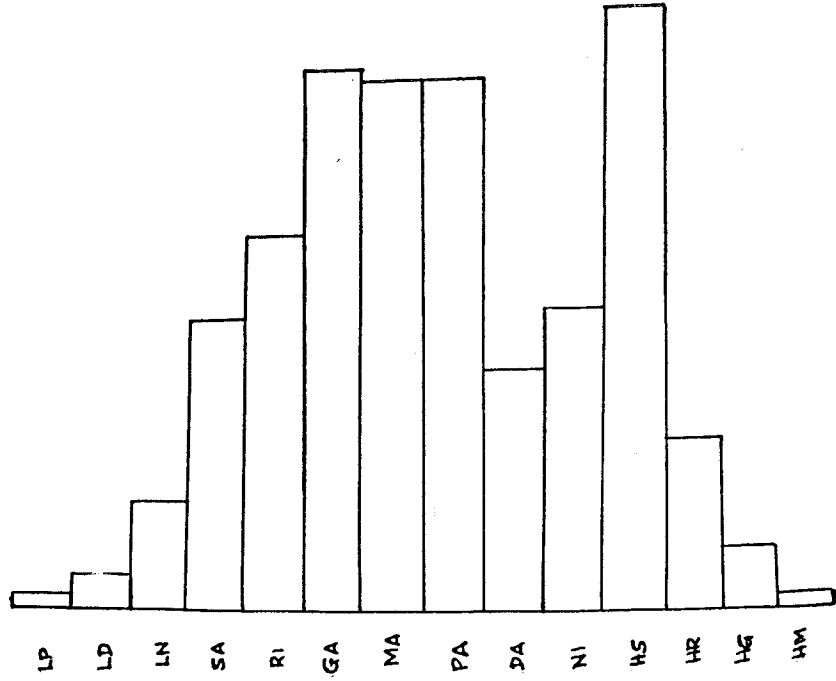
Histogram—46

Tyagaraja—Sankarabharanam
Song : Prana natha



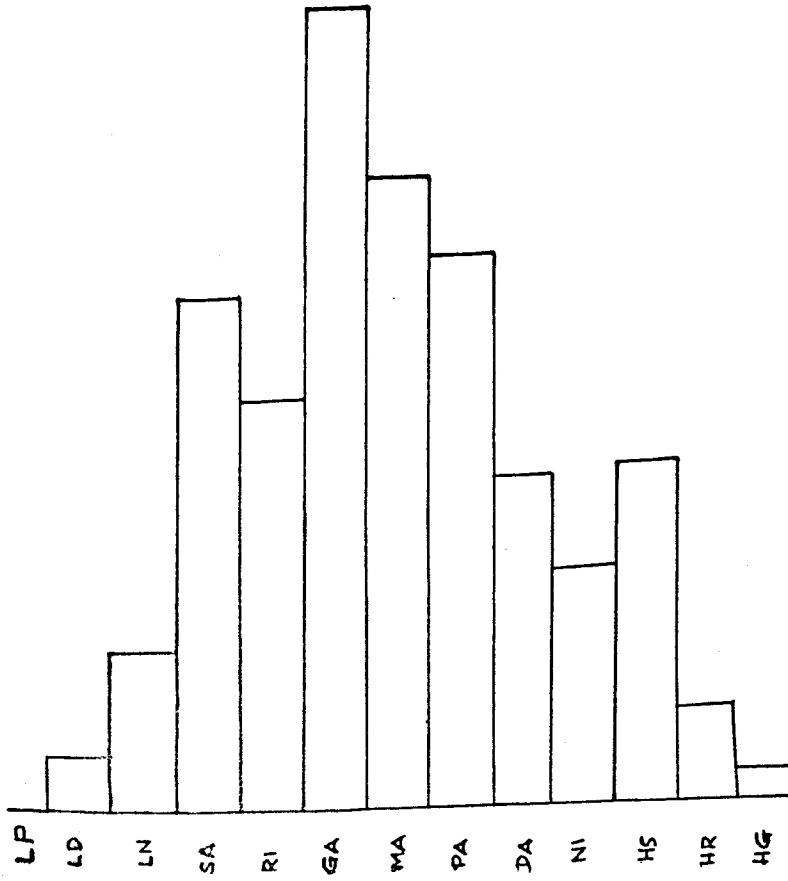
Histogram—47

Tyagaraja—Sankarabharanam
Song : Mariyadaka



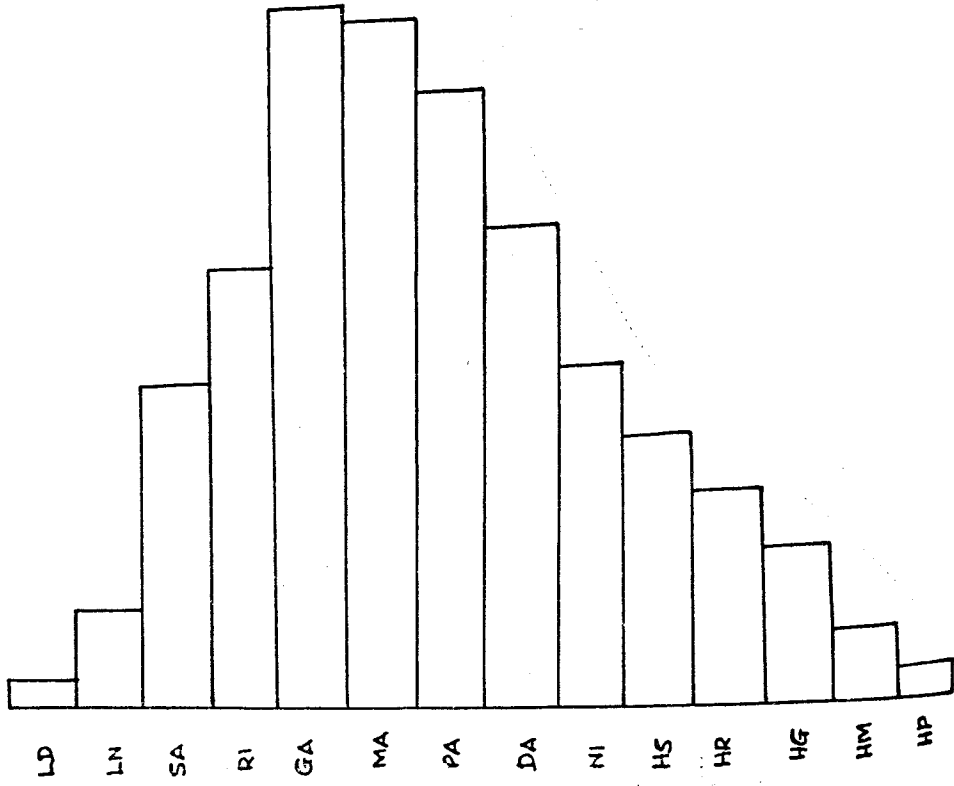
Histogram—48

Tyagaraja—Sankarabharanam
Song : Varalila gana



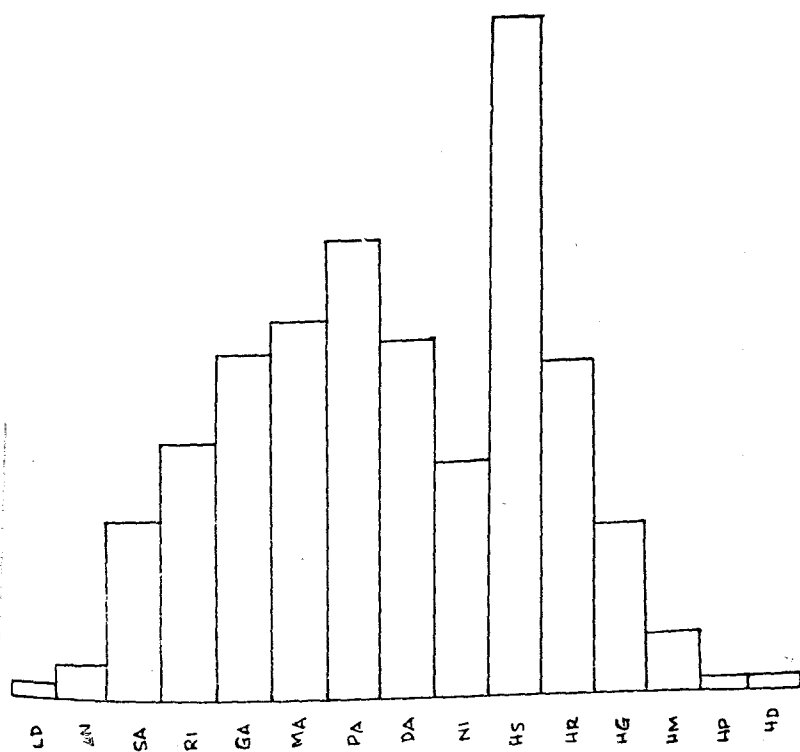
Histogram—49

Tyagaraja—Sankarabharanam
Song : Gatamoha



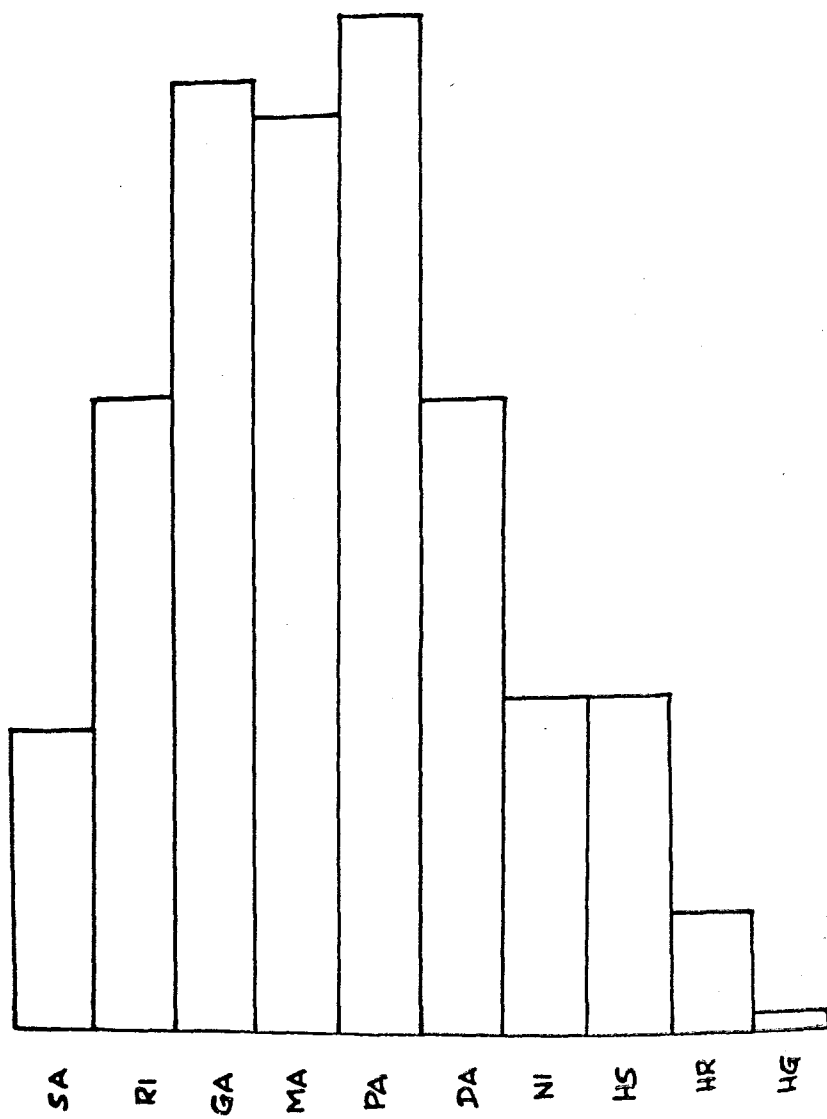
Histogram—50

Tyagaraja—Sankarabharanam
Song : Paripalaya



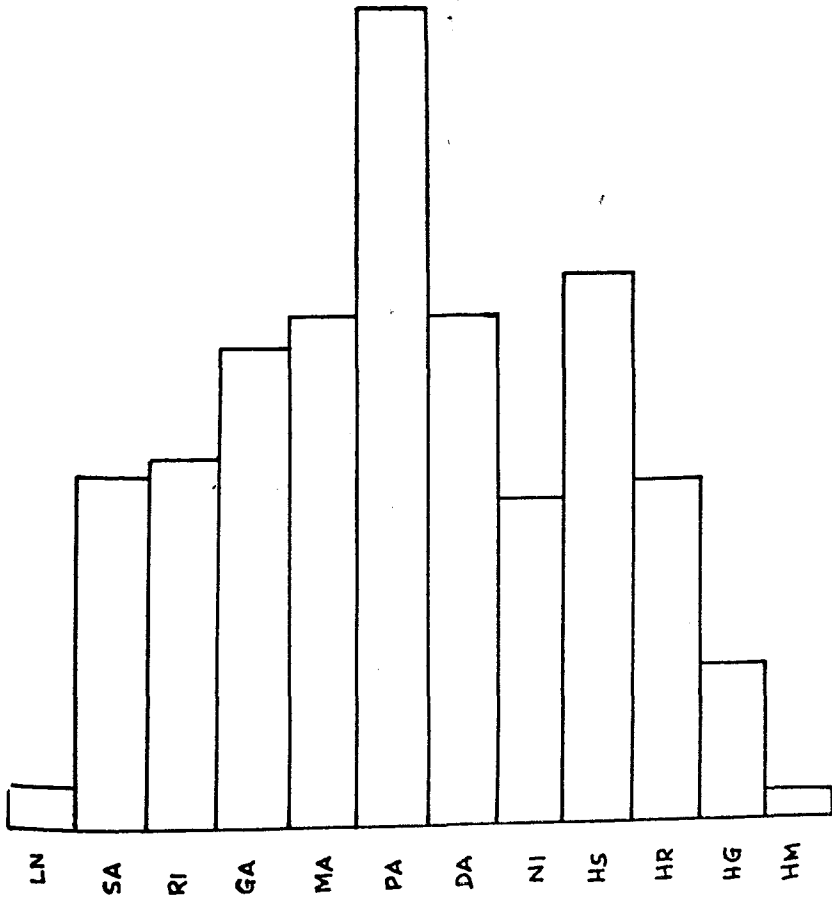
Histogram—51

Tyagaraja—Sankarabharanam
Song : Pahi Rama



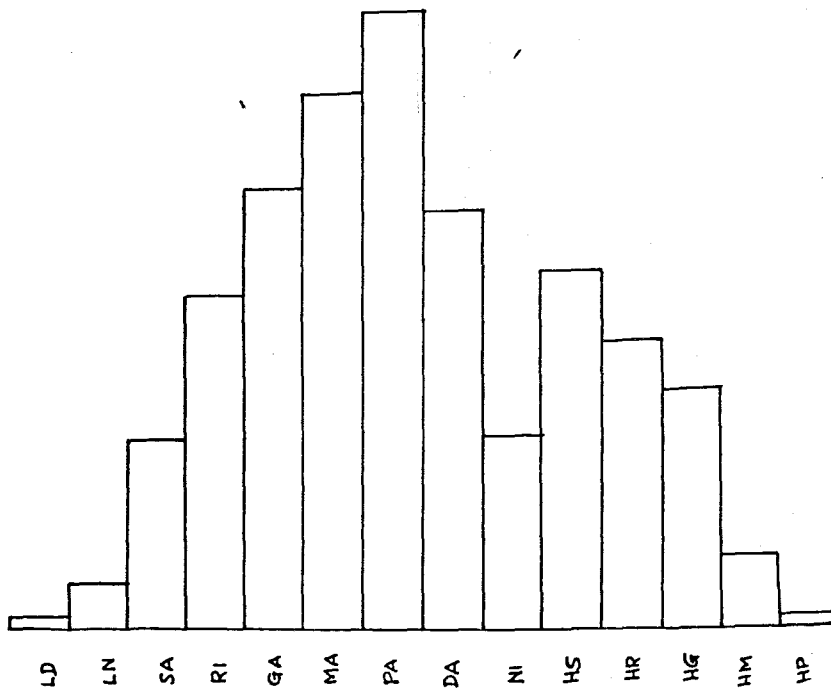
Histogram—52

Tyagaraja—Sankarabharanam
Song : Sita kalyana



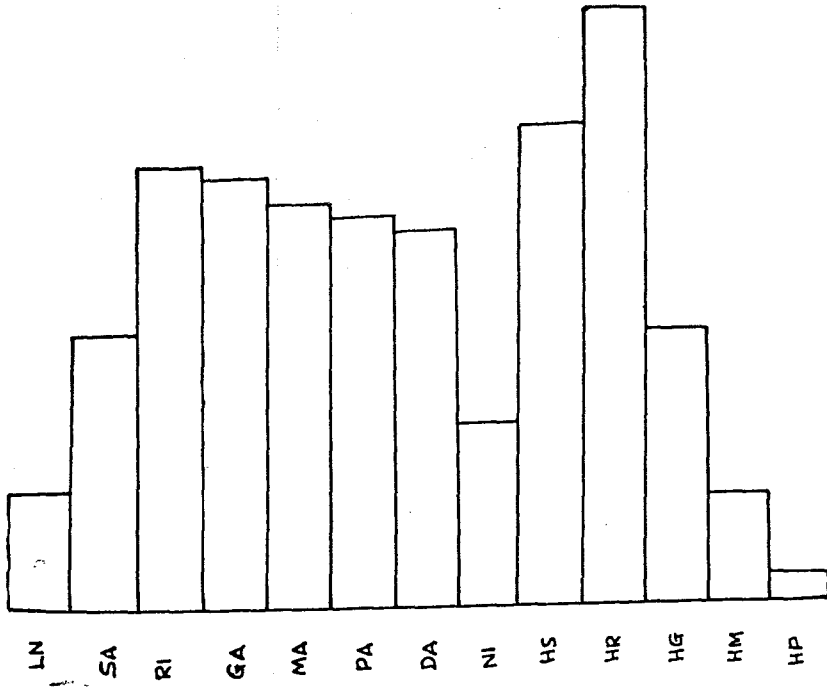
Histogram—53

Tyagaraaja—Sankarabharanam
Song : Rama Sita Rama



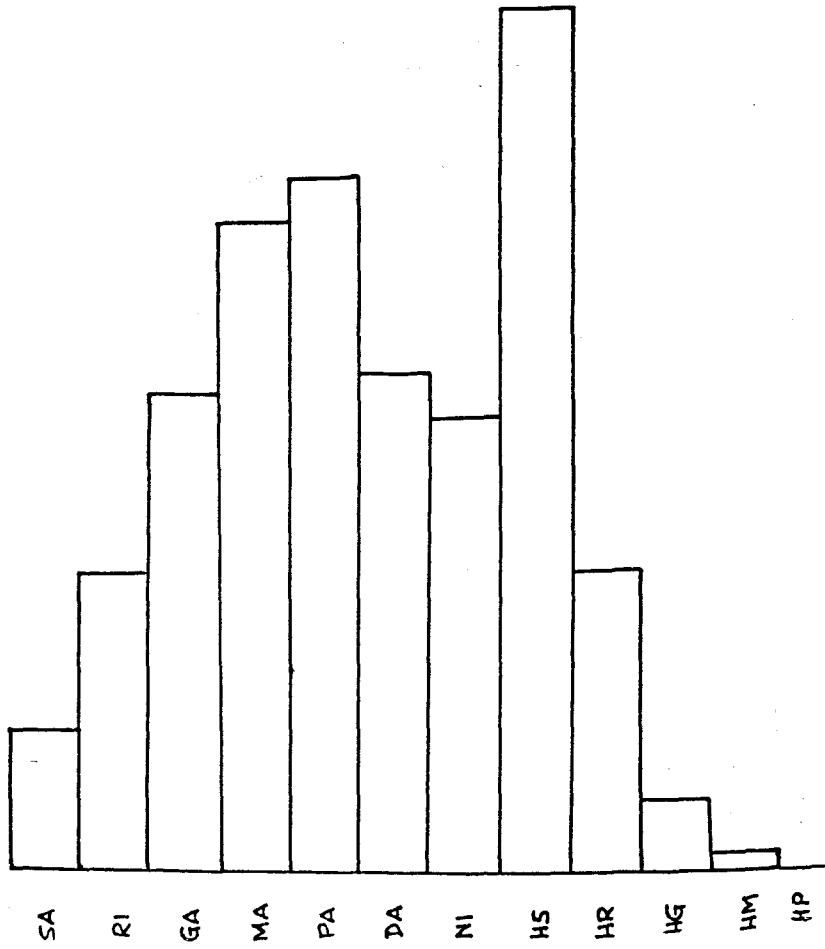
Histogram—54

Tyagaraja—Sankarabharanam
Song : Vishnu Vahana



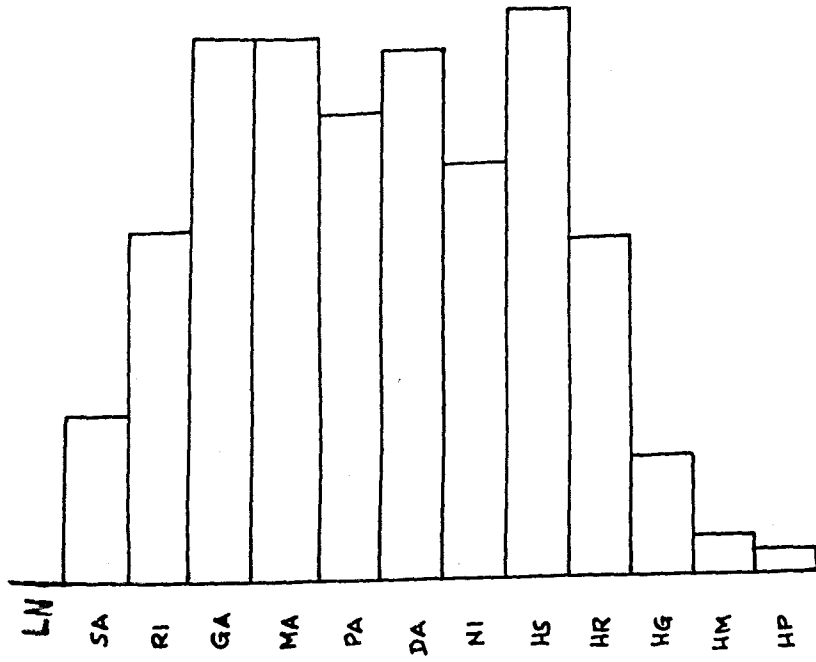
Histogram—55

Tyagaraja—Sankarabharanam
Song : Sambhosiva



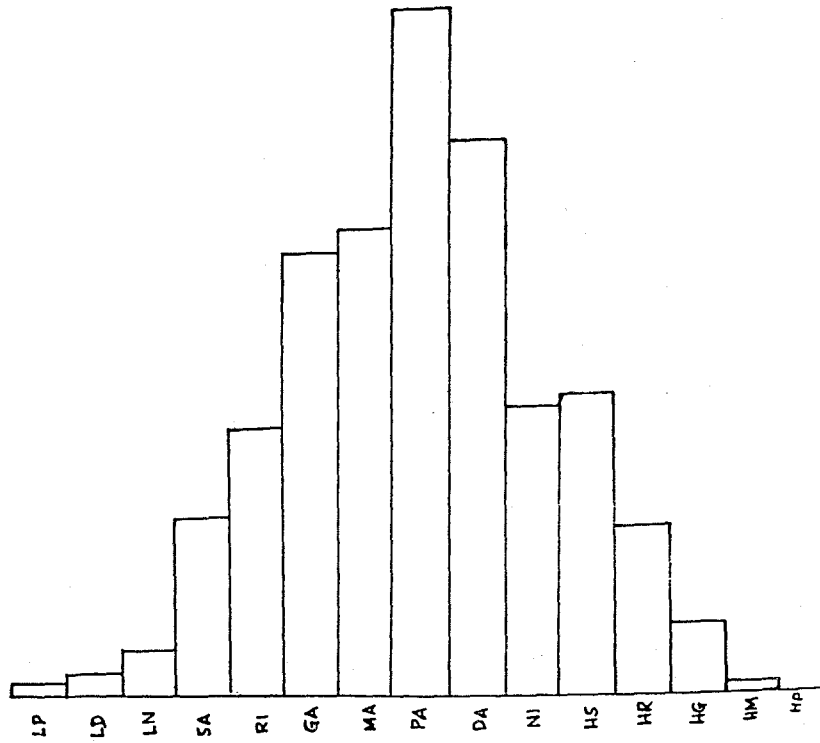
Histogram—56

Tyagaraja—Sankarabharanam
Song : Sitapati



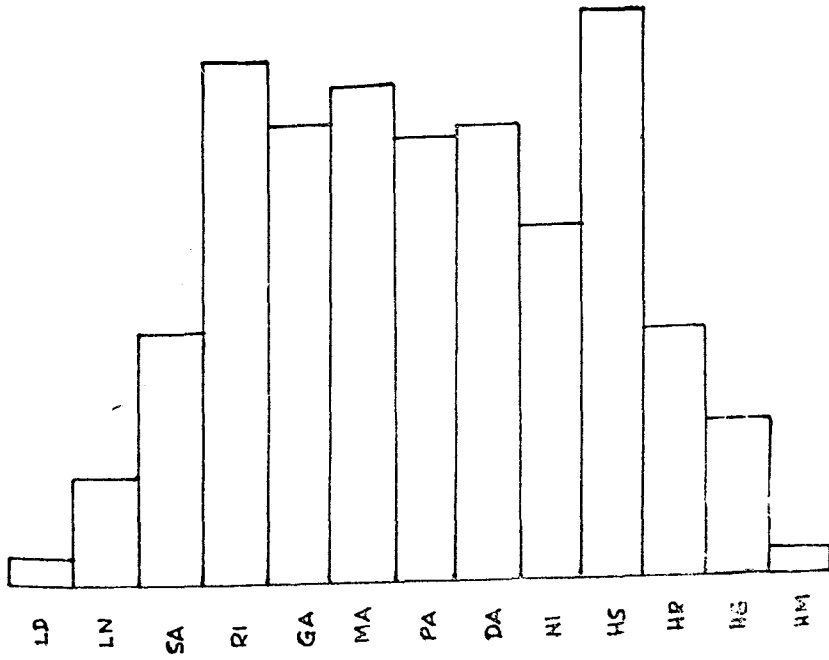
Histogram—57

Tyagaraja—Sankarabharanam
Song : Sri Raghu vara



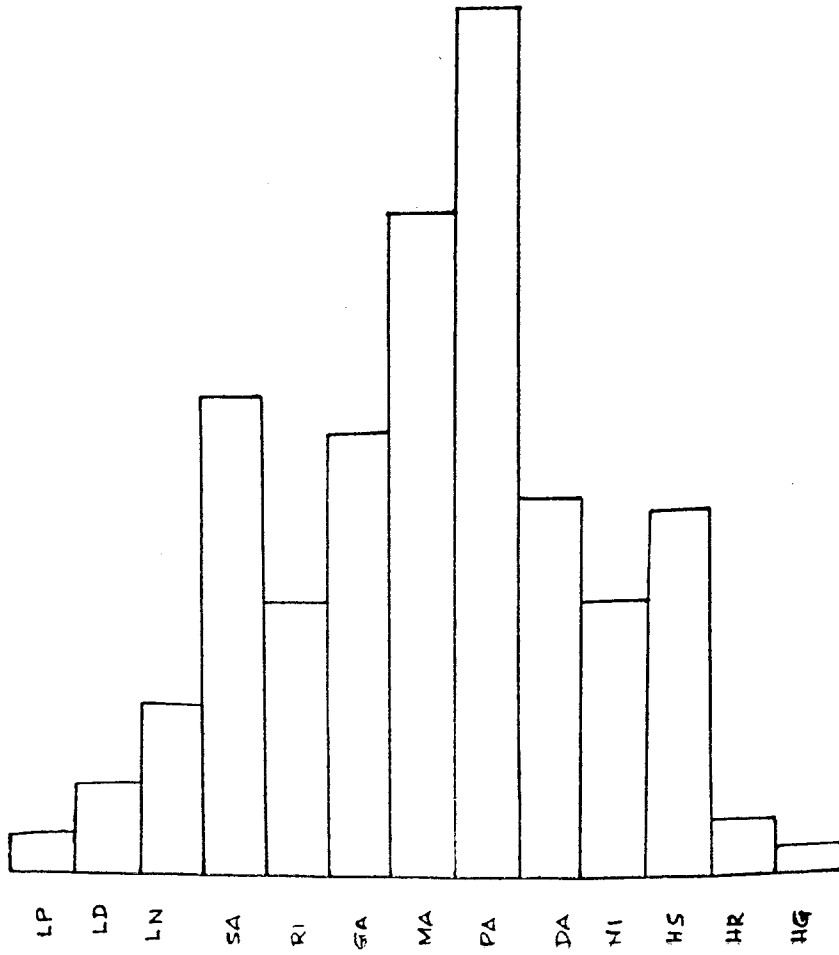
Histogram—58

Tyagaraja—Sankarabharanam
Song : Sarasanetra



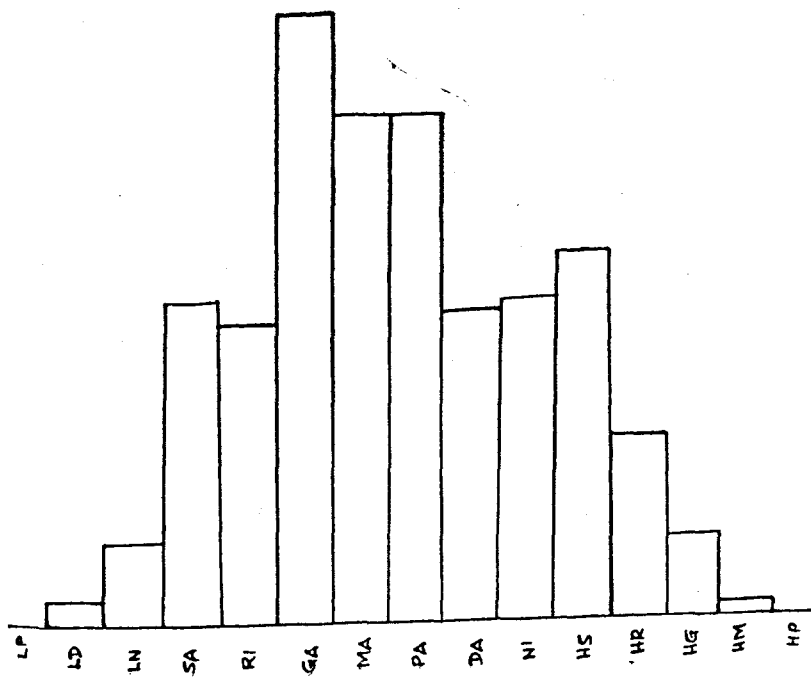
Histogram—59

Syamasastri—Sankarabharanam
Song : Devi meena netri



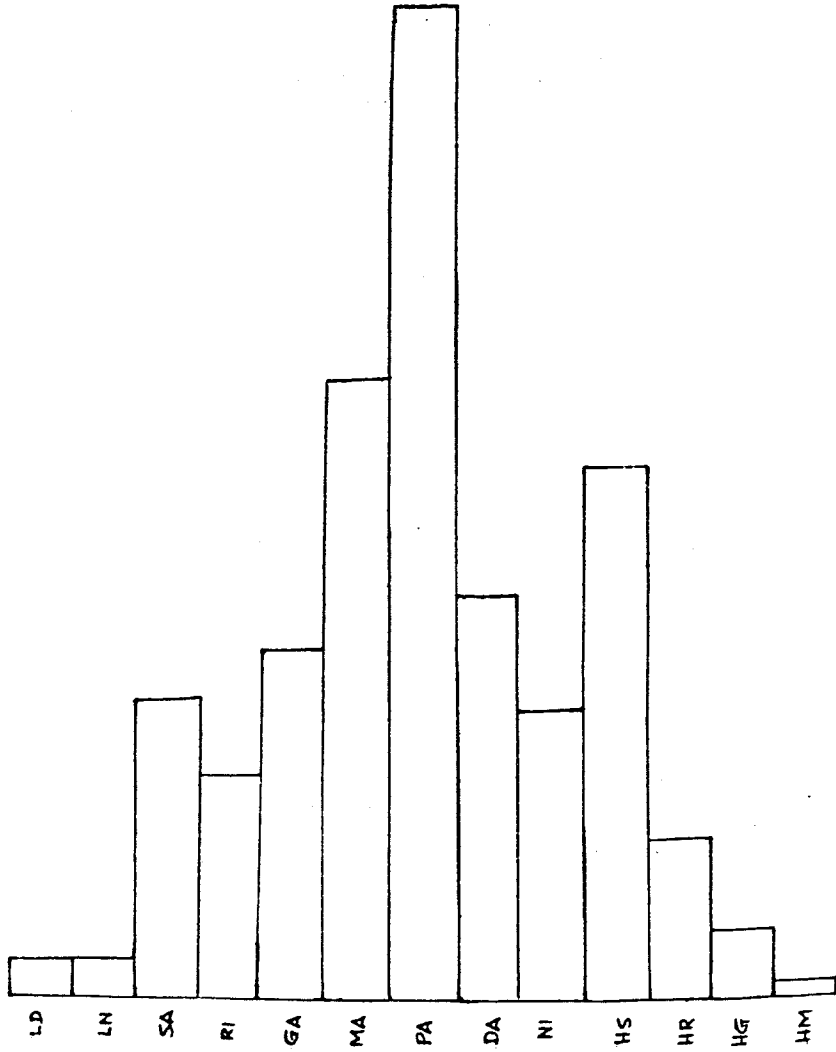
Histogram—60

Syamasastri—Sankarabharanam
Song : Sarojadalanetri



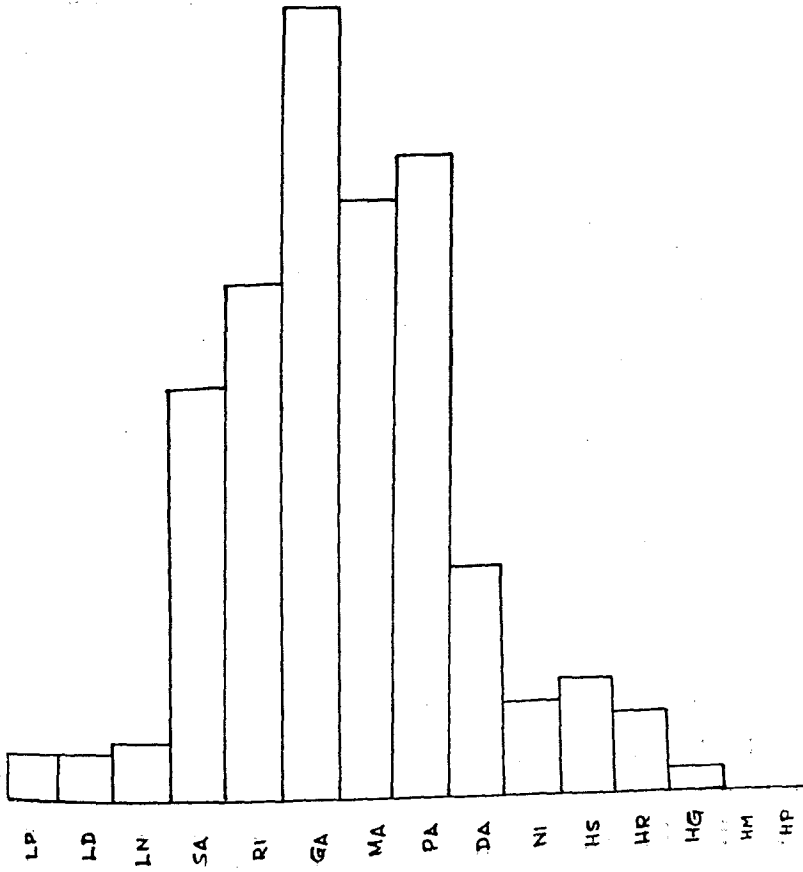
Histogram—61

Syamasastri—Sankarabharanam
Song : Nannu karuninchi



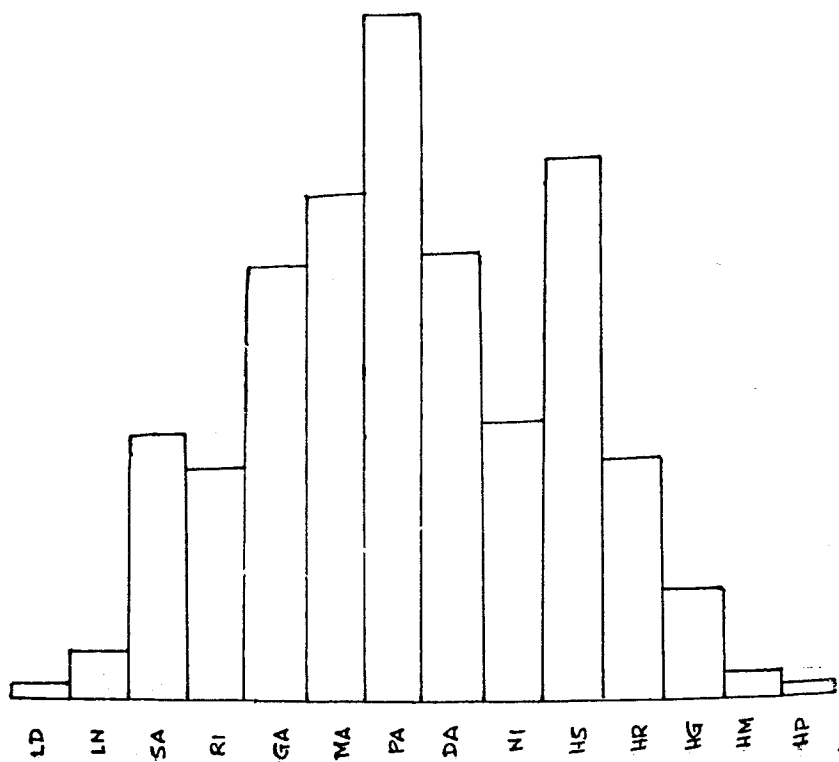
Histogram—62

Deekshitar—Sankarabharanam
Song : A



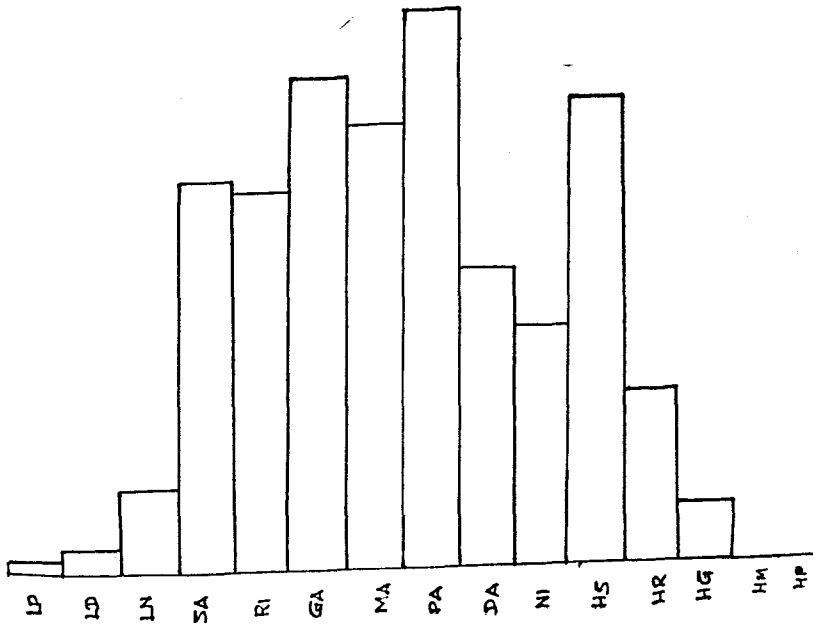
Histogram—63

Deekshitar—Sankarabharanam
Song : Gurumoorte



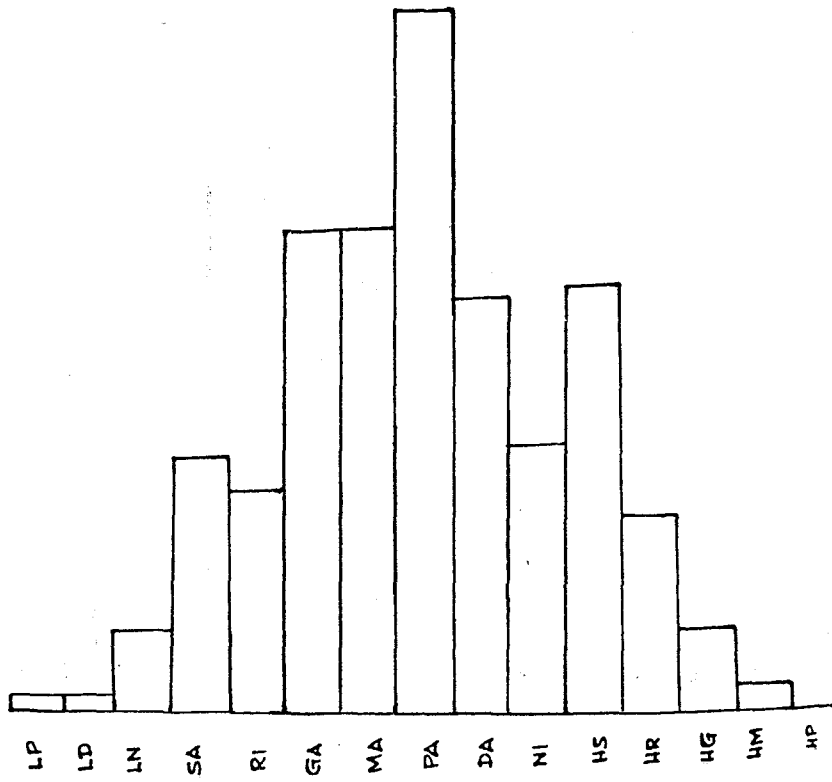
Histogram—64

Deekshitar—Sankarabharanam
Song : Daksinamoorte



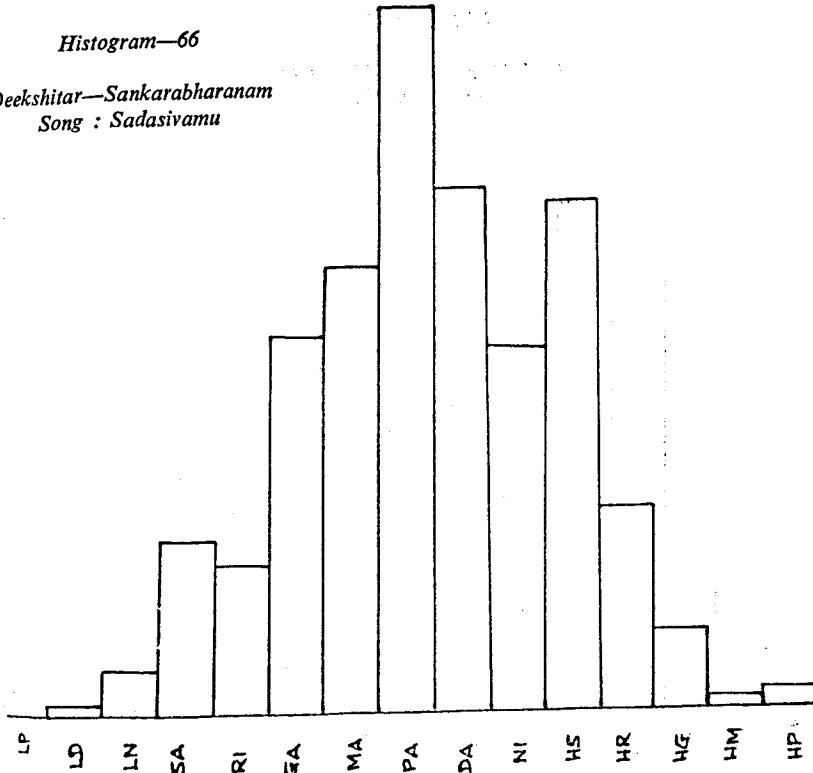
Histogram—65

Deekshitar—Sankarabharanam
Song : Nagalingam



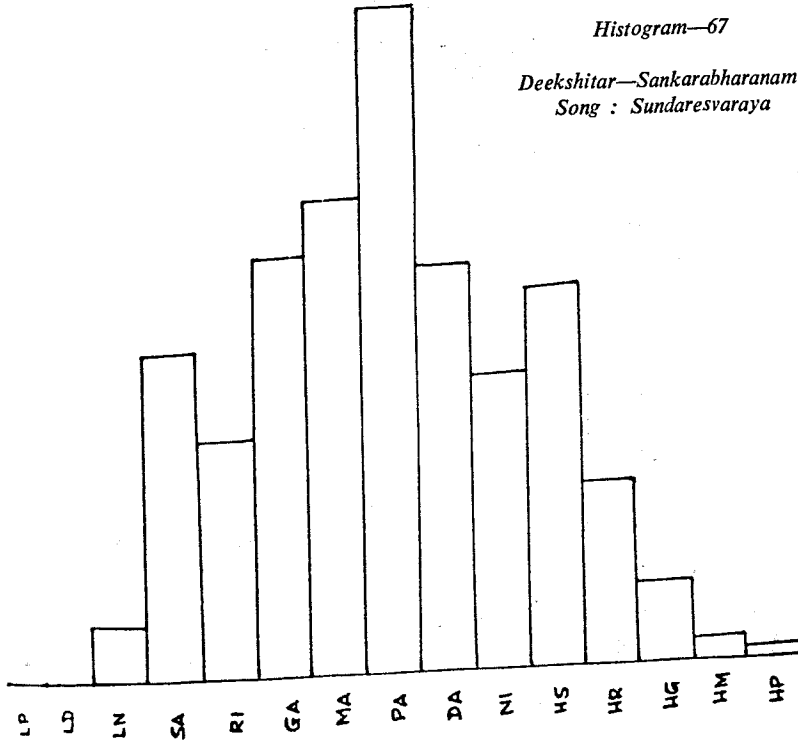
Histogram—66

Deekshitar—Sankarabharanam
Song : Sadasivamu



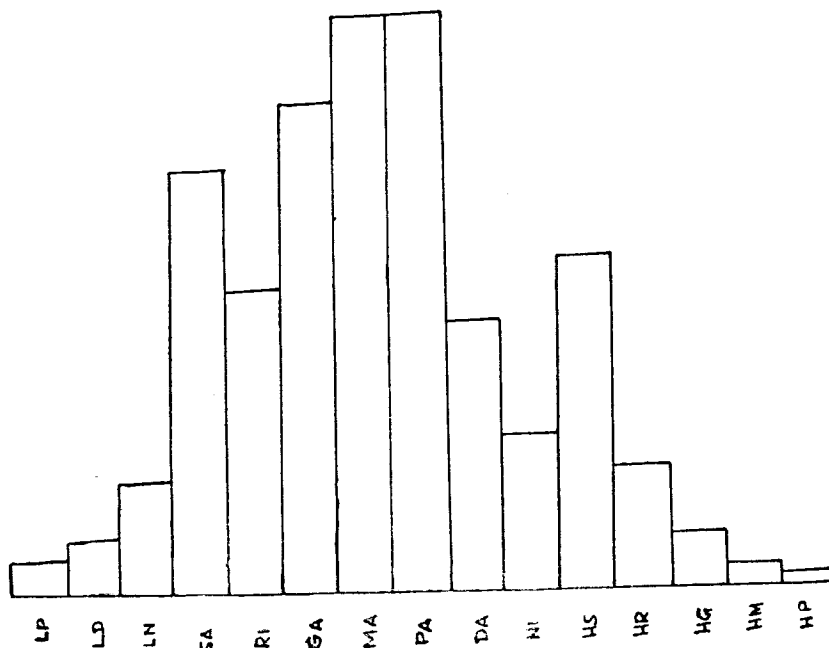
Histogram—67

Deekshitar—Sankarabharanam
Song : Sundaresvaraya



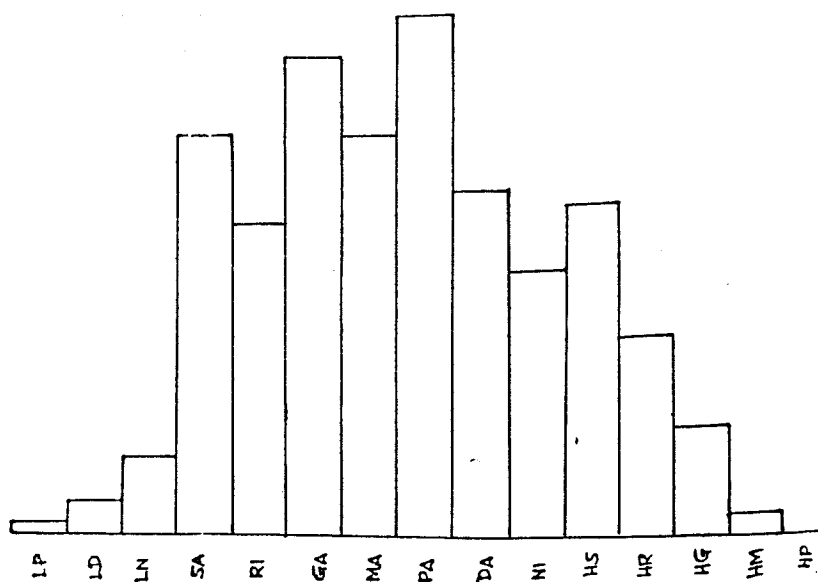
Histogram—68

Deekshitar—Sankarabharanam
Song : Sankaracharya



Histogram—69

Deekshitar—Sankarabharanam
Song : Srikamalambika



the largest frequency of 20% in song 4. The highest value for DA is around 15% in songs 13 and 7. That of NI is around 13% in song 7 and in most of the songs it occurs with less than 10% frequency.

Syamasastri :

In song 2, SA has 27%, MA has 20% followed by NI with 15% frequency. Thus the other four notes occur with 10% or less frequency. Song 1 has a low value of 8% for RI and song 2 has such a value for GA. The distributions in the three songs do not conform to any pattern.

Deekshitar :

The song 2, has as low a percentage for NI — the lowest found in all the songs analysed. The largest value for SA is 24% in song 3 and for PA is 20% in song 5. Generally SA and PA account for 40% of notes. The song 5, with the best uniform distribution has values 19, 10, 13, 12, 20, 15 and 11. GA has a high occurrence of 22% in song 2 and RI the highest value of 16% also in song 2. In song 7, MA has a value 17%. The largest value of DA is 15% in song 5 and lowest in song 2. Thus high values of RI tend to go with low values of NI and high values of GA with low values of DA. This feature was observed even in *Kalyani* — Tyagaraja (Reference 3).

CONCLUSIONS

Kalyani songs use more notes of higher frequency than *Sankarabharanam* songs — the exception being Syamasastri's. In the *Pratimadhyama raga*, MA is less used than in *Suddha madhyama raga*. Whenever RI occurs with a fairly high frequency, NI occurs with a low value; similarly do GA and DA behave. Tyagaraja's and Deekshitar's compositions appear close in both the *raga*-s.

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