1. **Compound interest**
   - Balance formula
     \[ B = P \left( 1 + \frac{r}{n} \right)^{nt} \quad \text{and} \quad B = Pe^{rt} \]
   - Effect annual yield.

2. **Estimate rate of change at a particular point from a table of values**
   - a. Estimate derivatives when the function is given by table values.
   - b. Estimate \( f'(c) \) from the table if the values \( f(c + a) \) and \( f(c - a) \) are given.

3. **Derivative functions, graphs involving derivatives**
   - Sketch the graph of \( f'(x) \) from a given graph of \( f(x) \).
   - Sketch a graph of a function given some information of \( f'(x) \).

4. **Method of small interval for estimating derivatives.**
   \[ f'(x) \approx \frac{f(x+0.01)-f(x-0.01)}{0.02} \]
   This will be useful when applying formulae is not convenient. (The formula works well if the slope of \( f \) does not vary much between \( x - 0.01 \) and \( x + 0.01 \)).

5. **Linear Approximation**
   \[ \Delta y \approx f'(x) \Delta x \]
   That is: \( f(b) - f(a) \approx f'(a)(b - a) \).
   Or, in another form: \( f(b) \approx f(a) + f'(a)(b - a) \).

6. **Basic formulae of derivatives.**
   - a. \((kx^p)' = kpx^{p-1}, \ (a^x)' = (\ln a)a^x, \ (\ln x)' = \frac{1}{x} \)
   where \( k, a > 0 \) and \( p \) are constants.
   - b. Derivatives of polynomials.

7. **Chain rules.**
   - a. **Power chain rule.** \( y = (f(x))^n, \ y' = n[f(x)]^{n-1} \cdot f'(x) \).
   - b. **Exponential chain rule.** \( y = e^{f(x)}, \ y' = e^{f(x)} \cdot f'(x) \).
   - c. **Logarithmic chain rule.** \( y = \ln f(x), \ y' = \frac{f'(x)}{f(x)} \).

8. **Product rule** \( (fg)' = f'g + fg' \) and quotient rule \( (f/g)' = (f'g - fg')/g^2 \).

9. **Applications**
• a. **Economical applications**: Marginal cost, Marginal revenue, Maximum profit. Decreasing and increasing of profits in economical decisions.

• b. **Geometric applications**: Slope of a curve and equation of the line tangent to a curve at a given point.