1. **Price Elasticity of Demand**

$$PED = \frac{\%\ change\ in\ quantity\ demanded}{\%\ change\ in\ price}$$

2. **Cross Elasticity of Demand**

$$XED = \frac{\%\ change\ in\ quantity\ demanded\ for\ Good\ X}{\%\ change\ in\ price\ of\ Good\ Y}$$

Where:
Positive XED => products are substitutes
Negative XED => products are complements or jointly demanded.

3. **Income Elasticity of Demand**

$$YED = \frac{\%\ change\ in\ quantity\ demanded}{\%\ change\ in\ income}$$

Where:
Positive YED => Normal Goods
Negative YED => Inferior Goods

4. **Price Elasticity of Supply**

$$PES = \frac{\%\ change\ in\ quantity\ supplied}{\%\ change\ in\ price}$$

5. **Slope of Indifference Curve** (for Good X and Good Y)

$$Slope_{\boldsymbol{IC}} = \frac{MU_{\boldsymbol{x}}}{MU_{\boldsymbol{y}}}$$

Where:

MU_x = Marginal Utility of Good X

MU_y = Marginal Utility of Good Y

6. **Budget Line** (for Good X and Good Y)

$$I = Q$$

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Where:

Q_x = Quantity of Good X	P_x = Price of Good X	I = Income
Q_y = Quantity of Good Y	P_y = Price of Good Y	

Rate of Exchange between Y and X = Slope of Budget Line

7. Consumer Equilibrium or Equimarginal Principle

Consumer Equilibrium is attained at the point where Indifference Curve (IC) is tangent to the Budget Line (BL).

8. Average Product (AP)

9. Marginal Product (MP)

10. Average Fixed Cost (AFC)

11. Average Variable Cost (AVC)

12. Total Cost (TC)

Total Cost = Fixed Cost + Variable Cost

When Output is Zero *Total Cost = Fixed Cost*

13. Marginal Cost (MC)

$$MC = \frac{Change\ in\ TC}{Change\ in\ TP}$$

Where TC = Total Cost TP = Total Product

14. Average Cost (AC)

$$Average\ Cost = \frac{Total\ Cost}{Total\ Product}$$

15. Total Revenue (TR)

$$TR = Price\ \times Quantity$$

16. Average Revenue (AR)

$$AR = \frac{Total\ Revenue}{Total\ Product}$$

17. Marginal Revenue (MR)

$$MR = \frac{Change\ in\ TR}{Change\ in\ TP}$$

18. Profit

$$Profit = TR - TC$$

19. Marginal Revenue Product of Labour (MRPL)

A firm will continue to hire labour up to the point where:

$$MR = MC$$

(This is also profit maximizing output level)

$$MRPL = \frac{Change\ in\ TR}{Change\ in\ Labour\ Units}$$

$$MPL = \frac{Change\ in\ TP}{Change\ in\ Labour\ Units}$$

20. Social Benefits and Social Costs

$$Social\ Benefits = Private\ Benefits + External\ Benefits$$

$$Social\ Costs = Private\ Costs + External\ Costs$$

21. Terms of Trade

$$Terms\ of\ Trade\ Index = \frac{Index\ of\ Export\ Prices}{Index\ of\ Import\ Prices} \times 100$$

22. Consumer Price Index (CPI)

Where:

W = Weight associated to commodity in household expenditure

P = Price of commodity

N = Total number of commodities in the basket of goods and services index

23. National Income

Gross Domestic Product (GDP) = Total Output produced in an economy within a year

Gross National Product (GNP) = GDP + Net Property Income from Abroad (NPIA)

Net National Product (NNP) = GNP – Capital Consumption

Net Domestic Product (NDP) = GDP – Capital Consumption

24. Real GDP

25. GDP Deflator

26. Aggregate Expenditure (AE) or National Income (Y)

Where:

C = Consumption	G = Government Spending	I = Investment
X = Exports	M = Imports	(X – M) = Net Exports

27. Consumption

28. Multiplier

Multiplier in Two-Sector economy (household & firms) =

Multiplier in Three-Sector economy (2-sector+ government)

Where mrt = marginal rate of taxation

Multiplier in Four-Sector economy (3-sector+ Trade)

Where: mpm = marginal propensity to import

29. Credit Multiplier

30. Total Labour Force

Labour force = Total number of employed people + Total number of unemployed people

31. Adult Population

Adult Population = Total labour force + Number of people not in labour force.

32. Labour Force Participation Rate

Labour Force Participation Rate =

33. Unemployment Rate:

34. Real Exchange Rate

35. Monetary Equation (Quantity Theory of Money)

Nominal GDP = PY

Where:

M = Money Supply

P = Price Level

Y = Real GDP

V = Velocity of Money