**Programme:** M.A. (Philosophy)

**Course Code:** PHI-502      **Title of the Course:** Logic

**Number of Credits:** 4

**Effective from AY:** 2022–23

| Pre-requisites for the Course: | NIL | |
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| Course Objective: | To develop an understanding of the various methods, namely Truth Tables, Shorter Truth Tables, Truth Trees, and Formal Proofs. | |
| Content: | 1. **Truth Tables:** <br> Classification of statements into Tautology, Contingency and Contradiction. <br> Determining the validity of arguments. | 15 hours |
| | 2. **Shorter Truth Tables:** <br> Determining whether the statement is a tautology or not. <br> Determining the validity of arguments. | 10 hours |
| | 3. **Truth Trees:** <br> Rules used in Truth Trees. <br> Determining the validity of arguments. | 15 hours |
| | 4. **Formal Proof of Validity:** <br> Rules of Inference. <br> Rules of Replacement. <br> Proving the validity of arguments. | 20 hours |
| Pedagogy: | Lectures, tutorials, and assignments. | |
| References/ Readings: | 1. I. M. Copi, *Symbolic Logic*. New Jersey: Pearson Publications, 2005. <br> 2. I. M. Copi, C. Cohen, and McMahon, *Introduction to Logic*. New York: Macmillan, 2012. <br> 3. William Gustafson and Dolph E. Ulrich, *Elementary Symbolic Logic*. U.S.A.: Waveland Press, 1989. | |
| Course Outcomes: | 1. Using the method of truth table to test arguments and statements. <br> 2. Using shorter truth table to test arguments and statements <br> 3. Using the truth-tree method to test arguments and | |

| | 4. Application of formal proofs for testing arguments. statements | |
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| Prerequisites for the Course: | Nil | |
|---|---|---|
| Course Objective: | To develop an understanding of the various methods, namely Truth Tables, Shorter Truth Tables, Truth Trees, and Formal Proof. | |
| Content: | 1. **Truth Tables** <br> Classification of statements into Tautology, Contingency and Contradiction. <br> Determining the validity of arguments. | 15 hours |
| | 2. **Shorter Truth Tables** <br> Determining whether the statement is a tautology or not. <br> Determining the validity of arguments. | 20 hours |
| | 3. **Truth Trees** <br> Rules used in Truth Trees. <br> Determining the validity of argument? | 15 hours |
| | 4. **Formal Proof of validity** <br> Rules of inference. <br> Rules of replacement. <br> Proving the validity of arguments. | 20 hours |
| Pedagogy: | Lectures, tutorials, and assignments. | |
| Reference/ Readings: | 1. M. Ben-Ari, Symbolic logic (New Jersey: Nelson Publication, 2005). <br> 2. I. M. Copi, C. Cohen, and McMahon, Introduction to logic (New York:Macmillan, 2011. <br> 3. William Gustason and Dolph E. Ulrich, Elementary Symbolic Logic (U.S.A.: Waveland Press, 1989) | |
| Course Outcomes: | 1. Using the method of Truth table to write arguments and statements as. <br> 2. Using Shorter truth table to test arguments and statements. <br> 3. Using the truth tree method to test arguments and | |