**Introduction Notes:**

1. This book has been brought with the collaboration of select members who are interested in creation of a reference books for JatA/Ghana and the efforts of two Information Technology Professionals from USA, who are also Veda learners. One of them helped us with “proof of concept” that a highly automated Jatai and Ghanam Generation is possible and the other professional helped us with implementation.
2. This book shall be used by genuine students learning JatA/Ghana PATham under a qualified Guru for reference only.
3. **No direct recital shall be made** from the Book for any type of JatA/Ghana PaaraayaNa. Householders/Students interested in following the PaaraayaNa may use this book **for just following.**
4. We intend to make only sample JatA/Ghana documents of sample Prasnas in Sanskrit, Tamil and Malayalam languages.
5. This Pilot project can be only taken on full scale only if qualified Gurus and Students with formal learning in JatA/Ghana paatams volunteer to help us or formation of a distinct project group.

**Process followed in creating the Book:**

1. The Padams after proper verification have been listed in the proper order in the input file.
2. The Jata paaraayaNam as in Tirumala Tirupati Devasthaanam (TTD) channel which was telecast from July 2020 to Dec 2020 was heard once to give the processing rules for padams as applicable.
3. The Ghana paaraayaNam as available in archive.org was heard once to verify the rules above subject to changes in Ghanam construction.
4. The input file is verified that the number of Padams at Panchaati, anuvAkam and PraSna level is given correctly with counts at various levels and also with the output control statistics developed by the program.
5. The output Jata/Ghana vAkyams are verified once again with the Jata rendering in TTD Channel/archieve.org. Corrections are incorporated at appropriate stages in the Process.
6. Then the Baraha coding generated in the output Jata and Ghana files are converted into Sanskrit, Malayalam and Tamil languages with proper formatting and verified once more to ensure accuracy of conversion.

**Some key facts & observations:**

1. We have tried to refer to SIkSha materials like PratiSakyam (PS), JatA MaNi (JM), JatA DarpaNam (JD), Ghana DarpaNam (GD) and Ghana Sandhi (GS).
2. The materials refer to multiple SIksha source like VyAsa Siksha, Bodhayana Siksha, Harita Siksha and the great Scholars have matched the best combination to come out with their Paddhatis. The materials also document that there has been specific application of Rules followed by the learned Scholars in their Paddhatis. Therefore, students must of be aware of these differences or pATha bhedams and follow the method taught by their Gurus.
3. We find therefore minor differences in our output, based on TTD, when compared with Ghana Sandhi or other sources.
4. We have tried to **indicate the differences**, in the documents but **this is not exhaustive**.
5. We require input from Students/Gurus to indicate pATha bhedams, if they follow a different school or approach.

**Addtitional Reference to SIkShA materials:**

1. Reference of SikShA materials like Ghana Sandhi (GS), PratiSakyam (PS), JatA Mani (JM), Jata DarpaNam (JD), Ghana DarpaNam (GD) have been given in the brackets to the best of our reference. This should help students to understand the specific Siksha that is being applied.
2. We have not given Paata-bhedhams arising out of different SikShAs as we have not completed our analysis. We would cover it over a period of time and **we welcome learners’ comments, suggestions on Paata-bhedams as to what should be included further.**

**Standards and Conventions of this Book:**

This book follows all standard conventions followed in other books published earlier by VedaVMS. However, (gm) and (gg) are represented as **(aqÉç) and (aaÉç)** respectively.

**Many a place, the book does not give Padam/words as it is to be directly read.   
The learner must use the right Sandhi, give proper pauses and follow other rules to read and recite properly.** **pATha bedhams are indicated in brackets below the respective jata and ghana vAkyams. (added)**

**Controls on JatA/Ghana vAkyams generated:**

Let us take an example of a statement with 7 Padams. Let’s assume it **doesnot** **have** any Padam with Padam split with iti (like ganapatimiti gaNa – patim, bAhuByAmiti bAhu - byAm) or a Pragraha. (Like, uqtO iti#, athOq iti#).   
The number of statements as per various paatams will be as follows:

|  |  |
| --- | --- |
| **Type of Study** | **Combination and number of vAkyams** |
| Pada paatam | **7 padams** repeated in Order |
| krama paatam | (1,2), (2,3), (3,4) (4.5) (5,6) (6,7) and 7 iti 7  **(Total 7 vAkyams)** |
| Jata paatam | Similar combination of **starting two padams** like in krama  (1,2), (2,3), (3,4) (4.5) (5,6) (6,7) and 7 iti 7  **(Total 7 jata vAkyams)** |
| Ghana paatam | Similar combination of **starting three padams**  (1,2,3), (2,3,4), (3,4,5) (4.5,6) (5,6,7) (6,7) and 7 iti 7  **(Total 7 Ghana vAkyams)** |

**Note: it is can be treated as a common formula that the number of krama, jata and ghana vAkyas = number of padams+ number of PS+number of PGs minus PSs and PGs which are Ruk (||) endings (Ruk Stops)**

**Control Statistics and its usage:**

1. In this document we have given the Control Statistics below and this should enable to the users to cross-check and validate the number of jatA/Ghana vAkyams generated.
2. In future, the Control Statistics will be given at the end of the document after the jatA/Ghana vAkyams.

**Abbreviations used in Table of Control Statistics:**

|  |  |
| --- | --- |
| **Pan.ref** | **Panchaati ref. four-digit reference as per SamhitA** |
| **Padam Splits (PS)** | **Padam which are split in Pada PaaTam with iti explanation** |
| **PS + Ruk** | **PS which are also Ruk ending (Ruk Stops)** |
| **PG** | **Pragrahas which have a split with iti** |
| **PG + Ruk** | **Pragrahas which are also Ruk ending  (Ruk Stops)** |
| **Total Ruks** | **Total number of Ruk endings (Ruk Stops)** |
| **PRE** | **Total Number of Prepositions** |
| **PRE + Ruks** | **Total Number of Prepositions which are also Ruk Stops** |
| **EL** | **Number of Padams with elongated vowel sound as per SamhitA (Ref PratiSakyam Chapter 3). Can be verified with Pada Paatam** |
| **Ordinary Padams** | **Padams without “PS”, “PG” and “Ruk”, but includes “PRE”** |
| **Padams** | **Number of Padams as per Pada PaaTam (Control number given for each Padam in the vAkyam)** |
| **vAkyams** | **Total number of Jata or Ghana vAkyams generated (Serial number given with each vAkyam)** |

**Table of Control Statistics:**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Panchaati Ref** | **PS** | **PS +Ruk ending Padams (REP)** | **PG** | **PG+RuK ending Padams (REP)** | **Total Ruk ending Padams (REP)** | **PRE** | **PRE + Ruk ending Padams (REP)** | **ELs** | **Ordinary Padams (with out PS,PG REP )and including "PRE"** | **Total Padams as per Pada PaaTam** | **Total Jatai /Ghana Vaakyams** |
| **1.1.1.1 :** | **6** | **0** | **0** | **0** | **1** | **3** | **0** | **0** | **36** | **43** | **49** |
| **1.1.2.1 :** | **12** | **0** | **0** | **0** | **0** | **2** | **0** | **0** | **38** | **50** | **62** |
| **1.1.2.2 :** | **5** | **0** | **0** | **0** | **1** | **4** | **0** | **0** | **32** | **38** | **43** |
| **1.1.3.1 :** | **10** | **0** | **1** | **0** | **1** | **2** | **0** | **0** | **46** | **58** | **69** |
| **1.1.4.1 :** | **8** | **0** | **0** | **0** | **0** | **2** | **0** | **0** | **42** | **50** | **58** |
| **1.1.4.2 :** | **5** | **0** | **0** | **0** | **1** | **4** | **0** | **0** | **40** | **46** | **51** |
| **1.1.5.1 :** | **11** | **0** | **0** | **0** | **0** | **3** | **0** | **0** | **39** | **50** | **61** |
| **1.1.5.2 :** | **11** | **0** | **0** | **0** | **1** | **6** | **0** | **0** | **49** | **61** | **72** |
| **1.1.6.1 :** | **9** | **0** | **0** | **0** | **1** | **7** | **0** | **0** | **55** | **65** | **74** |
| **1.1.7.1 :** | **10** | **0** | **0** | **0** | **0** | **5** | **0** | **0** | **40** | **50** | **60** |
| **1.1.7.2 :** | **6** | **0** | **1** | **0** | **2** | **5** | **0** | **0** | **39** | **48** | **55** |
| **1.1.8.1 :** | **11** | **0** | **0** | **0** | **1** | **10** | **0** | **0** | **60** | **72** | **83** |
| **1.1.9.1 :** | **9** | **0** | **0** | **0** | **0** | **1** | **0** | **0** | **41** | **50** | **59** |
| **1.1.9.2 :** | **6** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **44** | **50** | **56** |
| **1.1.9.3 :** | **9** | **0** | **0** | **0** | **1** | **3** | **0** | **0** | **51** | **61** | **70** |
| **1.1.10.1 :** | **13** | **0** | **0** | **0** | **2** | **7** | **0** | **0** | **35** | **50** | **63** |
| **1.1.10.2 :** | **4** | **1** | **0** | **0** | **6** | **6** | **0** | **0** | **41** | **50** | **53** |
| **1.1.10.3 :** | **9** | **0** | **0** | **0** | **1** | **5** | **0** | **0** | **56** | **66** | **75** |
| **1.1.11.1 :** | **9** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **41** | **50** | **59** |
| **1.1.11.2 :** | **11** | **1** | **2** | **0** | **1** | **2** | **0** | **0** | **52** | **65** | **77** |
| **1.1.12.1 :** | **10** | **0** | **1** | **0** | **2** | **7** | **0** | **0** | **58** | **71** | **82** |
| **1.1.13.1 :** | **7** | **0** | **1** | **0** | **5** | **4** | **0** | **2** | **37** | **50** | **58** |
| **1.1.13.2 :** | **9** | **0** | **0** | **0** | **2** | **4** | **0** | **0** | **39** | **50** | **59** |
| **1.1.13.3 :** | **8** | **0** | **3** | **0** | **1** | **1** | **0** | **0** | **51** | **63** | **74** |
| **1.1.14.1 :** | **7** | **0** | **4** | **0** | **7** | **0** | **0** | **2** | **32** | **50** | **61** |
| **1.1.14.2 :** | **6** | **1** | **0** | **0** | **6** | **3** | **0** | **0** | **39** | **50** | **55** |
| **1.1.14.3 :** | **6** | **1** | **0** | **0** | **6** | **3** | **0** | **0** | **39** | **50** | **55** |
| **1.1.14.4 :** | **7** | **2** | **0** | **0** | **9** | **5** | **1** | **2** | **59** | **73** | **78** |
| **28** | **234** | **6** | **13** | **0** | **58** | **104** | **1** | **6** | **1231** | **1530** | **1771** |

The learners/users may reconcile the total vAkyams generated at Panchaati, anuvAkam and praSna level.