

CC-4 (Theory): Discrete Structures

Follow E-Book of Discrete Mathematics, Schaum Series Book, Attached in WhatsApp Group

Important Topics: Sets - finite and infinite sets

Chapter 1: **Set Theory**

1.1 INTRODUCTION

1.2 SETS AND ELEMENTS, SUBSETS

Theorem 1.1: Let A, B, C be any sets. Then:

(i) $A \subseteq A$

(ii) If $A \subseteq B$ and $B \subseteq A$, then $A = B$

(iii) If $A \subseteq B$ and $B \subseteq C$, then $A \subseteq C$

Universal Set, Empty Set

Disjoint Sets

1.4 SET OPERATIONS

Theorem 1.3

Theorem 1.4

Complements, Differences, Symmetric Differences

Fundamental Products

ALGEBRA OF SETS, DUALITY

1.6 FINITE SETS, COUNTING PRINCIPLE

Corollary 1.7

Corollary 1.8

Inclusion–Exclusion Principle

Theorem (Inclusion–Exclusion Principle) 1.9

Corollary 1.10

1.7 CLASSES OF SETS, POWER SETS, PARTITIONS