Deccan Education Society's
FERGUSSON COLLEGE (AUTONOMOUS), PUNE

Syllabus

for

S. Y. B. A. Logic

[Pattern 2019]

(B.A. Semester-III and Semester-IV)

From Academic Year

2020-21

Fergusson College (Autonomous), Pune

Structure of S.Y.B.A. – Faculty of Arts and Humanities

Under CBCS pattern (2019-20) ***effective from June 2020***

Equivalence Syllabus for Department of Philosophy (Subject – Logic)

SY BA	New CBCS Pattern	Old /Existing Pattern
Sem III	CC (3 credits) **PHI2301**: Title: Predicate Logic I	General Paper 2 Title: First Order Predicate Logic

Note: SEC 1A is CC '1 or 2' (General paper for other department students)

SY BA	New CBCS Pattern	Old /Existing Pattern
Sem III	CC (3 credits) **PHI2401**: Title: Predicate Logic II	General Paper 2 Title: Second Order Predicate Logic

Note: SEC 1B is CC-'1 or 2' (General paper for other department students)

S.Y. B.A. Semester III

Subject: LOGIC
CC (LOG2301): Paper title Predicate Logic I

[Credits-3]

Course Outcomes

At the end of this course, students will be able to

CO1 Identify the limits of propositional logic and explain the need for Predicate and Relational Logic
CO2 Use quantificational rules to prove validity of arguments in Predicate Logic
CO3 Demonstrate invalidity of arguments in Predicate Logic
CO4 Acquire the basics of Critical Thinking.

Unit	Details	Lectures
I	-Need for Predicate Logic, difference in approach between Traditional logic and Predicate Logic - Singular and General Propositions, Propositional functions and Substitution instances; Instantiation and Quantification - Set of symbols for symbolizing general propositions; Evaluation of the square of opposition of traditional logic; Exercises in symbolizing general propositions	**[12]**
II	- Need for quantification rules - Nature, form and use of Quantification rules (Preliminary version), Rule of quantificational negation (Q.N.) - Proving the validity of arguments involving quantification rule (preliminary version)	**[12]**
III	-The basis for demonstration of invalidity of arguments - Method of demonstrating invalidity of arguments in Predicate logic - Exercises in demonstrating invalidity of arguments in predicate logic	**[12]**
IV	Critical Reasoning What is Critical Reasoning -Its benefits and barriers -Critical Reasoning and Logic -Identifying Arguments – Premises, Hidden Premises, Conclusions, Intermediate Conclusions	**[12]**

Books-

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. An Introduction to Critical Thinking, Madhucchanda Sen, Pearson
4. Critical Reasoning – A Practical Introduction, Anne Thomson, 3rd Edition, Routledge

S.Y. B.A. Semester IV

Subject: Logic
CC (LOG2401): Paper title: Predicate Logic II

[Credits-3]

Course Outcomes

At the end of this course, students will be able to

CO1 Differentiate between singly general and multiply general propositions
CO2 Identify errors in application of revised quantification rules
CO3 Analyse the structure of a relational proposition
CO4 Evaluate the approaches to problem of induction and its formal and material grounds

Unit	Details	Lectures
I	- The nature and definition of multiply general propositions - Exercises in symbolizing multiply general propositions	**[12]**
II	- Need for revising the preliminary quantification rules; Revised form of quantification rules - Exercises pertaining to erroneous proofs - Exercises in proving the validity of arguments involving the use of revised Quantification rules, proof of logical truths involving quantifiers	**[12]**
III	- Predicates and relations; Relational Logic as an extension of Predicate logic; The logical structure of relational proposition - Symbolizing relational propositions - Proving validity of arguments involving relational propositions - Properties of dyadic relations - Enthymeme. Proving validity of relational Enthymemic arguments	**[12]**
IV	-Induction and Deduction Revisited - Simple Enumeration, Analogy, Scientific Induction, -The problem of Induction, Hume on Induction - Scientific hypothesis, Conditions of acceptability of hypothesis	**[12]**

Books-

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.).