General Introduction

CAPTER 1

1. Global report on HIV infection
2. Human Immunodeficiency Virus (HIV)
3. HIV life cycle
4. HIV classification and subtypes
5. HIV genome structure and function
6. Structures of Protease and Reverse Transcriptase
7. HIV treatment and Drugs
8. Drug resistance in HIV

CHAPTER 2

1. Sequencing Technologies
   1. Dideoxy Chain Termination method (Sanger’s convention bulk sequencing)
   2. Next Generation Sequencing Technologies
      1. Roche 454 Genome Sequencer
      2. Illumina/Solexa genome analyzer
      3. Applied BioScience SOLiD sequencer
      4. Polonator
   3. Third Generation Sequencing Technologies
      1. Ion Torrent
      2. Helicos BioSciences single molecule sequencing
      3. Pacific Biosciences single molecule real time (SMRT) sequencing
      4. NABsys’ Hybridization-Assisted Nanopore Sequencing (HANS) platform