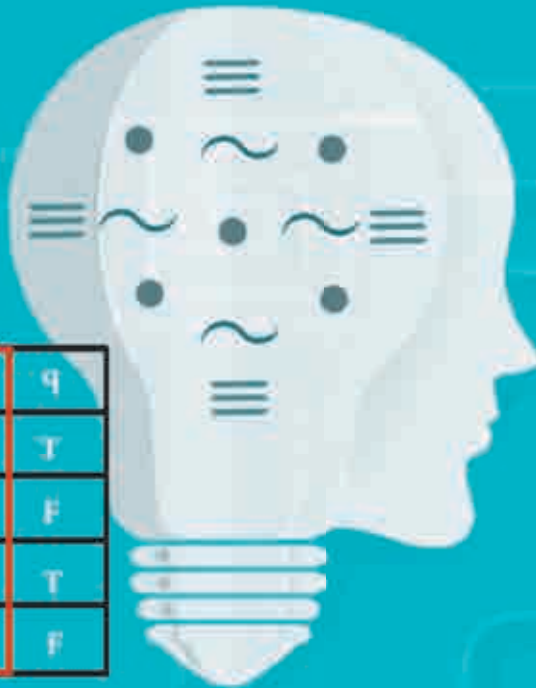
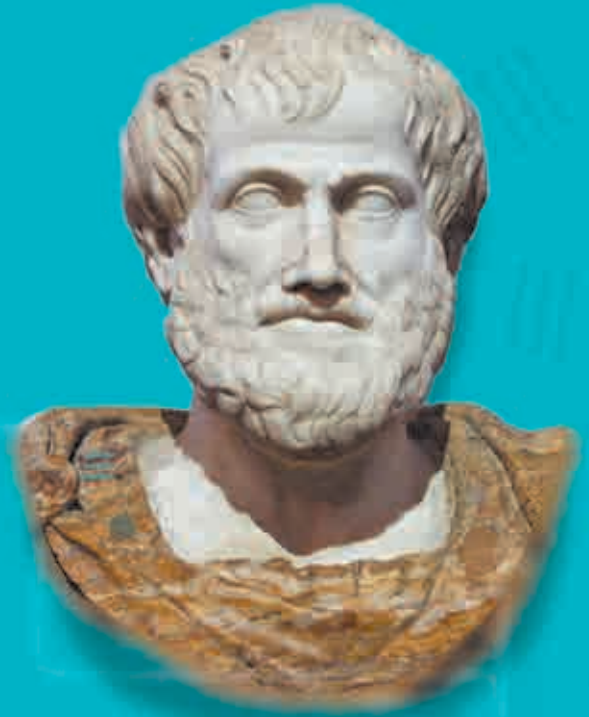




LOGIC

STANDARD XI



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The constitution committee formed by GR No. Ahs - 216 (Pra. Kra. 4316) SD-4 Dated 24/01/16 has given approval to prescribe this textbook in its meeting held on 00/06/19 and it has been decided to implement it from the academic year 2019-20.

LOGIC

STANDARD XI



2019

**Maharashtra State Bureau of Textbook Production and
Curriculum Research, Pune.**



M3Y9E1

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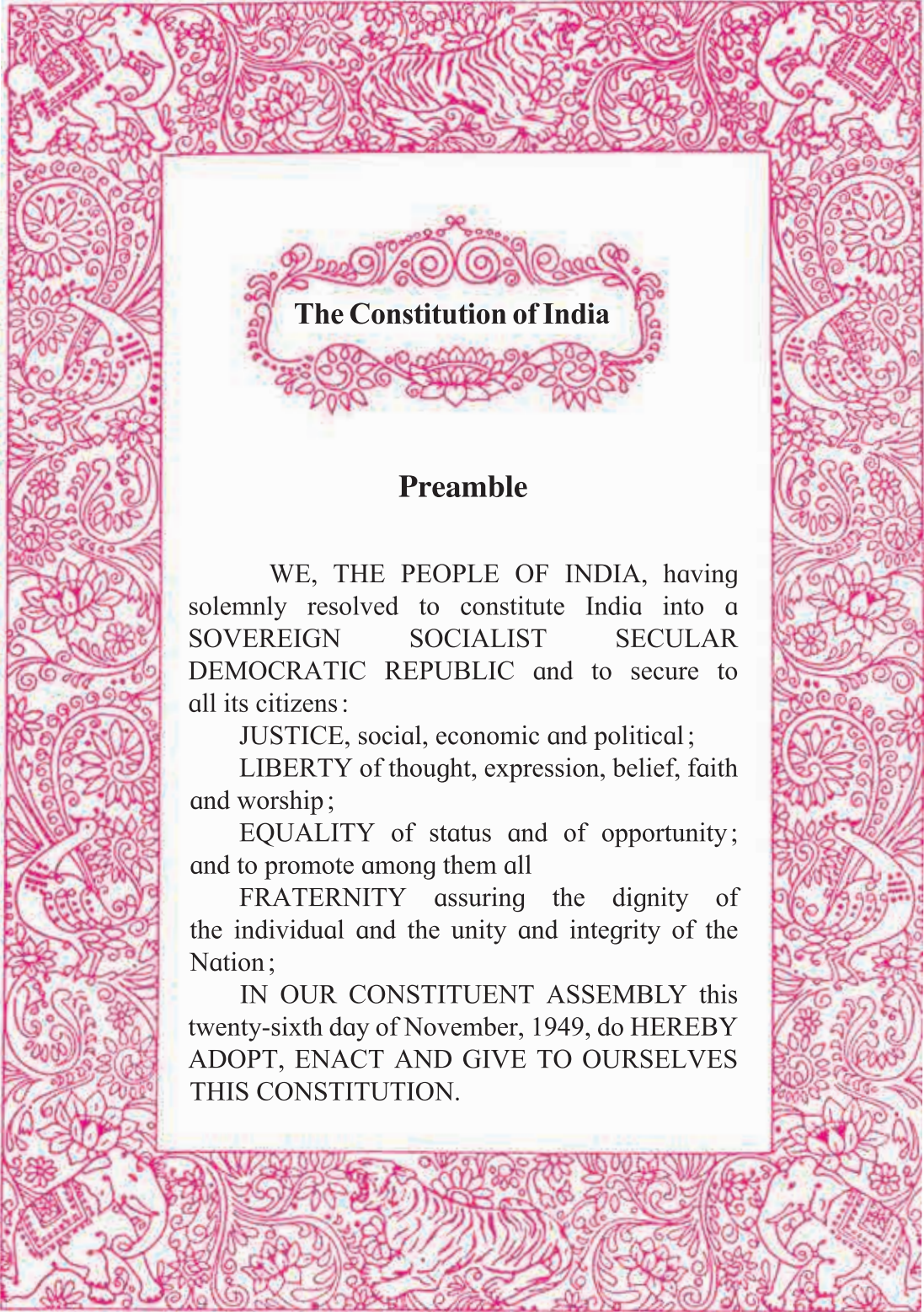
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The Constitution of India

Preamble

WE, THE PEOPLE OF INDIA, having solemnly resolved to constitute India into a SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC and to secure to all its citizens :

JUSTICE, social, economic and political ;

LIBERTY of thought, expression, belief, faith and worship ;

EQUALITY of status and of opportunity ; and to promote among them all

FRATERNITY assuring the dignity of the individual and the unity and integrity of the Nation ;

IN OUR CONSTITUENT ASSEMBLY this twenty-sixth day of November, 1949, do HEREBY ADOPT, ENACT AND GIVE TO OURSELVES THIS CONSTITUTION.

NATIONAL ANTHEM

Jana-gana-mana-adhināyaka jaya hē
Bhārata-bhāgya-vidhātā,

Panjāba-Sindhu-Gujarāta-Marāthā
Drāvida-Utkala-Banga

Vindhya-Himāchala-Yamunā-Gangā
uchchala-jaladhi-taranga

Tava subha nāmē jāgē, tava subha āsisa māgē,
gāhē tava jaya-gāthā,

Jana-gana-mangala-dāyaka jaya hē
Bhārata-bhāgya-vidhātā,

Jaya hē, Jaya hē, Jaya hē,
Jaya jaya jaya, jaya hē.

PLEDGE

India is my country. All Indians
are my brothers and sisters.

I love my country, and I am proud
of its rich and varied heritage. I shall
always strive to be worthy of it.

I shall give my parents, teachers
and all elders respect, and treat
everyone with courtesy.

To my country and my people,
I pledge my devotion. In their
well-being and prosperity alone lies
my happiness.

PREFACE

Maharashtra State Bureau of Textbook Production & Curriculum Research Panel, takes immense pleasure to introduce 'Logic' as a subject for Standard XI. Logic is a science of reasoning. 'Rationality is fundamental distinguishing characteristic of human beings'. This unique ability helps human to draw conclusions from the available information. Though ability to reason is an inbuilt feature of human beings, logicians have identified the rules of reasoning. Logic deals with the series of reasoning. In logic, students must understand principles of logic which enables them to distinguish between good and bad reasoning. Training in logic sharpens one's ability to reason correctly and detect fallacies in reasoning. Finally, logic, though a reference is a fundamental discipline, is useful to all branches of knowledge.

With this introduction of logic at Standard XI students will be able to understand arguments and connect with considerable maturity. Study of logic will enrich their ability of logical, analytical and critical thinking.

The aim of this textbook is to explain basic principles of logic and their applications. We have tried to make this textbook more interesting and activity based which will facilitate easy understanding of the subject and create interest in the subject. The textbook is written keeping in mind the needs of students from both rural and urban areas.

Various activity based questions, exercises, puzzles given in the textbook will help students to understand the basic concepts of logic and master the methods of logic. QR code is given on the first page of the textbook. You will like the information provided by it.

The Bureau of textbook is thankful to the Logic Subject Committee and Study Group, Scrutiny and Quality Reviewers and Artist for their dedication and cooperation in preparing this textbook.

Hope, Students, Teachers and Parents will welcome this textbook.



(Dr. Sunil Magar)

Director

Pune

Date : 01 June 2019

Indian Solar Date : 01 July 1941

Maharashtra State Bureau of

Textbook Production and

Curriculum Research Panel

For Teachers

We are happy to introduce the 'Logic' textbook for standard XI. As per the revised syllabus, two new topics are added in this textbook. These are: Origin and development of logic and Application of logic. Accordingly students will get brief information about historical development of Western as well as Indian logic. It will be interesting for students to know how logic has developed globally. Information about origin and development of Indian Logic will facilitate in enhancing their participation in student's mission. Indian are rich in this subject.

Logic is a fundamental subject and basis of all the branches of knowledge. This chapter, Application of logic illustrates the importance of logic in day to day life as well as in the important fields like - Law, Science and Computer science. This chapter will enable students to understand the importance of logical thinking while taking decisions in personal as well as professional life. They will also realize that taking rational decisions at right time can lead to success and happiness in life. Importance of logic can be highlighted by information systems, where study of logic can help them to appear for various competitive exams, which test their reasoning abilities.

Logic as an independent subject is introduced as standard XI. At this stage students begin to think independently and express their thoughts and opinions. Logic being the science of reasoning can help students in consistent and logical thinking. As teachers of logic it is our responsibility to train students to think rationally and reason correctly.

As Standard XI is the first year of studying logic, it is necessary for teachers to take into account students' age and level of understanding. Logic studies abstract concepts, so the important concepts in logic are to be explained step by step in easy to understand language and by giving examples and various activities in such a way that, students can relate the subject to their experiences in life. Keeping this in mind the textbook is made activity based. Teachers are expected to make use of various examples, teaching aids and activities like debates, logical puzzles and giving examples of good arguments and fallacies from everyday experience. In this way teaching and learning can become interesting and enjoyable experience for both the students and teachers.

Competency Statements

Competency

- To acquire knowledge and skills in logic.
- To understand the importance of logical thinking.
- To acquire knowledge and skills in formal concepts and principles of logic.
- To understand the types of arguments and develop the ability to recognize the types of arguments.
- To develop the ability of rational thinking.
- To understand the differences between each position.
- To study the characteristics of propositions.
- To understand the types of propositions and develop the ability to symbolize the propositions.
- To study the basic truth tables.
- To study the methods of truth table.
- To develop the ability to apply the method of truth table to decide whether a statement form is tautology or contradiction and the validity of arguments.
- To study the methods of deduction.
- To develop the ability to prove the validity of deductive arguments by the method of direct deduction.
- To understand the need and importance of induction.
- To acquire knowledge and skills in inductive arguments and their use in our day to day life and science.
- To develop the ability of recognizing the types of inductive arguments.
- To handle argumentation skills.
- To understand the different types of fallacies.
- To develop the ability of recognizing the types of fallacies.
- To develop the ability to easily and correctly detect errors in others arguments.
- To understand the application of logic in day to day life, in the field of law, science and Computer science.

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