

**Anekant Education Society's**  
**Tuljaram Chaturchand College of Arts, Science & Commerce, Baramati, Dist- Pune**  
**(Autonomous College)**

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**Department of LOGIC**

**Syllabus**

**Course Structure for S.Y.B.A. LOGIC (General)**

<b>Semester</b>	<b>Paper Code</b>	<b>Title of Paper</b>	<b>No. of Credits</b>
<b>III</b>	<b>UALO231</b>	<b>FORMAL LOGIC</b>	<b>3</b>

**Department of LOGIC**

**Syllabus**

**Course Structure for S.Y.B.A. LOGIC (General) (w. e. from June, 2023)**

**Academic Year 2023 – 2024**

**Class: S.Y.B.A. (Semester- III)**

**Paper Code: UALO231 Paper: G2**

**Title of Paper: Symbolic Logic**

**Credit: 3**

**No. of Lectures: 48**

**(60 - 40 pattern to be Implemented from 2023-2024)**

**Program Objective**

- I. To acquaint Students with Symbolic Logic**
- II. To introduce techniques of decision procedure and formal proof of validity**
- III. To introduce Deductive systems and symbolizations and derivations of first order Predicate logic**
- IV. To introduce complex symbolizations and derivations of second order predicate logic**

**Program Outcome**

- I. Student can acquire critical thinking ability.**
- II. It enhances logical reasoning capacity in the student.**
- III. It can be improving students analytical thinking capacity.**
- IV. It helps students to improve their decision-making power.**
- V. Student can do the logical decision at any situation.**

## Semester- III

### Unit 1: Symbolic Logic

- A. Introduction of Symbolic Logic.
- B. Classification of Propositions: Simple and Compound
- C. Basic Truth-functions

### Unit 2: Decision Procedure

- A. Determining Propositions as: Tautologies, Contradictory and Contingent
- B. Methods of Decision Procedure: Truth-table, Shorter Truth-table
- C. Exercises and examples

### Unit 3: Deductive proof

- A. Rules of Inference
- B. Types of deductive proof: Direct Proof and Conditional Proof
- C. Exercises of direct and conditional proof

### Unit 4: Set Theory

- A. Introduction to Set Theory
- B. Types of Set
- C. Exercises of set examples

### Readings:

#### Reference Book:-

1. Copi, I. M., Introduction to Logic, Macmillan Co. New York, 1986. (14th Edition)
2. Copi, I. M., Symbolic Logic, Macmillan Co. New York, 1995 (5th Ed.).
3. Patrick Suppes (Chapter on Set Theory)
4. Symbolic logic (4<sup>th</sup>ed.) I. M. Copi.
5. Formal logic : scope and limits
6. तर्कविद्या भाग १,२ डॉ. बी. आर. जोशी, प्रा. कुलकर्णी, प्रा. मठवाले
7. तर्कशास्त्र (पारंपरिक व सांकेतिक) – डॉ. सुनील ब. भोईटे
8. तर्कशास्त्र - श्रीनिवास दीक्षित
9. तर्कशास्त्राची मूलतत्त्वे वाडेकर दे.द.
10. सुलभ तर्कशास्त्र प्रा मुकुंद कदम
11. पारंपरिक तर्कशास्त्र - नांगरे, फडतारे, चौगुले, हिरवे, वाघमोडे