GENERIC ELECTIVES (GE-9): Formal Logic

Credit distribution, Eligibility and Pre-requisites of the Course

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course	Department offering the course
		Lecture	Tutorial	Practical/ Practice			
Formal Logic GE 9	4	3	1	Nil	UG 1st year	None	Philosophy

Learning Objectives

- This course is designed as an introductory course in logic which will bring out the standard forms of Formal reasoning.
- It introduces the basic logical concepts and provides a clear understanding of the structure of arguments and the nature of inferential reasoning.
- It equips students with the logical skills and techniques for formal testing of syllogistic arguments.

Course Learning Outcomes

- The student's reasoning skill will be enhanced. The student will learnways for testing and recognizing strong arguments.
- After this course, the student will be able to construct good arguments and helps them develop skills with which they can discern the distinction between the valid and the invalid argumentation through several differentmethods.

UNIT I: BASIC LOGICAL CONCEPTS   (9 hours)

1. Sentence and Proposition
2. Classification of Categorical Propositions
3. Quality, Quantity and Distribution of Terms
4. Truthand Validity

Essential/Recommended Readings

Topic 1. Copi, Irving M., Cohen, Carl, and McMahon, Kenneth. Introduction toLogic. 14th ed. Pearson New International Edition, 2014. Ch 1, pp 2-5.
Topic 2. Copi, Irving M., Cohen, Carl, and McMahon, Kenneth. Introduction toLogic. 14th ed. Pearson New International Edition, 2014. Ch 5, pp 170-173.
Topic 3. Copi, Irving M., Cohen, Carl, and McMahon, Kenneth. Introduction toLogic. 14th ed. Pearson New International Edition, 2014. Ch 5, pp 174-177.
Topic 4. Copi, Irving M., Cohen, Carl, and McMahon, Kenneth. Introduction toLogic. 14th ed. Pearson New International Edition, 2014. Ch 1, pp 27-31.

UNIT II: - ARISTOTELIAN LOGIC   (12 hours)

1. Translating ordinary sentences into Standard Form Categorical Propositions
2. Traditional Square of Opposition
3. Immediate Inference (Conversion, Obversion and Contraposition)
4. Mediate Inference: Standard Form Categorical Syllogism -Mood and Figure
5. Testing Validity/Invalidity of Syllogism by Syllogistic Rules

Essential/Recommended Readings:
Topic 1. Copi, Irving M., Cohen, Carl, and McMahon, Kenneth. Introduction toLogic. 14th ed. Pearson New International Edition, 2014. Ch 7, pp 259-268.
Topic 2. Copi, Irving M., Cohen, Carl, and McMahon, Kenneth. Introduction toLogic. 14th ed. Pearson New International Edition, 2014. Ch 5, pp 180-184.
Topic 3. Copi, Irving M., Cohen, Carl, and McMahon, Kenneth. Introduction toLogic. 14th ed. Pearson New International Edition, 2014. Ch 5, pp 184-192.
Topic 4. Copi, Irving M., Cohen, Carl, and McMahon, Kenneth. Introduction toLogic. 14th ed. Pearson New International Edition, 2014.Ch 6, pp 211-216.

Topic 5. Copi, Irving M., Cohen, Carl, and McMahon, Kenneth. Introduction to Logic. 14th ed. Pearson New International Edition, 2014. Ch 6, pp 230-240.

UNIT III: BOOLEAN LOGIC AND VENN DIAGRAM   (12 hours)

1. Existential Import and the Boolean Interpretation of Categorical Propositions
2. Boolean Square of Opposition
3. Symbolic Representation of Categorical Propositions
4. Testing Validity/Invalidity of Categorical Syllogism by Venn Diagram

Essential/ Recommended Readings

Topic 1. Copi, Irving M., Cohen, Carl, and McMahon, Kenneth. Introduction to Logic. 14th ed. Pearson New International Edition, 2014. Ch 5, pp. 193-199.
Topic 2Copi, Irving M., Cohen, Carl, and McMahon, Kenneth. Introduction to Logic. 14th ed. Pearson New International Edition, 2014. Ch 5, pp 201-202.
Topic 3. Copi, Irving M., Cohen, Carl, and McMahon, Kenneth. Introduction to Logic. 14th ed. Pearson New International Edition, 2014. Ch 5, pp 203-206.
Topic 4. Copi, Irving M., Cohen, Carl, and McMahon, Kenneth. Introduction to Logic. 14th ed. Pearson New International Edition, 2014. Ch 6, pp 219-230.

UNIT IV: PROPOSITIONAL LOGIC   (12 hours)

1. Importance of Symbolic logic
 2. Logical constants, Variables and basic truth functions (Negation, Conjunction, Disjunction (Alternation), Conditional (Material Implication), Bi-conditional (Material Equivalence)
3. Symbolization of statements
4. Logical Status of Statements: Tautologous, Contingent, Contradictory
5. Proving Validity/Invalidity: Truth Table Method & Reductio ad absurdum
Essential/ Recommended Readings

Topic 1. Copi, Irving M., Cohen, Carl, and McMahon, Kenneth. Introduction to Logic. 14th ed. Pearson New International Edition, 2014. Ch 8, pp. 305-306.
Topics2 and 3.Copi, Irving M., Cohen, Carl, and McMahon, Kenneth. Introduction to Logic. 14th ed. Pearson New International Edition, 2014. Ch 8, pp. 306-327; pp. 344-345.
Topic 4. Copi, Irving M., Cohen, Carl, and McMahon, Kenneth. Introduction to Logic. 14th ed. Pearson New International Edition, 2014. Ch 8, pp. 343-344.
Topic 5. Copi, Irving M., Cohen, Carl, and McMahon, Kenneth. Introduction to Logic. 14th ed. Pearson New International Edition, 2014. Ch 8, pp. 332-334.

Suggestive Readings

1. Copi, Irving M., Cohen, Carl, and McMahon, Kenneth. Introduction to Logic. 14th ed. Pearson New International Edition, 2014.
2. Cavendish, A. P., and O'Connor, D. J., Introduction to symbolic logic. London: University Tutorial Press, 1959. Additional Resources: Jain, Krishna. A Textbook of Logic. New Delhi: D.K. Printworld, 2018.

GENERIC ELECTIVES (GE-10):

Credit distribution, Eligibility and Pre-requisites of the Course

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course	Department offering the course
		Lecture	Tutorial	Practical/ Practice			
Readings in Western Philosophy GE 10	4	3	1	Nil	UG 1st year	None	Philosophy

Learning Objectives

- This course will critically examine the basic text of some philosophers.

- This course will introduce students to selected themes in philosophy like existentialism, the value of philosophy, love, self, etc.

- The course will develop the student's curiosity to explore philosophy further in a more fruitful manner

Course Learning Outcomes

- After completing this course, the student will understand the central themes on which great philosophers have written

- The student will appreciate the genesis of the enlightenment and its reliance on reason

- The student will be able to connect ancient themes in philosophy with contemporary themes in a seamless way

Unit 1: Greek Philosophy   **(9 hours)**

1. Love

2. Madness