List of topics for HKBU/SFU Double Degree Entrance Exam

I. Calculus
a. Differential Calculus
    - Limits: definition, properties and evaluation
    - Definition of the derivative
    - Techniques of differentiation: product rule, chain rule, etc.
    - Applications of differentiation: rate of change, l'Hospital's rules,
      mean value theorem, etc.
b. Integral Calculus
    - Definition and properties of the Riemann integral
    - Techniques of integration, change of variables, integration by parts
    - Improper integrals

II. Probability and Statistics
    - Probability distribution: definition and properties
    - Discrete vs continuous probability distribution
    - Random variables: mean and variance
    - Applications of probability