

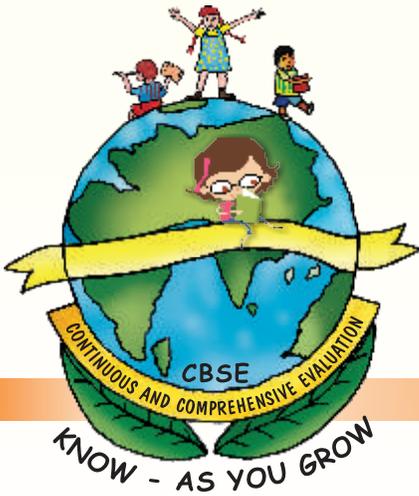
नया आगाज़

आज समय की माँग पर
आगाज़ नया इक होगा
निरंतर योग्यता के निर्णय से
परिणाम आकलन होगा।

परिवर्तन नियम जीवन का
नियम अब नया बनेगा
अब परिणामों के भय से
नहीं बालक कोई डरेगा
निरंतर योग्यता के निर्णय से
परिणाम आकलन होगा।

बदले शिक्षा का स्वरूप
नई खिले आशा की धूप
अब किसी कोमल-से मन पर
कोई बोझ न होगा

निरंतर योग्यता के निर्णय से
परिणाम आकलन होगा।
नई राह पर चलकर मंज़िल को हमें पाना है
इस नए प्रयास को हमने सफल बनाना है
बेहतर शिक्षा से बदले देश, ऐसे इसे अपनाए
शिक्षक, शिक्षा और शिक्षित
बस आगे बढ़ते जाएँ
बस आगे बढ़ते जाएँ
बस आगे बढ़ते जाएँ.....





Knowledge

TRADITIONS & PRACTICES OF INDIA

Textbook for Class XI

Module 1
Astronomy in India



CENTRAL BOARD OF SECONDARY EDUCATION

Shiksha Kendra, 2, Community Centre, Preet Vihar, Delhi-110 092 India



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Preface

India has a rich tradition of intellectual inquiry and a textual heritage that goes back to several hundreds of years. India was magnificently advanced in knowledge traditions and practices during the ancient and medieval times. The intellectual achievements of Indian thought are found across several fields of study in ancient Indian texts ranging from the Vedas and the Upanishads to a whole range of scriptural, philosophical, scientific, technical and artistic sources.

As knowledge of India's traditions and practices has become restricted to a few erudite scholars who have worked in isolation, CBSE seeks to introduce a course in which an effort is made to make it common knowledge once again. Moreover, during its academic interactions and debates at key meetings with scholars and experts, it was decided that CBSE may introduce a course titled 'Knowledge Traditions and Practices of India' as a new Elective for classes XI - XII from the year 2012-13. It has been felt that there are many advantages of introducing such a course in our education system. As such in India, there is a wide variety and multiplicity of thoughts, languages, lifestyles and scientific, artistic and philosophical perceptions. The rich classical and regional languages of India, which are repositories of much of the ancient wisdom, emerge from the large stock of the shared wealth of a collective folklore imagination. A few advantages given below are self explanatory.

- India is a land of knowledge and traditions and through this course the students will become aware of our ancient land and culture.
- Learning about any culture particularly one's own culture - whatever it may be - builds immense pride and self-esteem. That builds a community and communities build harmony.
- The students will be learning from the rich knowledge and culture and will get an objective insight into the traditions and practices of India. They will delve deeply to ascertain how these teachings may inform and benefit them in future.
- The textbook has extracts and translations that will develop better appreciation and understanding of not only the knowledge, traditions and practices of India but also contemporary questions and issues that are a part of every discipline and field in some form or another.

This course once adopted in schools across India can become central to student learning: each student brings a unique culture, tradition and practice to the classroom. The content is devised in a way that the educator becomes knowledgeable about his/her students' distinctive cultural

background. This can be translated into effective instruction and can enrich the curriculum thereby benefitting one and all. This insight has close approximation with the pedagogy of CCE.

The course is designed in a way that it embodies various disciplines and fields of study ranging from Language and Grammar, Literature, Fine Arts, Agriculture, Trade and Commerce, Philosophy and Yoga to Mathematics, Astronomy, Chemistry, Metallurgy, Medicine and Surgery, Life Sciences, Environment and Cosmology. This can serve as a good foundation for excellence in any discipline pursued by the student in her/his academic, personal and professional life.

This book aims at providing a broad overview of Indian thought in a multidisciplinary and interdisciplinary mode. It does not seek to impart masses of data, but highlights concepts and major achievements while engaging the student with a sense of exploration and discovery. There is an introduction of topics so that students who take this are prepared for a related field in higher studies in the universities.

The examination reforms brought in by CBSE have strengthened the Continuous and Comprehensive Evaluation System. It has to be ascertained that the teaching and learning methodology of CCE is adopted by the affiliated schools when they adopt this course. The contents have to cultivate critical appreciation of the thought and provide insights relevant for promoting cognitive ability, health and well-being, good governance, aesthetic appreciation, value education and appropriate worldview.

This document has been prepared by a special committee of convenors and material developers under the direction of Dr. Sadhana Parashar, Director (Academic & Training) and co-ordinated by Mrs. Neelima Sharma, Consultant, CBSE.

The Board owes a wealth of gratitude to Professor Jagbir Singh, Professor Kapil Kapoor, Professor Michel Danino, and all those who contributed to the extensive work of conceptualizing and developing the contents. I sincerely hope that our affiliated schools will adopt this new initiative of the Board and assist us in our endeavour to nurture our intellectual heritage.

Vineet Joshi
Chairman



Convenor's Note by Professor Jagbir Singh

In 2012, CBSE decided to introduce an Elective Course 'Knowledge Traditions and Practices of India' for classes XI and XII and an Advisory Committee was constituted to reflect on the themes and possible content of the proposed course. Subsequently Module-Preparation Committees were constituted to prepare ten modules for the first year of the programme to include the following Astronomy, Ayurveda (Medicine and Surgery), Chemistry, Drama, Environment, Literature, Mathematics, Metallurgy, Music and Philosophy.

Each module has;

- I. A Survey article
- ii. Extracts from primary texts
- iii. Suitably interspersed activities to enable interactive study and class work
- iv. Appropriate visuals to engender reading interest, and
- v. Further e- and hard copy readings.

Each module in the course has kept in mind what would be a viable amount of reading and workload, given all that the class IX students have to do in the given amount of time, and controlled the word-length and also provided, where needed, choices in the reading materials.

Each Module consists of:

- I. A Survey Essay (about 1500-2000 words) that introduces and shows the growth of ideas, texts and thinkers and gives examples of actual practice and production.
- ii. A survey-related selection of extracts (in all about 2000 words) from primary sources (in English translation, though for first hand recognition, in some cases, where feasible, the extracts are also reproduced in the original language and script).
- iii. Three kinds of interactive work are incorporated, both in the survey article and the extracts - comprehension questions, individual and collective activities and projects (that connect the reading material and the student to the actual practice and the environment).
- iv. Visuals of thinkers, texts, concepts (as in Mathematics), practices.
- v. Internet audiovisual resources in the form of URLs.
- vi. List of further questions, and readings.

The objective of each module, as of the whole course, is to re-connect the young minds with the large body of intellectual activity that has always happened in India and, more importantly, to

enable them (i) to relate the knowledge available to the contemporary life, theories and practices, (ii) to develop, wherever feasible, a comparative view on a level ground of the contemporary Western ideas and the Indian theories and practices, and (iii) to extend their horizons beyond what is presented or is available and contemplate on possible new meanings, extensions and uses of the ideas - in other words to make them think.

We have taken care to be objective and factual and have carefully eschewed any needless claims or comparisons with western thought. Such things are best left to the readers' judgement.

This pedagogical approach clearly approximates CBSE's now established activity-oriented interactive work inviting the students' critical responses.

It is proposed to upload the first year's modular programme to be downloaded and used by schools, teachers and students.

As a first exercise, we are aware that the content selection, a major difficult task, can be critically reviewed from several standpoints. We do not claim perfection and invite suggestions and concrete proposals to develop the content. We are eagerly looking forward to receiving the feedback from both teachers and students. That would help us refining the content choice, the length and the activities. We will also thankfully acknowledge any inadvertent errors that are pointed out by readers.

The finalisation of this course is thus envisaged as a collective exercise and only over a period of time, the Course will mature. We know that perfection belongs only to God.

If our students enjoy reading these materials, that would be our true reward.

Prof. Jagbir Singh
Convenor



Acknowledgement

CBSE ADVISORS

- Shri Vineet Joshi, *Chairman*
- Dr. Sadhana Parashar, *Director (Academic & Training)*

CONVENOR

Prof. Jagbir Singh
Convenor, Former Head Department of Punjabi Delhi University

MATERIAL PRODUCTION TEAM

Prof. Kapil Kapoor
*Prof. of English & Former Pro Vice
Chancellor, Jawahar Lal Nehru University*

Prof. Michel Danino
*Guest Professor, IIT Gandhinagar,
& Visiting Faculty, IIM Ranchi*

Prof. Avadhesh Kumar Singh
*Professor & Director School of Translation
IGNOU*

Dr. P. Ram Manohar,
MD (Ayurveda)
*Director and CSO, AVP Research
Foundation, 36/137, Trichy Road,
Ramanathapuram P.O., Coimbatore-
641045, Tamil Nadu, India*

Dr. J. Sreenivasa Murthy
*(Sanskrit/Philosophy)
Head, Department of Sanskrit,
M.E.S College, Bangalore - 560 003*

Prof. Bharat Gupta
*(Retd) Associate Professor, Delhi
University, Founder member and Trustee
International Forum for India's Heritage.
PO Box 8518, Ashok Vihar, Delhi 110052.*

Dr. Vipul Singh
*MLNC, University of Delhi, South Campus,
New Delhi*

Prof. Shrawan Kumar Sharma
*Head Dept. of English Director, Centre for
Canadian Studies Gurukul Kangri
University
Haridwar, Uttarakhand*

Ms. Kiran Bhatt
*(Retd.) Head of Dept. (English), Modern
School, Vasant Vihar, New Delhi*

Ms. Heemal Handoo Bhat
*Shaheed Rajpal DAV Dayanand Vihar, New
Delhi*

Mr. Pundrikakash
*Vice Principal, Physics, RPVV, DoE, Kishan
Ganj, New Delhi*

Ms. Rashmi Kathuria
*Maths, Kulachi Hansraj Model School,
Ashok Vihar, New Delhi*

Dr. Sanjay Kumar
*K.V., SPG Complex, Sector - 8, Dwarka,
New Delhi*

Ms. Bindia Rajpal
*The Air Force School, Subroto Park, New
Delhi*

Ms. Reeta Khara
*VVDAV Public School, D- Block, Vikaspuri,
New Delhi*

Ms. Uma Sharma
*Ex Craft Coordinator CCRT, Ex TGT,
RPVV, Vasant Kunj, New Delhi.*

Ms. Archana Sharma
*Freelancer: Content Developer, Resource
Person - SCERT, DIET (RN) New Delhi.*

Ms. Anjali Shukla
*DAV Public School, Sector - 7, Rohini,
New Delhi - 110085*

Dr. Sandhya S. Tarafdar
PGT History, K.V. Vikaspuri, New Delhi

Dr. B. S. Dashora
*ELT Group (Retd. Principal), Bhopal,
Madhya Pradesh.*

Ms. Shubhika Lal
Modern School, Vasant Vihar, New Delhi

Ms. Kusum Singh
DAV Public School, Sector-14, Gurgaon

Ms. Gayatri Khanna
ELT, Free Lancer, New Delhi

Grateful Thanks to:

Dr. Rajnish Kumar Mishra, JNU

Dr. Santosh Kumar Shukla, JNU

Mr. Albert Abraham
Former Report Writer, CBSE

CO-ORDINATOR

Ms. Neelima Sharma
Consultant (ELT), CBSE New Delhi

EDITORS

Prof. Kapil Kapoor, *Prof. of English & Former Pro Vice- Chancellor
Jawahar Lal Nehru University*

Prof. Michel Danino, *Guest Professor, IIT Gandhinagar & Visiting Faculty, IIM Ranchi*

SUPPORTING MEMBERS (CBSE)

Mr. Yogeshwar
Asstt. Record Keeper

Mr. Abhimanyu Kumar Gupta
Computer Assistant

Ms. Prabha Sharma
Computer Assistant

Content

