# Individual Demand: Utility Maximisation

By RAJ KUMAR, IES Officer Trainee.

# Individual Demand

- Why we need to focus on individual demand:
  - It will give a better understanding of the demand curves
  - It will help in better understanding of nature of goods-normal, inferior and Giffen goods.
  - it will help in understanding of effect of various govt policies.

# Assumptions

- Two commodity-X1 and X2
- Objective of consumer-maximisation of utility/satisfaction.

# Consumption Results in Cost and benefit

- Consumption-
  - Expenditure/Cost → Price we Pay
  - Benefits → Satisfaction/Utility

# Expenditure/Cost side

- commodity bundle- $X_1$ and $X_2$
- Price of X1 is $P_1$ and Price of X2 is $P_2$
- Spending on $X_1 = P_1X_1$
- Spending on $X_2 = P_2X_2$
- Total Spending=Spending on X1+spending on X2
- Total spending $= P_1X_1 + P_2X_2$

# Expenditure/Cost side…..

- But total spending must be less than or equal to total Income.
- Suppose Income=M
- $P_1X_1 + P_2X_2 \leq M$ ------ (1)
  - Equation (1) is called as budget line/constraint.
  - A budget line represents all combinations of goods and services that a consumer my purchase given prices and income

# Expenditure/Cost side…..

- Example:
- Suppose that P1=10, P2=5 and M=150
- Effect of change in price on budget line
- Effect of change in income on budget line

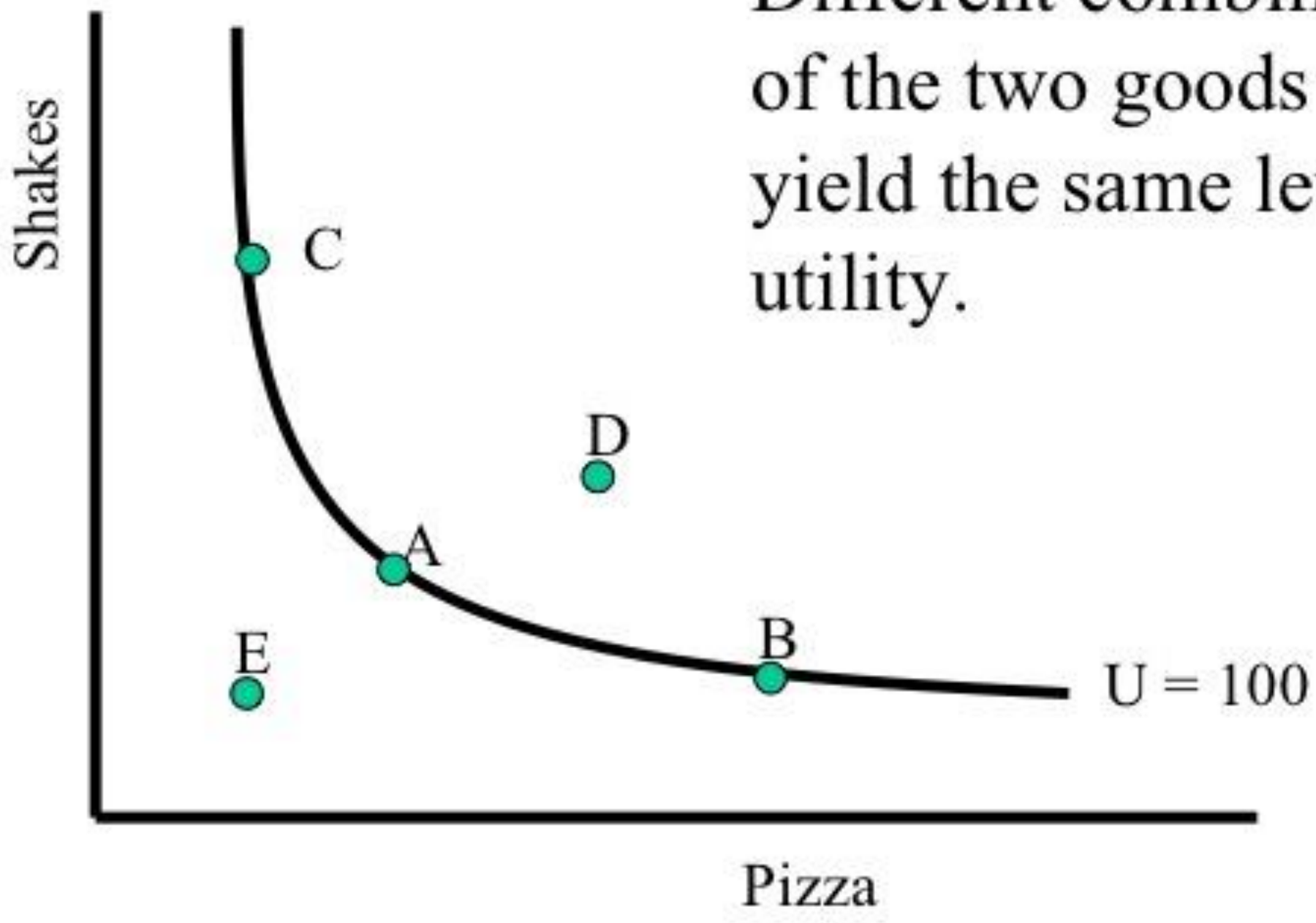
# Benefit side

- We measure benefit by satisfaction or utility of consumer.
- Initially economist like Marshall believe that measurement of utility is possible, but modern economist rejected this hypothesis.
- They pointed out that we can only rank the utility from different commodities.

# Benefit side….

- Modern economist came out with new tool-**indifference curve.**
- Indifference curve shows all combinations of two goods which gives equal level of satisfaction, i.e. different bundles of goods between which a consumer is *indifferent*.
- General shape of indifference curve-

# Indifference Curves




- Different combinations of the two goods that yield the same level of utility.

# Marginal Rate of Substitution (MRS)

- It quantifies the amount of one good a consumer will give up to obtain more of another more of another good.
- MRS measure how a person trades one good for another good.
- From a geometric viewpoint, it is measured by the slope of the indifference curve.

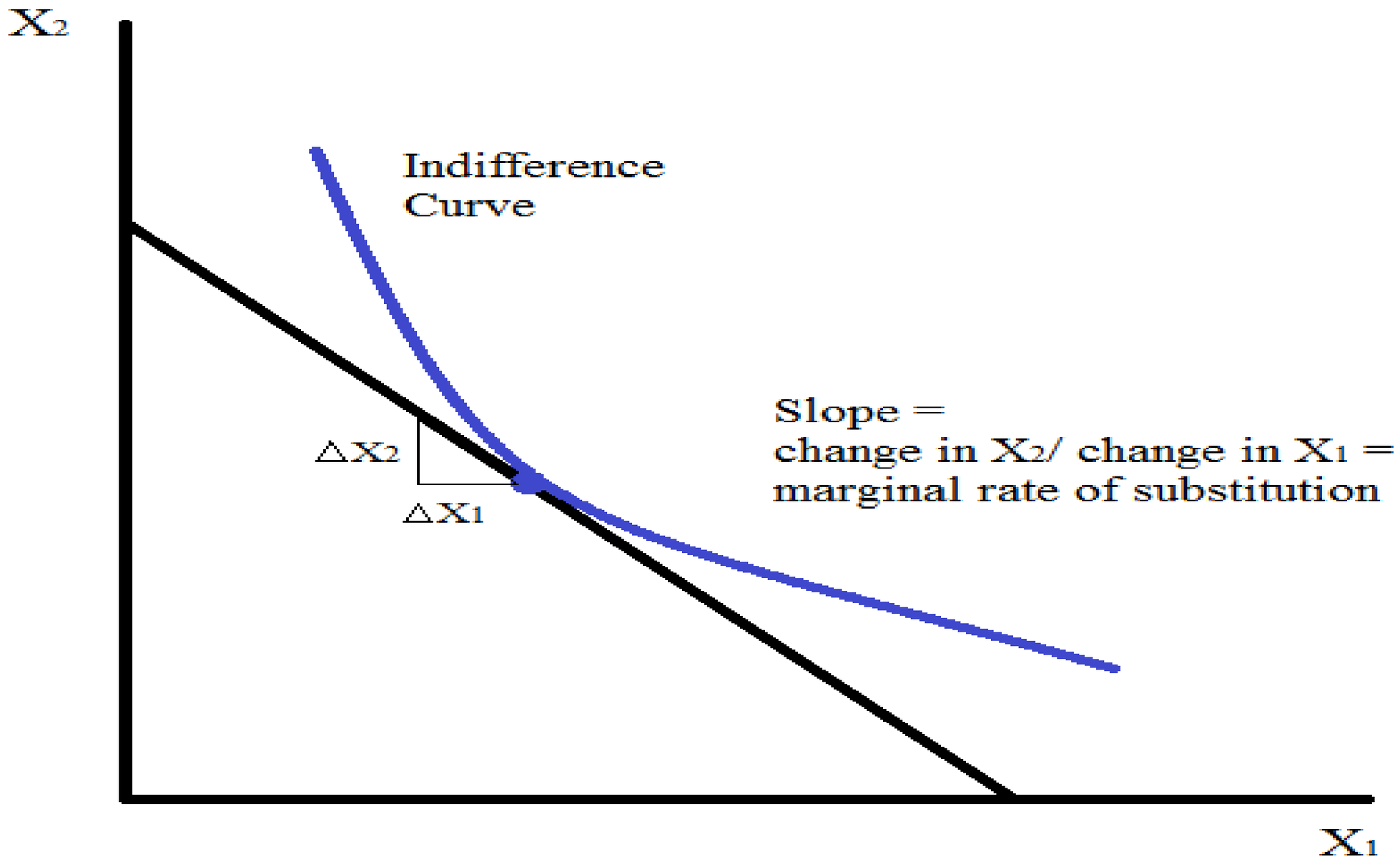
# Properties of Indifference curve

- Downward slope
- Higher indifference curve represent higher level of satisfaction
- Two indifference can not intersect each other
- MRS declines----convex

# Indifference map

- To describe preferences for all combinations of goods/services, we have a set of indifference curves – an *indifference map*

# Consumer equilibrium



# Equilibrium Dynamics

- Income Consumption Curve/Line
- Price Consumption Curve/Line