Formula sheet:

📘CHAPTER 1 - Introduction to MIcroeconomics

- **No formulas**

📘 CHAPTER 2 – Consumer Equilibrium

- **MUx / Px = MUy / Py** (Utility Maximization Condition)
- **MUx = Px** (In case of single commodity and constant price)

📘 CHAPTER 3 – Demand

- **Individual Demand Function:** Qd = f(Px, M, Py, T, E)
- **Market Demand:** Σ (Individual Demands)

📘 CHAPTER 4 – Elasticity of Demand

1. **Price Elasticity (Ep):**
    - Point Method: **Ep = (-) dQ/dP × P/Q**
    - Arc Method: **Ep = (ΔQ/ΔP) × (P1 + P2) / (Q1 + Q2)**
2. **Income Elasticity (Ey):**
   Ey = (% change in Quantity Demanded) / (% change in Income)
3. **Cross Elasticity (Ec):**
   Ec = (% change in Quantity Demanded of X) / (% change in Price of Y)

📘 CHAPTER 5 – Production Function

- **Total Product (TP):** Sum of output produced by all units of a factor.
- **Average Product (AP): AP = TP / Units of Input**

- **Marginal Product (MP): $MP = \Delta TP / \Delta \text{Units of Input}$**

📘 CHAPTER 6 – Cost

- **Total Cost (TC):** TC = TFC + TVC
- **Average Fixed Cost (AFC):** AFC = TFC / Q
- **Average Variable Cost (AVC):** AVC = TVC / Q
- **Average Total Cost (ATC or AC):** AC = TC / Q
- **Marginal Cost (MC):** $MC = \Delta TC / \Delta Q$

📘 CHAPTER 7 – Revenue

- **Total Revenue (TR):** TR = Price × Quantity
- **Average Revenue (AR):** AR = TR / Q = Price
- **Marginal Revenue (MR):** $MR = \Delta TR / \Delta Q$

📘 CHAPTER 8 – Producer’s Equilibrium

- **MR = MC** (and MC cuts MR from below)

📘 CHAPTER 9 – Supply

- **Supply Function:** Qs = f(Px, Prices of related goods, Technology, Cost of inputs, Goals of producers)
- **Price Elasticity of Supply (Es):**
    - Point Method: $Es = (dQ/dP) \times (P/Q)$
    - Arc Method: $Es = (\Delta Q/\Delta P) \times (P1 + P2) / (Q1 + Q2)$

📘 CHAPTER 10 – Main Market Forms

- **TR, AR, MR relations:**
  - Perfect Competition: AR = MR = Price
  - Monopoly: AR > MR

📘 CHAPTER 11 – Price Determination

- **Equilibrium Condition:** Qd = Qs
- **Shortage:** Qd > Qs → Price rises
- **Surplus:** Qd < Qs → Price falls