

Ahmednagar Jilha Maratha Vidya Prasarak Samaj's
New Arts, Commerce and Science College, Ahmednagar
(Autonomous)

(Affiliated to Savitribai Phule Pune University, Pune)



Choice Based Credit System (CBCS)

Bachelor of Arts (B. A.)

Syllabus of

S. Y. B. A. Logic

Implemented from

Academic year 2022 -23

Ahmednagar Jilha Maratha Vidya Prasarak Samaj's
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Board of studies in Philosophy

Sr. No.	Name	Designation
1	Prof. Dr. Aman Waman Bagade	Chairman
2	Prof. Ganesh Nimase	Member
3	Dr. Vijayshreenath Kanchi	Vice-Chancellor Nominee
4	Dr. Gnyandev Upade	Academic Council Nominee
5	Dr. Sangeeta Pande	Vice-Chancellor Nominee
6	Dr. Sachin Rajput	Alumnus
7	Mr. Devdatta Joshi	Industry/Corporate Expert
8	Dr. Satish Kulkarni	Member (Co-Opt)
9	Dr. Jayshree Aher	Member (Co-Opt)
10	Dr. Prajkta Thube	Member (Co-Opt)
11	Dr. Kiran Ahirrao	Member (Co-Opt)

1. Prologue / Introduction of the Programme:

The objective of any program at Higher education institute is to prepare their students for the society. The Department of philosophy new Arts Commerce and Science College envisions all its programs in the best interest of their student and in this endeavour; it offers a new vision to all it's Under -Graduate courses. It imbibes a learning Outcomes based Curriculum Framework (LOCF) for all its Under Graduate Programmes.

The LOCF approach is envisioned to provide a focused, outcome-based syllabus at the undergraduate level with an agenda to structure the teaching- learning experience in a more student centric manner. The LOCF approach has been adopted to strengthen students' experiences as they engage themselves in the programmes of their choice. The Under graduate

programmes vividly elaborate its nature and promise the outcomes that are to be accomplished by studying the courses. The programmes also state the attributes that it offers to inculcate at the graduation level. The graduate attributes encompass values related to wellbeing emotional, stability, critical, thinking, social justice and skills for employability. In short, each programme of department of philosophy prepares students for sustainability and lifelong learning.

The new curriculum of B.A. 2nd Year (Philosophy, Gandhian Thought and Logic) offers an updated syllabus, which will bring students to the forefront of philosophical and logical debates in various areas of philosophy, viz, metaphysics, epistemology, ethics, logic, and aesthetics. The syllabus is a combination of traditional aspects of philosophy along with modern trends.

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S. Y. B. A. Logic & Principles of Reasoning

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Programme Structure and Course Titles

Sr. No.	Class	Semester	Course Code	Course Title	Credits
1.	F.Y.B.A.	I	BA-LOG101T	Traditional Logic	03
2.	F.Y.B.A.	II	BA-LOG201T	Propositional Logic	03
3.	S.Y.B.A.	III	BA-LOG301T	Deductive Proof	03
4.	S.Y.B.A.	IV	BA-LOG401T	Quantification and Relational Logic	03
5.	T.Y.B.A.	V	BA-LOG501T	Logic and Methodology of Science - I	03
6.	T.Y.B.A.	VI	BA-LOG601T	Logic and Methodology of Science - II	03

**New Arts, Commerce and Science College, Ahmednagar
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**S. Y. B. A. Logic & Principles of Reasoning: G2
Under
Faculty of Arts and Humanities**

Semester -III	Paper -I
Course Code: BA-LOG301T	Title of the Course – Deductive Proof
Credits: 03	Total Lectures: 45 Hrs.

Semester III: Deductive Proof

Outcomes:

1. To teach students to acquire pleasures in logical thinking.
2. To acquaint the student with the principles and techniques of Deductive Proof of validity and invalidity in Propositional Logic.
3. To acquaint the student with the principles and techniques of Axiomatic system.
4. To create awareness about the significance of logical thinking for academics and life in general.
5. To prepare students for university evaluation system and competitive examination.

Credit I: Deductive Proof and Proving Invalidity

Inductive logic

1. Nature and origin of Induction
2. Types of Induction:
 - A) Simple enumeration
 - B) Analogy
3. Inductive leap
4. Problem of induction and its solution
5. Hume's Criticism of Induction

Credit II: Deductive Proof and Proving Invalidity.

1. The Concept of deductive proof.
2. Rules of Inference and rules of replacement.
3. Nature and method of Direct proof
4. Proving validity of valid arguments in propositional logic by using direct proof Method.
5. The nature invalidity.
6. Use of the method of assigning truth-values to demonstrate the invalidity of invalid Arguments

Credit III: Axiomatic system

1. Nature of systematization.
2. Axiomatic System of P.M.
3. Characteristics of Axiomatic System.
4. Rules of Axiomatic system.
5. Types Axiomatic System.
6. Axiomatic System: first 15 theorems

References:

1. Copi, I. M., Introduction to Logic, Macmillan Co. New York, 1986.
2. Copi, I. M., Symbolic Logic, Macmillan Co. New York, 1995 (6th Ed.).
3. Hughes and Londe, Elements of Formal Logic, Methuen, London, 1965.
(Relevant chapters only)
4. Terrell, D.B., Logic: A Modern Introduction to Deductive Reasoning, Holt Reinhart and Winston, New York, 1967.
5. कावळे एस. आर. आणि गोळे लीला, 'सुगम आकारिक तर्कशास्त्र' पुणे विद्यापीठ प्रकाशन, पुणे, १९७२.
6. दि. य. देशपांडे, आणि सुनीती देव, 'सांकेतिक तर्कशास्त्र', कर्मयोग, सुशीला बलराज मार्ग, नागपूर.
7. बारलिंगे सुरेंद्र आणि मराठे मो. प्र., 'तर्करेखा' कॉन्टिनेन्टल प्रकाशन, पुणे-३०.
8. संतोष ठाकरे, तर्कशास्त्र, कुंभ प्रकाशन, अमरावती, २००१.
9. दर्यापूरकर, पारंपरिक तर्कशास्त्र, प्रकाशक : भूपाली दर्यापूरकर, १९७८, सोलापूर.
10. डॉ. बी. आर. जोशी. "तत्त्वज्ञान" - सामाजिक शास्त्रातील संज्ञा सिद्धांताचा कोश, कॉन्टिनेन्टल प्रकाशन, पुणे.

E-Content

(1) Online Downloadable Syllabus Based Study Materials

1. E-Content Learning - SPPU, Pune (Exam Purpose Module in English and Marathi):
<http://studyMaterials.unipune.ac.in:8080/jspui/>
2. Sunil Bhoite YouTube मराठी: श्रेयांक - घटकांची स्पष्टीकरणात्मक व्याख्याने
<https://www.youtube.com/channel/UC7JeiDxLgsjaRjX3mek8NDg>
3. PHILOSOPHER'S NOTES मराठी नोट्स : <http://philosophia.yolasite.com/>

(2) Online Downloadable Reading Study Materials – Articles.

1. Introduction to Logic <http://logic.stanford.edu/intrologic/public/index.php>
2. Deductive reasoning/deductive logic
https://en.wikipedia.org/wiki/Deductive_reasoning
3. Deductive and Inductive Arguments <https://www.iep.utm.edu/ded-ind/>
4. Rule of inference https://en.wikipedia.org/wiki/Rule_of_inference
5. List of rules of inference https://en.wikipedia.org/wiki/List_of_rules_of_inference

(3) Audio-Visual Materials

(A) YouTube

1. PHILO-notes, what Is Logic? - Introduction to Logic (05 minutes 14 secs.):
https://www.youtube.com/watch?v=oVgVz175Rdw&ab_channel=PHILO-notes
2. Mark Thorsby, Introduction to Formal Logic (Videos) :
<https://www.youtube.com/channel/UCh613185XS3ttEUA8UYnPuw>
3. A.V. Ravi Shankar Sarma, Identification of Arguments (54 minutes 50 secs.) :
https://www.youtube.com/watch?v=gfYwQ7oxDok&list=PLbMVogVj5nJS1F-yeDwn16nsuYrpSYzaO&ab_channel=nptelhrd
4. Mark Thorsby, Basic Concepts: Arguments, Premises, & Conclusions (35 minutes 5 secs.):
https://www.youtube.com/watch?v=qL6HMPOYIVs&list=PLS8vfA_ckeuz9UjAHhA1q-ROZGuE_h21V&ab_channel=MarkThorsby
5. What is an Axiom? (Philosophical Definition) (06 minutes 53 secs.):
https://www.youtube.com/watch?v=qSpKQfSnN44&ab_channel=Carneades.org
6. Lassonde Student, Axioms, Rules of Inference and Proofs in Predicate Logic (09 minutes 57 secs.):
https://www.youtube.com/watch?v=AWPQKvWBjIk&ab_channel=LassondeStudent

7. Mark Thorsby, Argument Forms: Proving Invalidity (26 minutes 44 secs.):

https://www.youtube.com/watch?v=bCuqts1f2NU&ab_channel=MarkThorsby

8. Mark Thorsby, Predicate Logic: Finite Universe Method (01 hour 08 minutes 52secs.):

https://www.youtube.com/watch?v=x6lnBtOS6E0&ab_channel=MarkThorsby

(B) Films (Recommended)

1. Philosophy and Film Database: Logic/Critical thinking:

<https://libguides.newcastle.edu.au/philosophyandfilmdatabase/logic>

Semester- IV: Predicate and Relational Logic

Semester -IV	Paper -II
Course Code: BA-LOG401T	Title of the Course – Predicate and Relational Logic
Credits: 03	Total Lectures: 45 Hrs.

Outcomes:

1. To acquaint the student with Predicate logic and Rules of Quantification.
2. To equip students with the logic of relations.
3. To acquaint the student to the pleasures in logical thinking.

Credit I: Predicate Logic

1. Nature and need of Predicate Logic.
2. Singular and General Propositions.
3. Constants and Variables (Individual and Predicate)
4. Propositional functions.
5. Substitution instances.
6. Instantiation and Quantification.

Credit II: Research Methodology

1. Nature and utility of research methodology
 2. Research Methodology in social sciences
 3. Nature scope and use of data collection:
 4. Method of data collection
 - A) Survey,
 - B) Observation,
 - C) Questionnaire,
 - D) Interview.
- (Nature, types, merits and limitations of each method)

Credit III: Relational Logic

1. Nature of relational logic: as an extension of Predicate logic.
2. Properties of dyadic relations.
3. The logical structure of relational proposition.

4. Kinds of relational propositions according to the number of relata.
5. Symbolizing relational proposition

References:

1. Copi, I. M., Introduction to Logic, Macmillan Co. New York, 1986.
2. Copi, I. M., Symbolic Logic, Macmillan Co. New York, 1995 (6th Ed.)
3. Hughes and Londe, Elements of Formal Logic, Methuen, London, 1965.
(Relevant chapters only)
4. Robert Lata and Alexander Macbeth, The elements of Logic (Macmillan & Co. Ltd).
5. कावळे एस. आर. आणि गोळे लीला, 'सुगम आकारिक तर्कशास्त्र' पुणे विद्यापीठ प्रकाशन, पुणे, १९७२.
6. दि. य. देशपांडे, आणि सुनीती देव, 'सांकेतिक तर्कशास्त्र', कर्मयोग, सुशीला बलराज मार्ग, नागपूर.
7. बारलिंगे सुरेंद्र आणि मराठे मो. प्र., 'तर्करेखा' कॉन्टिनेन्टल प्रकाशन, पुणे-३०.
8. संतोष ठाकरे, तर्कशास्त्र, कुंभ प्रकाशन, अमरावती, २००१.
9. दर्यापूरकर, पारंपरिक तर्कशास्त्र, प्रकाशक : भूपाली दर्यापूरकर, १९७८, सोलापूर.
10. डॉ. बी. आर. जोशी. "तत्त्वज्ञान" - सामाजिक शास्त्रातील संज्ञा सिद्धांताचा कोश, कॉन्टिनेन्टल प्रकाशन, पुणे.

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2. Philosopher's Notes मराठी नोट्स : <http://philosophia.yolasite.com/>

(2) Online Audible Syllabus Based Study Presentations.

Sunil Bhoite YouTube मराठी : श्रेयांक - घटकांची स्पष्टीकरणात्मक व्याख्याने

<https://www.youtube.com/channel/UC7JeiDxLgsjaRjX3mek8NDg>

(3) Online Downloadable Reading Materials- Books, Articles, etc.

1. Terrell, D.B., Logic: A Modern Introduction to Deductive Reasoning, Holt Reinhart and Winston, New York, 1967:
<https://archive.org/details/logicmodernintro0000terr>.
2. Irving M. Copi. Carl Cohen Kenneth McMahan, Introduction to Logic.
<http://angg.twu.net/tmp/2016optativa/copiintroductiontologic.pdf>

3. Neidorf, Robert, Deductive forms : an elementary logic:
<https://archive.org/details/deductiveformse10000neid>
4. Relational Logic http://logic.stanford.edu/intrologic/lectures/lecture_06.pdf
5. Relational Logic :
http://intrologic.stanford.edu/chapters/chapter_06.html#:~:text=In%20Relational%20Logic%2C%20the%20precedence,both%20quantifiers%20and%20logical%20operators.

(4) Audio-Visual Materials

(A) YouTube

1. Introduction to Proofs in Predicate Logic (08 minutes 36 secs.):
https://www.youtube.com/watch?v=rWsoUhFGWN8&ab_channel=LassondeStudent
2. Predicate Logic: Predicate and Quantifier –INTRODUCTION Hindi (11 minutes 14 secs.) :
https://www.youtube.com/watch?v=lxNaLc8riHY&ab_channel=UniversityAcademy-Formerly-IPUniversityCSE%2FIT
3. Quantification Theory (30 minutes 13 secs.) :
https://www.youtube.com/watch?v=27AlkKV7A14&ab_channel=Ch-02%3ASANSKRITI%5BArts%2CHistory%2CPhilosophy%5D
4. Universal Quantifier, Existential Quantifier, Inference Rule for Quantifiers (05 minutes) :
https://www.youtube.com/watch?v=HRncRYBDggA&ab_channel=StudyYaar.com

(B) Films (Recommended)

1. Philosophy and Film Database: Logic/Critical thinking:
<https://libguides.newcastle.edu.au/philosophyandfilmdatabase/logic>