

Course Code	Course Title	C	H	I	E	T
<b>17U1MSM1</b>	<b>Major Skill Based Elective– I : Switching Theory</b>	2	2	25	75	100

**Unit I Number system and Codes 6 Hrs**

Number representation- Conversion of bases - Binary arithmetic - Binary codes weighted and non-weighted codes.

**Unit II Switching Algebra 6 Hrs**

Fundamental postulates – Basic properties – Switching expressions and their manipulation – De’ Morgan’s theorem.

**Unit III: Switching Function 6 Hrs**

Definition - Simplification of expression – Canonical forms-functional properties-exclusive-OR operation-functionally complete operations.

**Unit IV:Isomorphic System 6 Hrs**

Series – Parallel switching circuits –Propositional calculus-Electronic gate networks – Boolean algebras.

**Unit V: Minimization of Switching Function 6 Hrs**

Introduction – The map method – Simplification and minimizing of functions – Determination of the minimal product of the sums – Don’t care combination-The five-variable map.

**Text Book:**

1. Zvikhovian and Niraj K. Jha, Switching and Finite Automata Theory , 3<sup>rd</sup> Edition 2010, Cambridge University Press.

**Chapters:** 1(1.1,1.2), 3 & 4 (4.1, 4.2).

**Reference Books:**

1. Anita Goel and Ajay Mittal, Computer Fundamentals and Programming in C, Second Impression (2014), by Pearson (India).
2. A.P. Godse and D. A. Godse, Switching Theory and Logic Design by, 1<sup>st</sup> Edition 2009, Technical Publications.