

## NEWS

### Projects approved/renewed by the Indian National Commission for History of Science for the year 1996-97

#### *Ancient Period*

1. Preparation of Historical Atlas in India - Śaka Kuṣāṇa Age by Prof. B.N. Mukherjee, Calcutta.
2. Iron Metallurgy and Industry in Ancient Tamil Nadu by Dr. B. Sasisekharan, Madras.
3. Indian Science - A Logical Historical Study of some Physical Mathematical concepts in Indian tradition by Prof. P.K. Mukhopadhyay, Calcutta.
4. Ancient Star Catalogue by Dr. George Abraham, Madras.
5. A Comparative Study of Indian Astronomical system vis-a-vis Modern System in Computation of Planets by S. Balachandra Rao, Bangalore.
6. Inventory of Oriental Institutes of Kerala and Tamil Nadu by Prof. K.V. Sarma, Madras.
7. English translation of *Dhanvantari Nighaṅṭu* by Dr. R.N. Singh, Lucknow.
8. English translation of Marathi Book *Hindu Śilpa Śāstra - Part I Prastāvana Khaṇḍa* by Dr. S.Y. Wakankar, Pune.
9. New Light on Pre-siddhantic Astronomy by Prof. K.D. Abhyankar, Hyderabad.
- \*10. Ancient Metal Technology in India, Thailand and Japan by Prof. D.P. Agrawal, Ahmedabad.
- \*11. Revaluation of Ancient Indian Veterinary Science Literature on Equines by Prof. S.K. Kalra, Dr. G. Prasad and Dr. S. Krishna, Hisar.
- \*12. Glossary of Scientific and Technological Terms in Tamil Inscriptions c 900-1300 by Prof. K.V. Raman, Madras.
- \*13. Works of some eminent Indian Mathematicians - A Quest for Indian Cultural Heritage with special reference to Mādhava's work by Dr. M.R. Adhikari,

Burdwan.

- \*14. *The Bhela Samhitā* A Scientific English Translation by Prof. Jyotir Mītra, Varanasi.

**Medieval Period**

15. Granary Architecture of Medieval South India by Dr. Raju Poundrai, Thanjavur.
16. *Rasa Prakasa Sudhakar* Critical Study, Edition and Translation by Dr. D. Joshi, Varanasi.
17. English Translation with Critical Commentary on *Raj Nighantu* of Narhari Pandita by Dr. S.C. Sankhyadhar, Jammu.
18. Descriptive Catalogue of Arabic-Persian Manuscript Sources in Science by Prof. Noorul Hasan Khan, Prof. SMR Ansari and Shri S.A. Khan Ghori, Aligarh.
19. Early Indian Coins: Investigation of Chemical Composition by Dr. Nisar Ahmed, Varanasi.
20. Catalogue of Manuscripts on History of Science from the collection of L.D. Institute of Indology, Ahmedabad by Dr. K.V. Seth and Dr. S. Andhare, Ahmedabad.
21. Some Aspects of Traditional Utilitarian Architecture by Prof. R.J. Vasavada, Ahmedabad.
22. A critical scientific analysis of select Maru gurjara Architecture by Shri Bakul Jani, Ahmedabad.
23. The Science and Art of Calligraphy and Paintings by Dr. S. Andhare, Ahmedabad.
- \*24. The Traditional Naval Architecture and Impact of European influence (16th - 18th cent.) by Prof. G.V. Rajamanickam, Thanjavur.
- \*25. Navigation - European Influence on Traditional Shipping by Prof. K.S. Mathew, Pondicherry.
- \*26. The Study of Various Materials described in *Aṃsubodhinī* of Maḥrṣi Bhāradvāj

by Prof. P. Ramachandra Rao, FNA, Jamshedpur.

***Modern Period***

27. History of Pharmaceutical Developments in India during the last two centuries by Prof. Harkishan Singh, Chandigarh.
28. History of Technology of Tank Irrigation by Dr. Uma Shankari, Madras.
29. History of Calendars of East Asian Countries by Comdr. S.K. Chatterjee, Delhi.
30. History of Nutrition Research in India by Dr. B.S. Narasinga Rao, Hyderabad.
31. Jnan Chandra Ghosh: Scientist, Educator and Administrator by Dr. P.K. Basu, Delhi.
32. Development of Topology in India during Post-independence period by Prof. B.K. Lahiri and Dr. P.K. Mazumdar, Kalyani, W.B.
33. Evolution of knowledge of *Madhumeha* in India during 19th & 20th Centuries by Dr. S.K. Mukherjee, Lucknow.
34. Development of Chemical Industries during 1900-1947 by Dr. D.P. Chakraborty, Calcutta.
35. Traditional Coconut Processing Techniques in India since Prehistorical times by Dr. N.P. Jayasankar, Thiruvantapuram, Kerala.
36. Lafont, Sircar and the 19th Century Science Movement in India by Prof. A.K. Biswas, Calcutta.
- \*37. Science and Environment in India in the Age of Imperialism: A Hand book of Source Materials by Dr. Satpal Sangwan, New Delhi.
- \*38. Popular Perceptions of Science in Colonial Tamilnadu C. 1890-1940 by Prof. S. Bhattacharya, New Delhi.
39. Indigenous Response to the Introduction of Western Medicine in the Madras Presidency 1800-1940 by Mr. Purnima Sardesai, Hyderabad.
- \*40. Preparation of a book entitled *Some Aspects of History of Biological Science* by Prof. B.M. Johri, Delhi.

**Monographs printed for the Indian National Commission for History of Science**

1. *Yogaratnākārā* by Dr. Nirmal Saxena, Chaukhamba Orientalia, Varanasi. 1995
2. *Minerals and Metals in Ancient India* by Prof. A.K. Biswas and Sulekha Biswas printed by D.K. Printworld, New Delhi, 1996
3. *Ship and Ship Building* by Shri Baldev Sahai, printed by Publication Division, Ministry of Information and Broadcasting, New Delhi, 1996.

### **Monograph on History of Technology in India (1201 AD to 1800 AD)**

The National Commission for History of Science working under the auspices of the Indian National Science Academy has planned to publish a series on the History of Technology in India since Antiquity to Modern times. Two volumes of the series, (vol. I covering the period from Antiquity to 1200 AD and vol. III covering the period from 1801 AD to 1947 AD) edited by eminent experts have already been compiled and are ready for publication by the Academy.

The Academy has now initiated the preparation of vol. II for the medieval period covering 1201 AD to 1800 AD. The broad objective of these volumes is to assess the techniques/technological development and the changes or influences that took place in India in these areas in a broad historical perspective with emphasis on contributions made by the Indians, based on authentic sources.

The interested experts who wish to contribute to the volume II (Medieval period) in any specific area may write for guidelines and other information to the *Coordinator (History of Science Programme)*, Indian National Science Academy, Bahadurshah Zafar Marg, New Delhi 110002.

**Announcement*****Application for Projects on History of Science Programme for 1997-98***

Applications are invited from expert investigators seeking financial assistance for History of Science work. The Academy approves about 50 projects annually on History of Science programme under the guidance of three Advisory Boards for ancient, medieval and modern periods and a National Commission for History of Science. Through this programme an expert can take up source and theme oriented studies by compiling important sources for study, translation of important scientific and technical works and making critical assessment in the areas like architecture, products, life and works of eminent scientists, institutions, science and societies etc. relating to Indian science and technology in proper historical perspective.

***Facilities :***

The Investigators are offered facilities of JRF/SRF, Research Associates, Research Assistants with contingency upto Rs. 20,000/- p.a. In special cases Superannuated Investigators are also granted honorarium with other facilities for whole time research work.

Interested experts/Investigators may write for a form with tentative title(s) of projects to the Coordinator, History of Science Programme, Indian National Science Academy, Bahadur Shah Zafar Marg, New Delhi-110002. The last date for submitting complete application is 30th November, 1996.

## Publications on History of Science

### *Indian Journal of History of Science*

Editor : S. Sriramachari; Periodicity-Biannual since 1966, Quarterly since 1983.  
Rs. 250.00; \$ 135.00 (Annual Subscription)

Published under the guidance of the Indian National Commission for History of Science. Devoted to studies and researches in various fields of ancient, medieval and modern science in historical perspective, and an interesting forum for scientists, historians, sociologists, indologists and philosophers for exchange of their ideas on the evolution and characteristics of scientific concepts and technological advances.

*Caraka Samhitā* (A scientific synopsis) by P. Ray and H.N. Gupta, 1965; Second Edition, 1980, Rs. 30.00; \$ 10.00.

A renowned medical treatise of Ancient India, prior to Galen; Contains Synoptic survey on authorship, date of composition, scope sub-division of the treatise, concepts and theories, physiological process health and longevity, physicians in diagnostic methods of treatment including surgery, poisons, physio-chemical processes, classifications, and twenty tables including bibliography & index.

*A Bibliography of Sanskrit Works in Astronomy and Mathematics* by S.N. Sen, A.K. Bag and S.R. Sarma, 1966, 20.00, \$ 5.00.

A bibliography of primary source materials along with their place of availability, secondary studies, commentaries made on the sources etc. indispensable for the study of history of Astronomy and Mathematics in ancient and medieval India.

*\*Some Aspects of Pre-historic Technology in India* by H.D. Sankalia, 1966, Rs. 10.00; \$ 2.50.

Deals with the development of technology during pre-historic times.

*Fatullah Shirazi* by M.A. Alvi and A. Rahman, 1968, Rs. 2.30; \$ 0.33.

The book presents an interesting reading of the life and works of Fatullah Shirazi, a sixteenth century Indian Scientist of remarkable versatility.

*Jahangir*, the naturalist by M.A. Alvi and A. Rahman 1969; Reprinted 1989, Rs. 75.00.

Jahangir (1605-1627), the Mughal emperor was a keen lover of nature. The book is based on the studies of *Memoirs* of Jahangir and throws light on the scientific interest of Jahangir. It has six sections :- 1. Mammals 2. Aves, 3. Botanical Informations 4. Chemical Technology 5. Medical Phenomena & . Astronomical Data. The reading has been made interesting with the presentation of colourful plates originally drawn by the artists of Jahangir's Court and are available in various museums of the World.

**A Concise History of Science in India**, Editor-D.M. Bose, S.N. Sen and B.V. Subbarayappa, 1971; Reprinted, 1989; Rs. 200.00 \$ 70.00.

The volume throws light on the History of Indian Science from pre-historic times to modern age. Major focus is on the survey of source materials, Astronomy, Mathematics, Medicine, Chemical practices and Alchemy, Agriculture, Botany, Zoology, the Physical World, Western Science in India. The work is a joint effort of the historians and scientists and was planned for the Indian National Commission for History of Science.

**Āryabhaṭīya of Āryabhaṭa**, Text with English translation by K.S. Shukla K.V. Sarma, 1976, Rs. 21.50, \$ 7.00; £ 2.75.

**Āryabhaṭīya of Āryabhaṭa**, with the Commentary of Bhāskara and Someśvara, critically edited by K.S. Shukla, 1976, Rs. 40.00 \$ 13.00.

**Āryabhaṭīya of Āryabhaṭa with the commentary of Sūryadeva Yajvan** Edited by K.V. Sarma with Introduction and appendices, 1976, Rs. 25.00, \$ 8.00.

**Āryabhaṭīya of Āryabhaṭa** (in Hindi), by R.N. Rai, 1976, Rs. 25.00, \$ 8.00, £ 3.00.

The series in four volumes were released on the occasion of 1500th birth anniversary of great Astronomer-Mathematician, Āryabhaṭa I, (b. 476 A.D), the founder of scientific astronomy in India.

**Rasārṇavakalpa** by Mira Roy and B.V. Subbarayappa, 1976, Reprinted 1995 Rs. 80.00; \$ 27.00.

An eleventh century AD Sanskrit manuscript (814 verses) of Alchemy and iatrochemistry on alchemicals recipes and mercurial preparations. The present book is a critical edition with English translation of the manuscript.

**Suśruta Saṃhitā** (A scientific synopsis) by P. Ray, H.N. Gupta and Mira Roy, 1980, Reprinted 1993, Rs. 225.00; \$ 75.00.

An Ayurvedic surgical classic of Dhanvantari School (128 chapters, divided in five books) composed by Suśruta summarised in English under the headings viz. Aim of Āyurveda, Authority and Date of Composition of the *Suśruta Saṃhitā*, Scope and Subdivisions of the Suśruta Saṃhitā, Concepts and Theories, Embryonic Growth and Obstetrics and Post-Natal Measures, Human Body-Its Anatomy and Physiology, Food, Health and Longevity, Diseases, Poisons and Antidotes, Some Special Recipes and Formulae, Living Creatures and Their Classification, Plant Life, Pharmacology and Materia Medica, Surgery, Convalescence, Training and Duties of Physicians, Surgeons and Nurses.

*Śiṣyadhivṛddhida Tantra of Lalla*, New Delhi, 1981.

Part-I, Critically Edited by Bina Chatterjee with commentary of Mallikarjuna Suri, Rs. 45.00; \$ 15.00.

Part-II, English translation and mathematical notes by Bina Chatterjee, Rs. 45.00; \$ 15.00.

An authoritative text of Indian Astronomy written By Lalla (7th century AD) in 22 chapters, following Āryabhaṭan school of astronomy.

*A Bibliography of the Works of Abu'l-Raihan Al-Birūnī* by Ahmad Saeed Khan, 1982, Rs. 30.00; \$ 10.00.

Compiles a list of 135 works of Al Bīrunī, the great astronomer-mathematician (b. 973, d.1050 A.D) of Central Asia, of which 28 are on India along with details of secondary studies.

*Science and Technology in Medieval India – A Bibliography of Source Materials in Sanskrit, Arabic and Persian* by A Rahman, M.A. Alvi, S.A. Khan Ghori and K.V. Samba Murthy, 1982, Rs. 200.00; \$ 70.00.

A most comprehensive single volume bibliography based on a survey of 10,000 medieval technical manuscripts in Sanskrit, Arabic and Persian available in India. It supplies information on contents of the manuscripts, authorship, availability, date, language, text, studies and translations of manuscripts wherever possible, on the basis of catalogues and other sources.

*The Śulba Sūtras of Baudhāyana, Āpastamba, Kātyāyana and Mānava* with text, English translation and commentary by S.N. Sen and A.K. Bag, 1983; Rs. 85.00; \$ 30.00.

Four Śulba Sūtras by Baudhāyana, Āpastamba, Kātyāyana and Mānava of the pre-Christian era have been edited, translated and commented upon. The Śulba Sūtras are of special importance because these deal with the rules for the necessary measures and constructions of the various sacrificial fire altars, involving geometrical propositions, construction and mathematical discoveries.

**\*Vedāᅅga Jyotiᅅa of Lagadha in its R.K. and Yajus Recensions with the Translation and Notes of T.S. Kuppama Sastry** critically edited by K.V. Sarma, 1985, Rs. 25.00, \$ 8.00.

*The Vedāᅅga Jyotiᅅa* of Sage Lagadha is the earliest work compiled on Indian calendar which were in vogue for fixing times for rituals and sacrifices during vedic times. The work is edited in two recensions, one relating to the ᅅgveda (36 verses) and the other relating to the *Yajurveda* (43 verses).

**\*Science and Technological Exchanges between India and Soviet Central Asia (Medieval Period)** Editor, B.V. Subbarayappa, 1985, Rs. 125.00; \$ 42.00.

The seminar Proceedings of the first Indo-Soviet bilateral seminar in history of Science, giving details of scientific and cultural heritage and interaction that took place between two regions-India and Central Asia.

**History of Astronomy in India**, Editors : S.N. Sen & K.S. Shukla, 1985, Rs. 200.00; \$ 100.00, £ 50.00.

Narrates astronomical development in India from antiquity to modern times. Thirteen experts contributed to the areas like survey of Sanskrit, Arabic and Persian sources and studies made on these sources. A survey of twentieth century astronomy in India makes the reading interesting.

### **Vaᅅᅅvara Siddhānta and Gola of Vaᅅᅅvara**

Part I - Sanskrit Text edited by K.S. Shukla, 1986, Rs. 100.00, \$ 35.00.

Part II - English Translation and Commentary by K.S. Shukla, 1985, Rs. 130.00; \$ 45.00.

Most comprehensive 10th century A.D. Text compiled by Vaᅅᅅvara giving details of methods and process is employed by Indian astronomers.

***Ancient Glass and India*** By S.N. Sen and Mamata Chaudhuri, 1985, Price Rs. 100.00; \$ 35.00.

The book traces the history of glass, the techniques of glass manufacture and trade since 2nd millennium B.C. to 14th century A.D. with special reference to India based on both literary and archareological evidences.

***A Critical study of Laghumānasa of Mañujala*** (AD 932) by K.S. Shukla, 1990; Rs. 150; \$ 50.00.

The Astronomical Text is critically edited with commentary and English translation.

***Interaction between Indian and Central Asian Science and Technology in Medieval Times***, 1990, Rs. 500.00; \$ 170.00 (per set)

Vol-I – General ideas and Methodology, Astronomy, Mathematics and Physical Concepts.

Vol-II – Medicine, Technology, Arts & Crafts, Architecture and Music.

The volumes are the product of Indo-Soviet bilateral programme jointly sponsored by Indian National Science Academy and the Academy of Science of the USSR. The volumes have revealed the importance of many Indian and Central Asian manuscripts, their methodology, contents and impact on Central Asian culture.

***Scientific and Technical Education in India – 1781-1900*** by S.N. Sen, 1991, Rs. 250.00; \$ 85.00.

Contains documented materials and critical analysis of the development of scientific and technical education in India during the 18th-19th century. A rich source book to all scholars interested in the history of education specially in technical and science educations and is useful for formulation of policies and strategies of higher education in India.

***Rasa Ratna Samuccaya*** by Śrī Vāgbhaṭa Edited with English translation, notes and appendices-in two parts by Damodar Joshi, 1991-92, Rs. 200.00 \$ 70.00.

A very popular Sanskrit text of medieval period on Indian alchemy and pharmaceuticals; an authentic English translation, useful for modern scientists. This contains useful information on essential pharmaceutical process, apparatuses, heating devices, etc.

*History of Medicine in India*, Editor: P.V. Sharma, 1992, Rs. 350.00, \$ 120.00.

The book contains contributions of well known international scholars making a systematic survey of pre-Vedic, Vedic and post-Vedic literature dealing with medicine, followed by studies on different traditions of Ayurveda, medicinal plants, general medicine, preventive and social medicine, surgery, obstetrics and gynaecology, pediatrics, promotive therapy, toxicology and other topics besides basic concepts of Ayurveda and Siddha medicine. The role of Indian medicine vis-a-vis world medicine as a whole have also been highlighted in a perspective manner.

*Available at :* Indian National Science Academy  
Bahadur Shah Zafar Marg, New Delhi-110002  
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\*Out of Print