



**Anekant Education Society's**

**Tuljaram Chaturchand College, Baramati**

**(Autonomous)**

**Three Year B.A. Degree Program in Philosophy & Logic**

**(Faculty of Humanities)**

**CBCS Syllabus**

**T.Y.B.A. (Logic) Semester -V**

**For Department of Philosophy & Logic**

**Tuljaram Chaturchand College, Baramati**

**Choice Based Credit System Syllabus (2022 Pattern)**

**To be implemented from Academic Year 2024-2025**

**Anekant Education Society's  
TuljaramChaturchand College of Arts, Science and Commerce, Baramati  
(Autonomous)**

**Course & Credit Structure for T.Y.B.A. Logic (General) (2022 Pattern)**

<b>Class</b>	<b>Pattern</b>	<b>Semester</b>	<b>Course Code</b>	<b>Course Title</b>	<b>Course Type</b>	<b>Credits</b>
<b>T.Y. B.A.</b>	<b>2022</b>	<b>V</b>	UALO351	Logic and Methodology of Science-I	Theory	03
<b>T.Y. B.A.</b>	<b>2022</b>	<b>VI</b>	UALO361	Logic and Methodology of Science-II	Theory	03

**CBCS Syllabus TYBA Logic**  
**(w. e. from June, 2024)**

<b>Name of the Programme</b>	: B.A Philosophy & Logic
<b>Program Code</b>	: UALO
<b>Class</b>	: T.Y.B.A.
<b>Semester</b>	: V
<b>Course Type</b>	: General (G-3) (Theory)
<b>Course Name</b>	: Logic and Methodology of Science -I
<b>Course Code</b>	: UALO351
<b>No. of Lectures</b>	: 48
<b>No. of Credits</b>	: 03

**Course Objectives:**

1. To acquaint the students with some important issues regarding methodology of Science
2. To introduce major methodological approaches in Natural Sciences and Social Sciences
3. To provide an introduction to the basic principles of logic and the methodologies employed in the social sciences.
4. To introduce students to the principles of research design in the social sciences, including the formulation of research questions, hypotheses, and the selection of appropriate research methods.
5. To train students in the process of formulating and testing hypotheses using logical reasoning and statistical methods.
6. To apply logical reasoning to decision-making processes and policy analysis in the social sciences, emphasizing the role of evidence-based reasoning.
7. to train students to engage in constructive peer review and critique of social science research, evaluating the logical rigor of research designs and findings.

**Course Outcomes:**

- CO1. To know and remember specific facts, terms concepts, principles or theories  
CO2. To understand, interpret, compare, contrast, explain  
CO3. To apply knowledge to new situations to solve problems using required knowledge or skills  
CO4. To create something, to integrate ideas into a solution, to propose an action plan, to formulate a new classification scheme  
CO5. Students will demonstrate competence in applying causal reasoning to social science research  
CO6. Students will assess the validity and reliability of social science research  
CO7. Students will develop a disposition for lifelong learning, recognizing the dynamic nature of social science research and the ongoing exploration of new ideas and methodologies

## Semester- V UALO 351 G-3 Logic and Methodology of Science -I

Unit No.	Topics & Learning Points	No. of Hours
1	<b>Nature of science</b> A. Pure and applied Sciences. B. Commonsense and Science. C. Theory and fact. Role of theory and fact.	12
2	<b>Aristotle's causation theory</b> A. Aristotle's concept of cause B. Causation Theory (Material, Efficient, Formal and Final cause) C. Aristotle's concept Categories.	12
3	<b>Mill's theory of causation</b> A. Mill's Notion of Cause B. Mill's Method of Causal analysis. C. Mill's five methods	12
4	<b>Uses of logic</b> A. Personal and social life B. Science D. Computer	12

### Books for Reading:

1. Nagel E. The Structure of Science Problem in the Logic of Scientific Explanation MacMillan 1961.
2. Hempel C. G. Philosophy of Natural Science, Prentice Hall Englewood Cliff New Jersey 1966
3. Keat Russell Urry, Social Theory as science RKP London 1975
4. Ryan Alan Philosophy of social science MacMillan 1970
5. Lessnoff M.H. The Structure of Social Science: A Philosophical Introduction George Allan Unwin Ltd. London 1974.
6. R. Rudner Philosophy of Social Science Prentice Hall Englewood Cliff New Jersey 1966
7. सुरेंद्र बारलिंगे (१९७२), तर्करेखा, पुणे विद्यापीठ, पुणे
8. दॅ. द. वाडेकर संपादक (१९७४), मराठी तत्वज्ञान महाकोश खंड ३, पुणे.
9. दि. य. देशपांडे (१९७६), सांकेतिक तर्कशास्त्र, नागपूर.
10. डॉ. बी. आर. जोशी; प्रा. एस. व्ही. कुलकर्णी; प्रा. इ. आर. मठवाले (२००२), तर्कविद्या २, परभणी, स्वाती प्रकाशन.
11. प्रा. सौ. माधवी कवी (२००४), तत्वज्ञान प्रदीप, लातूर, विद्याभारती प्रकाशन.
12. प्रा. डॉ. सुनील भोईटे - तर्कशास्त्र (पारंपरिक आणि सांकेतिक)
13. Hempel C. G. Aspects of Scientific Explanation, Free Press New York, 1968
14. Benton, Ted. Philosophy of Social Science: Philosophical foundation of social thought. Craib Ian, Palgrave, New York.
15. Tucker, John, Philosophy of Social Science.
16. Deshpande S.S., Ghokale P.P., More S.S. (Eds.) VijnanaceTattvajnana, Granthali, Mumbai, 2006

## Choice Based Credit System Syllabus (2022 Pattern)

### Mapping of Program Outcomes with Course Outcomes

**Class:** TYBA (Sem V)

**Subject:** Logic

**Course:** Logic and Methodology of Science -I

**Course Code:** UALO351 (G-3)

**Weightage:** 1= weak or low relation, 2= moderate or partial relation, 3= strong or direct relation

### Mapping of Program Outcomes with Course Outcomes

Course Outcomes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO 1	2	1	1	2	3	2	1	2
CO 2	1	2	2	1	1	1	1	2
CO 3	2	2	1	2	1	2	3	1
CO 4	2	1	2	2	2	2	1	3
CO 5	3	2	3	3	3	2	1	2
CO 6	2	3	2	2	2	3	1	2
CO 7	1	2	1	1	1	1	2	1

### Justification for the mapping

#### PO1 Research-Related Skills:

- *Justification with CO:* CO3 involves applying knowledge to new situations to solve problems, which directly aligns with the research-related skills of planning, executing, and reporting the results of a research project, as outlined in PO1.

#### PO2 Effective Citizenship and Ethics:

- *Justification with CO:* CO5, which emphasizes the application of causal reasoning to social science research, aligns with the ethical dimension of effective citizenship. The ability to critically analyze and apply causal reasoning contributes to a more informed and ethically conscious approach to societal issues, as outlined in PO2.

#### PO3 Social Competence:

- *Justification with CO:* CO2 involves understanding, interpreting, comparing, contrasting, and explaining concepts. This aligns with the goal of expressing oneself clearly and precisely to build good interpersonal relationships, contributing to social competence as outlined in PO3.

#### PO4 Disciplinary Knowledge:

- *Justification with CO:* CO1 involves knowing and remembering specific facts, terms, concepts, principles, or theories. This directly aligns with the demonstration of disciplinary knowledge and its applications to the modern world, as outlined in PO4.

**PO5 Personal and Professional Competence:**

- *Justification with CO:* CO6, which involves assessing the validity and reliability of social science research, contributes to personal and professional competence. The ability to critically evaluate research findings enhances professional skills, aligning with PO5.

**PO6 Self-directed and Life-long Learning:**

- *Justification with CO:* CO7 explicitly aims at developing a disposition for lifelong learning, recognizing the dynamic nature of social science research. This aligns directly with the goal of self-directed and life-long learning in PO6.

**PO7 Environment and Sustainability:**

- *Justification with CO:* While not explicitly addressed in the listed Course Outcomes, the application of research skills and critical thinking to societal and environmental contexts in various courses contributes to awareness of environment and sustainability.

**PO8 Critical Thinking and Problem Solving:**

- *Justification with CO:* CO4, which involves creating something, integrating ideas into a solution, proposing an action plan, or formulating a new classification scheme, aligns with the critical thinking and problem-solving skills outlined in PO8. Additionally, CO5 and CO6 emphasize critical assessment, contributing to the development of higher-order cognitive skills.