



Sandip Foundation's
SANDIP INSTITUTE OF TECHNOLOGY AND RESEARCH CENTRE
Department of Computer Engineering

Assignment No 1: Set Theory and logic

Answer the following questions

Que 1: Discuss on naive set theory and axiomatic set theory.

Que 2: How many integers from 1-1000 are divisible by 2,3,5 or 7 using principle of inclusion exclusion

Que 3: Define multiset. Explain operations on Multiset.

Que 4: Show that the sum of the cubes of three consecutive natural number is divisible by 9 for all 'n' using principle of mathematical induction.

Que 5: Write shortnote on :

- i. Countable and Uncountable set
- ii. Finite and infinite Set
- iii. Bounded and Unbounded Set
- iv. Venn Diagram

Que 6: Translate the following into logical notations:

- i. For any value of x , x^2 is non-negative.
- ii. All men are mortal
- iii. There exist a man
- iv. Some men are clever
- v. For real number x and y , if x is positive and y is negative, then xy is negative.
- vi. The sum of two positive integers is always positive.

Prof. Sandip Walunj
Subject Teacher

Dr. Amol D. Potganwar
HOD (Computer Engg.)