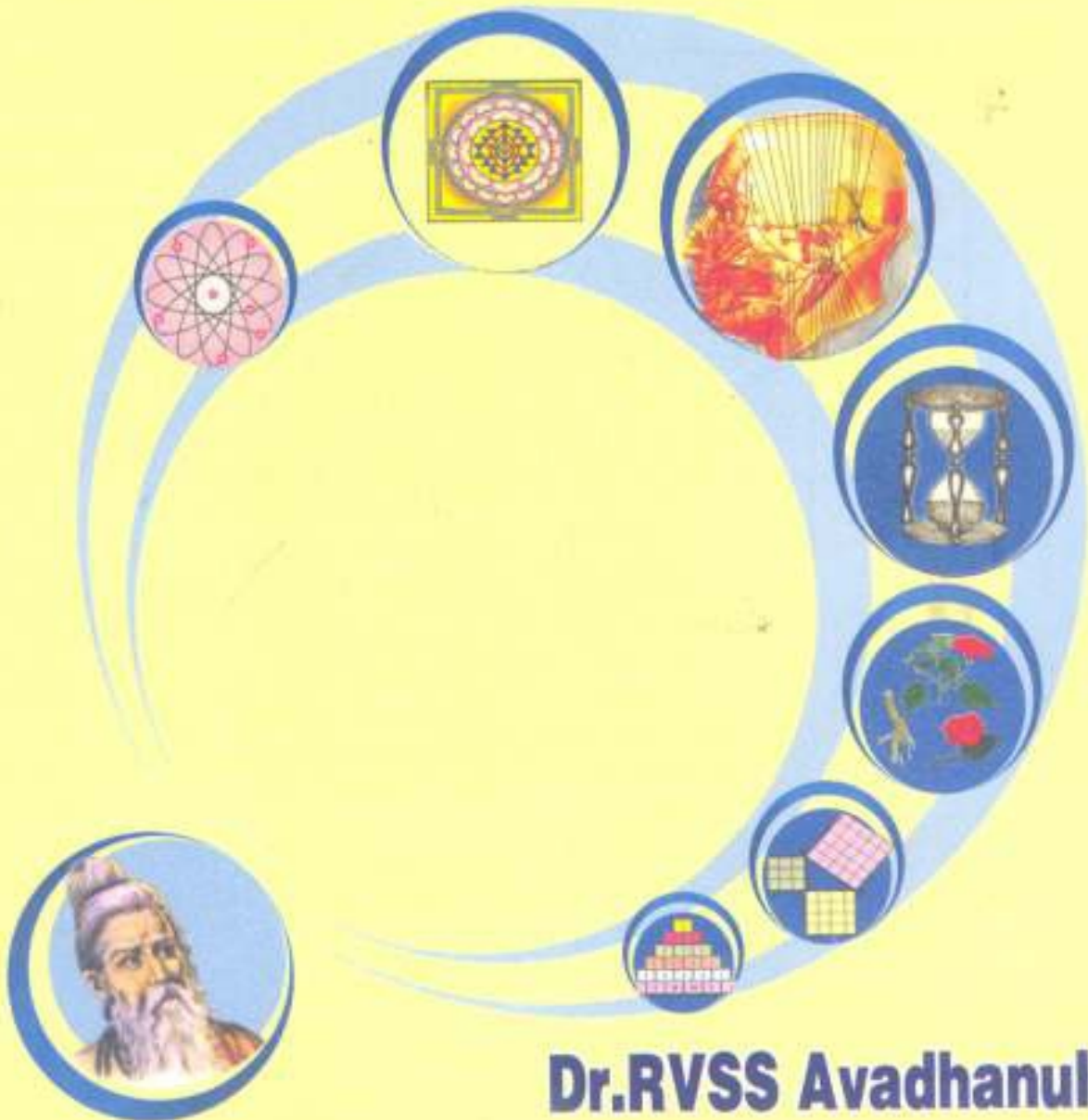


# Science and Technology in Vedas and Śāstras



**Dr.RVSS Avadhanulu**

# CONTENTS

<b>ACKNOWLEDGEMENTS</b>	iv
<b>DIACRITIC SYMBOLS</b>	vi
<b>INTRODUCTION</b>	1
1 Vedas – Universal Heritage	3
2 Meaning & Language of “ <i>Veda</i> ”	8
3 Age of the Vedas	11
4 Contributors of Vedic Wisdom	14
5 Vedic Literature	17
6 <i>Svara</i> & Modes of Chanting	31
7 Concept & Varieties of <i>Yajñas</i>	35
8 Loss of Ancient Vedic Texts over Time	41
9 Attempts for preservation of remaining portion of Vedas & Vedic Literature	45
10 Multiple Facets of Vedas	49
11 Concepts of Science & Technology	50
12 Views of Traditional Scholars	56
13 Opinions against searching for Scientific aspects In Vedas	60
14 Factors in favour of Research for Sciences in Vedas	68
15 Methodology selected for Research in Vedas	74
16 Subject wise Categorisation of Findings	82
<b>MATHEMATICS IN VEDAS</b>	
17 Decimal Number System in Vedas	84
18 Measures of Numbers	90
19 Vedic Numerical Codes/Algebraic Notation	97
20 Geometry in Vedic Literature	103
21 Mathematics in <i>Chandas Sāstra</i> (Prosody)	112
22 Trigonometry in Jyotisa Sāstra	117
23 Value of $\Pi$ (PI)	119
24 Infinity & ‘Imaginary’ Numbers	121
25 Vedic Mathematics of HH Srī Bhārathī Krsna Tīrtha Svāmīji	124
<b>PHYSICS IN VEDAS</b>	
26 Units of Measurement (Weight & Length)	129
27 Units of Measurement (Time)	135
28 Rotation of Earth and Apparent Motion of Stars	138

29	Units of Measurement (Angles, Rainfall, Temperature)	142
30	States of Matter	145
31	Cause & Effect Theory of Science & Conservation of Mass-Energy	148
32	Theory of Gravitation, Concept of Spherical Shape of Earth & Scientific Concept of Eclipses	150
<b>CHEMISTRY IN VEDAS</b>		
33	Concept of <i>Dānam</i> in Atomic Bondages	154
34	Isotopes of Hydrogen	161
35	Photography at Molecule Level	165
<b>METALLURGY IN VEDAS</b>		
36	References to Metals in Yajurveda	167
37	Metallurgy in Vedas	169
<b>AGRICULTURE IN RGVEDA</b>		
38	Agricultural Aspects in Rgveda	173
<b>METEOROLOGY IN VEDAS</b>		
39	Measurement of Rainfall	177
<b>SPACE SCIENCE IN VEDAS</b>		
40	Remote Sensing	180
<b>COSMIC ENERGY &amp; RADIATION IN VEDAS</b>		
41	Spectroscopy & Radiation	184
<b>COSMOLOGY IN VEDAS</b>		
42	Cosmology & Some Properties of Universe	193
43	‘Theory of Everything’ in Vedas	197
44	Unified Theory Guiding Principles of Universe at Micro Level & Macro Level – Vedic Insight	201
<b>MEDICINE IN VEDAS</b>		
45	Health	211
46	Anatomy & Physiology	215
47	Disease & Their Origin	220
48	Infectious Diseases	222
49	Medical Instruments	224
50	Malaria Treatment	226
51	Cough (Kasa/Kas)	228
52	Jaundice & Heart Disease	229
53	Tuberculosis(Yaksma / Consumption / Ksaya)	231
54	Tetanus (Viskandha-Samskandha)	233

55	Eye Diseases	235
56	Fractures, Broken Bones, Wounds & External Diseases:	236
57	Skin Disorders	237
58	Treatment to Poisons	240
59	Insanity	241
60	Swelling(Balasa)	242
61	Urine-Retention and Constipation	243
62	Water Therapy / Hydropathy	244
63	Efficacy of Sarsapa	246
64	Efficacy of Uttareni	247

#### **MICROBIOLOGY IN VEDAS**

65	Micro Organism	249
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#### **SCIENCE OF COGNITION IN VEDAS**

66	Science of Cognition	255
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#### **CONCEPTS OF COMPUTERS IN VEDIC LITERATURE**

67	Concepts of Computers in Sri Visnu Sahasranama Stotra	272
68	Concepts of Computer Software in Mimamsa Sastra	283

#### **ARTIFICIAL INTELLIGENCE IN VEDIC LITERATURE**

69	Artificial Intelligence / Knowledge Representation in Computers	293
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#### **IMAGING TECHNOLOGY IN VEDIC LITERATURE**

70	Defence Technology	307
71	Evaluation of Findings	309
72	Conclusions	319

#### **SUBMISSION**

#### **REFERENCES**

## DIACRITIC SYMBOLS

अ	A	क	k	त	t	य	Y
आ	Ā	ख	kh	थ	th	र	R
इ	I	ग	G	द	D	ल	L
ई	Ī	घ	Gh	ध	dh	व	V
उ	U	ङ	Ń ñ	न	N	श	Ś ś
ऊ	Ū	च	C	प	P	ष	s#
ऋ	r\$	छ	Ch	फ	ph	स	S
ए	E	ज	J	ब	B	ह	H
ऐ	Ai	झ	Jh	भ	bh	क्ष	kS#a
ओ	O	ञ	Ñ ñ	म	M		
औ	Au	ट	T,				
अं	M	ठ	t,h				
:	h(	ड	D, d,				
		ढ	d,h				
		ण	N'				



युगाब्द : ५९०



## राष्ट्रीय स्वयंसेवक संघ

प्रधान कार्यालय

डा. हेडगेवार भवन, महाल, नागपुर - 440 032

दूरभाष : 2723003, 2720150 फॅक्स : (0712) 2721589

E-mail : hedgewarbhavan@rediffmail.com

पत्र क्र. :

### MESSAGE

दिनांक :

The Vedas are the sources of all knowledge and are universal in their application. They are useful for the moral, spiritual and physical guidance and uplift of humanity. Recent findings world over confirm the relevance of Vedas even today for both spiritual practice and scientific research. A close study of the Vedic hymns with the help of the Sastras in general and Nirukta, Vyakarana and Mimamsa in particular help to understand the Vedic literature in its totality and to present the concepts and contents of modern sciences in their true sense.

The efforts being made by Dr.RVSS Avadhanulu, Deputy Director (Computers), Nizam's Institute of Medical Sciences, Hyderabad, for preservation and propagation of Vedic wisdom through Shri Veda Bharathi over the past several years are well known. The intense studies undertaken by him under the guidance of eminent personalities with a multidisciplinary approach resulted in identification of several mantras related to modern sciences and also emerging sciences, while maintaining the traditional opinion with high esteem.

The present compilation of all his observations under the title of "Aspects of Science and Technology in Vedas and Sastras" deals with several Vedic statements under the subjects like mathematics, physics, chemistry, and medicine. It is startling to find that the coverage includes even latest topics of research like remote sensing, chemical bondages, spectroscopy, computer concepts, cosmology, cognition, unified theory and knowledge representation. The author identified certain areas like cognition levels for further research where the Vedic literature has an edge over the existing scientific knowledge.

I am confident that the contents of this book will encourage several new researchers to explore further in our Vedic sciences for the benefit of the mankind. I wish the author all the best in his endeavors in this direction.

Margashirsha Krishna 8  
Kali Yuga 5107  
Dated : 24<sup>th</sup> Dec 2005.

  
(K.S.SUDARSHAN)



**Prof. Dr. B.H. Briz-Kishore, F.I.E.**

Chairman: National Council of Rural Institutes

Member: University Grants Commission


Dept. of Education, Ministry of HRD, Govt. of India

Science is the essence of facts, and its application is Technology to realize the truth behind these facts. While Vedas are facts of holistic knowledge, Sastras establish inter-relationships of these facts to realize the ultimate truth. Though several attempts were made earlier to focus one or two scientific aspects or codifying few technological aspects that were contained in the Vedas and Sastras, no adequate work is presented so widely and vividly as is done by Dr. R.V.S.S. Avadhanulu in his book "ASPECTS OF SCIENCE AND TECHNOLOGY IN VEDAS AND SASTRAS".

Various subjects which involve human well-being and nature cycle such as, physics, chemistry, medicine, Space science, Imaging Technology and Cosmic Energy are dealt in his work with authenticity by quoting corresponding scriptural facts along with physical laws of technology from the ancient knowledge. Simultaneously, no less effort is made to explore aspects on natural resources including minerals, plants and agriculture sources from ancient scriptures which stand out in comparison well with (our) modern Science & Technology.

Dr. Avadhanulu is a physicist, having a metaphysical eye and scriptural sight with a searching bent of mind towards exploration of knowledge for total liberation. His urge and opportunity over the last three decades compelled him to translate uncompromising experiences that he encountered with supreme confidence in the form of a text which resulted into this outstanding work. This is not a routine book on such similar subject, but a master piece of work which is throwing a challenge and new openings for both beginners and learners to carry forward the great searching mission beyond times, in the realization of ultimate Truth.

I deem it a privilege to be part of this divine journey with, togetherness which I enjoyed with greater bliss.



**Prof. Dr. B. H. Briz-Kishore**

**30<sup>th</sup> November, 2005**



**Prof. P. SHASHI REKHA**  
Department of Sanskrit  
Osmania University  
Hyderabad

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India is highly esteemed for having a rich treasure trove of knowledge in the form of Vedas, which has attracted the scholars from various corners of the world. The glory of India got eclipsed due to the reasons well known. The country, which has produced great scientists like Aryabhata and Varahamihira is now facing the challenge to prove her greatness. It is the need of the hour to wipe off the dust on the mirror of fame of motherland and show the clear image. The responsibility lies on the shoulders of the scientists familiar with both ancient and modern sciences.

The influence of foreign rule has divided the Indian scholars into two categories : traditional scholars (Vedic and Sanskrit scholars), and modern scholars (who have studied through regional and English language media). The traditional scholars, though well versed in ancient sastras, are not able to communicate the subject matter as they are not conversant with English language. Similarly modern scholars being unaware of ancient scriptures are not able to support Indian sciences with proper evidence.

Thus this millennium is raising its eyebrows with a question mark to Indian scholars. As a matter of fact science is not a product. It is a realization of the fact. Neither oxygen nor carbon dioxide is created by a human being. The values and properties, are noticed and tested by the men who are living amidst them. There is a very exhaustive information in ancient Indian Sastras about the Sciences but beyond the reach of a common man. The great seers for whom the universe itself was a laboratory could visualize the things in the universe and imparted the knowledge about them to the disciples who got them recorded by memory (श्रुति स्मृति). Thus the principles of Newton about movement or the principles of Archimedes about floatation are not new to Indians.

The five elements and their characteristics are well explained in Darsanas. Even the technology is discussed in ancient sastras. But as stated earlier, the information so far has not crossed our borders. Hence, it is the duty of every Indian to spread it in the



entire world. But it is not possible with a modern scientist, nor with a traditional scholar. One who is well acquainted with both ancient and modern sciences would be able to take up this task. The efforts in this direction are already begun. Many scholars have been contributing to the field due to which the sciences like Ayurveda are becoming popular day by day.

Now here is a scholar Dr. R.V.S.S.Avadhanulu traveling in the same direction of learned. Dr. Avadhanulu has studied both Sanskrit and also the aspects of science and technology as embedded in Vedas and sastras. His traditional scholarship acquired from noble preceptors, added with computer knowledge and the knowledge of sciences like Mathematics, Physics and Chemistry is producing good results, which is applauded by the galaxy of scholars. The present work "Science and Technology in Vedas and Sastras" is a result of his research for several years. The evidences from Vedas and Sastras are shown with scientific formulae. It is not mere hypothesis but a scientific approach through proper study and observation. Thus this work focuses on ancient Indian knowledge in the field of science.

I congratulate him for his nice work and my heart felt best wishes for a bright career in the field of scientific research.

**Prof. P. SHASHIREKHA**

**Prof. S. S. MURTHY**

Former Director, NIT, Surathkal and  
Professor, Department of Electrical Engineering  
Indian Institute of Technology  
New Delhi 110 016

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## Foreword

It is well known that Indian scriptures and Sanskrit literature are a storehouse of knowledge. But there are very few attempts to systematically classify them into known branches of knowledge in an illustrative manner to familiarize a lay reader with the richness of Indian past. The painstaking effort of Dr. Avadhanulu in this direction by picking up relevant extracts from literature, like drops picked from the ocean, and compiling them and translating has resulted in this book which any reader can vouch, is unique.

Today there is a worldwide interest in these Indian thoughts leading to considerable research in well-known universities across the world. Yoga, meditation and holistic methods enunciated in our scriptures are recognized globally as sure remedies of happy and healthy living.

Vedas, Upaniṣads, Brahmasutra, Gita, Puranas, Ramayana and Mahabharatha are considered holy texts containing information on all aspects of human activity – physical and spiritual. There are a galaxy of Sanskrit luminaries – Kalidasa, Panini, Bhasa, Bana, Varahamihra, Bhartruhari and many others whose works have inspired and enlightened generations of humankind over centuries. Works of Charaka, Sushruta, Aryabhatta, Bhaskaracharya, Lilavati and others deal with different aspects of science and medicine. Ramayana and Mahabharatha have innumerable illustrations of science, technology, arts, sports, music, dance, architecture, weaponry, defense, vehicles, textiles, navigation, metallurgy and space craft to name a few. By observing ancient temples, paintings and historical structures, one wonders about the technology prevalent several hundred years ago. For example, the rusting iron pillar near Kutub Minar unravels the metallurgical experiences of those times.

The present book synthesizes the knowledge spread over 5000 years to enlighten the reader on the ancient wisdom in different areas.

Knowledge is classified as Vidya and Avidya (Apara vidya) – the former dealing with knowledge *within* (internal to the human being) and the latter with knowledge *without* (external to the human being). Vidya deals with philosophy and spirituality linking man with God. The scriptures deal extensively with Vidya. Critical commentaries on scriptures such as those by Adi Shankara guide an individual choose a path of God realization. This deals with mind, body and soul – Yoga, Meditation, Bhakti, Jnana are different manifestations in this class. On the other hand, Avidya deals with physical or external aspects such as Science and Technology and issues external to the human being.

The present book deals with both “Vidya” and “Avidya” and the author has classified this into chapters dealing with different aspects. The significance and importance of Vedas are highlighted in this book. It is regrettable to note that only 13 out of 1311 branches of Vedic knowledge are presently traceable. This is a great loss of vast storehouse of information to humanity forever.

In different chapters, the author deals with almost all branches of science and narrates relevant Sanskrit text to prove that several present day findings are not new such as the concepts on gravitation, solar system, the value of Pi and so on. The author has carefully chosen and discussed many topics from Sanskrit literature which dealt with geometry, chemistry, physics, agriculture, irrigation, rain forecasting, imaging, wave theory, healthcare, energy, cognition, computers, cosmology, quantum mechanics and unified theory. Extracting computer concepts from Vishnu Sahsrnama is very interesting.

While one may question the validity of some of his propositions, none can question his sincerity in mining useful data from earlier Sanskrit literature which may make every Indian proud.

This book makes several interesting comparisons between Vedas and Science and the concepts therein. Dr. Avadhanulu, the author of the book, has done a commendable work. This book is a useful reference guide for all those who want to know what is hidden in our scriptures in a readable language. I would certainly advise our youngsters in schools and colleges to read this book, which would give a glimpse of our ancestors' wisdom and scientific temper and inspire them in making India once again a global center of knowledge creation for the betterment of humanity.

## ACKNOWLEDGEMENTS

Words will be inadequate to express my gratitude and reverence for the persons that have led me on in my learning eventually resulting in this book.

It is a great blessing to be born in a family of illustrious Sanskrit scholars in Bharat, India. My father, Shri Remella Venkata Suryanarayana had passionate love for Sanskrit and put in devoted efforts in providing opportunity for me to benefit from study of the divine language from an early age.

While Shri Rani Suryanarayana and Shri Varanasi Subrahmanyam initiated my learning Sanskrit during my elementary school period, Shri Remella Suryanarayana Murthy put in great efforts continually to nurture and sustain my interest for study of classical Sanskrit during my high school days. The same was further strengthened by Sriman Sribhashyam Appalacharyulu during my college days.

Shri. Remella Bapanna Deekshitulu Ghanapathi, my beloved grandfather, taught me the svara, melody processes in Vedic recitation. Shri Nittala Ananthavadhani, Shri Remella Subbavadhanulu, Shri.Dendukuri Agnihotra Poundarika Somayaji. Shri Kunapuli VenkataChalapathi Sarma.... taught me procedures for reciting different segments of Taittiriya Sakha of Krishna Yajurveda.

Shri Ramaswami Ghanapathi and Dr.Rani Ramakrishna took special care to introduce me to Sayana Bhashya of Krishna Yajurveda. This made me bold enough to study Rigveda Bhashya later, with particular emphasis on Suparna Sukta. Mahamahopadhyaya Shri Remella Surya Prakasa Sastry blessed me by teaching Mimamsa Nyaya Prakasa and Nirukta. Mahamahopadhyaya Shri Dongare Veereswara Krishna Sastry introduced Vedanta Paribhasha, Siddhantalesa Sangraha, Bhashyas of a few Upanishads and Chatussutri.

A special mention has to be made of Mahamahopadhyaya Professor Pullela Sriramachandrudu. He taught me Tarka Bhasha, Siddhanthakaumudi, Sarva Darshana Samgraha and Sankara Bhashya of Bhagwad Gita. He encouraged and supported me to get institutional qualifications including M.A. and Ph.D. in Sanskrit from Osmania University. Prof.P.Sasirekha, Department of Sanskrit, Osmania University, guided me in my research project. She very often indicated right directions and approach. Dr.R.R.Somayajulu, Reader, Gowtami Vidyapeetham, Rajahmundry, encouraged and assisted me during various phases of my Sanskrit studies. Shri Chembrolu Subrahmanya Sastry, a senior advocate of A.P.High court and a scholar of Jyotisha Sastra taught me the fundamental concepts of Astronomy and Astrology as found in Vedic literature.

I record my highest respect and gratitude to Param Pujya Shri KS Sudarshanji, Sarsanghchalak of Rashtriya Svayamsevak Sangh for encouraging me to take up this work several years back, for reviewing the progress periodically and for providing me his valuable opinion on this work. In fact millions of Hindus are inspired by him to

explore and highlight the scientific and technological aspects of Vedas and Sastras and to work hard for restoring the glory of India.

Simultaneously I express my thanks to Prof.Dr.B.H.Briz-Kishore, Chairman, National Council of Rural Institutes, and Member, University Grants Commission, for his critical review and encouraging words. Further I thank Prof. SS Murthy, former Director, NIT, Surathkal and presently Professor at IIT, New Delhi, for getting me a comprehensive foreword for the book. I do not miss to acknowledge Prof.Jagadishkumar of IIT, New Delhi and Shri J Kedarnath of the popular Vaidik Village, Pune, for their co-operation during planning and preparation of this work. Thanks to my brother, Shri RB Avadhanulu, former Senior Manager, BHEL, Hyderabad, for his affection and unstinted support through out my career in general and in this project in particular.

It may be appropriate to mention that this subject has attracted the attention of several spiritual and religious leaders of various sects of Hinduism. Lengthy discussions were held with them while deciphering the hidden meanings of the mantras. I offer my salutations to all those who blessed me with their suggestions. Specifically my thanks are due to Swami Madhav Priyadasji of Swami Narayan sect, Shri Kailas Narayan Bangdia, Shri Yajna Subramanian of USA, Shri KV Chalapati Samaji, and several others who have taken keen interest in this project and partly sponsored publication of this book.

Special thanks are due to the Trust Board of Shri Veda Bharathi (SVB), Hyderabad, and Shri.Hota KameswaraRao, Executive Director, for allowing me to use the institutional resources extensively in the present study. My appreciations are due to my young colleagues at Shri Veda Bharathi, viz., Smt.J.Sarada, Chi. RSR Suryanarayana, Shri DVUB Sarma, AL Narasimham, GVSSB Prasad, Shri R Ramanatham, Shri K Srinivas, and Shri V Madhavarao -all very bright computer professionals, who assisted me at different stages in bringing this book out in a presentable form.

Smt.Remella Sesha Rathnam, my wife, has been and is personification of understanding and patience and devoted innumerable hours over the past three and half decades in support of my work on Vedas. All my thanks for her presence in my life.

21 December,2005

Dr.RVSS Avadhanulu