NATIONAL TESTING AGENCY(NTA)

UGC
NET/SET/JRF
ECONOMICS

(PAPER–II)

14 YEARS (2011 - JUNE 2024)

TOPIC WISE SORTED PREVIOUS YEAR QUESTIONS WITH DETAILED EXPLANATIONS

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P R E F A C E

It is with great pleasure that we present to you the **UGC-NET Economics PYQ Book**, a comprehensive resource that consolidates the past **14 years (2011 - 2024 June)** of UGC-NET economics exam questions along with detailed solutions. This book is designed to meet the needs of aspirants aiming for success in the UGC-NET economics examination, whether for JRF or Assistant Professorship.

The UGC-NET economics exam requires both an in-depth understanding of economic principles and the ability to apply this knowledge across various topics. With this in mind, this book provides a **topic-wise arrangement of each question**, enabling students to focus on specific areas of the syllabus while simultaneously practicing exam-relevant questions.

Key features of the book include:

- **14 Years of Solved Papers**: Covering all questions from the UGC-NET economics exams over the past 14 years, helping students familiarize themselves with the types of questions and the exam pattern.
- **Topic-Wise Sorting**: All questions are sorted by topic, allowing students to target their studies and focus on particular subjects, making their preparation more efficient.
- **Detailed Solutions**: Each question is accompanied by a detailed solution, explaining the concepts and reasoning behind the correct answers, which provides deeper insights into the subject matter.
- The book not only serves as a tool for practicing questions but also helps build a solid foundation in core subjects such as **Micro Economics, Macro Economics, Statistics and Econometrics, Mathematical Economics, International Economics, Public Economics, Money and Banking, Growth and Development Economics, Environmental Economics and Demography, Indian Economy**

This structured approach will assist in sharpening analytical skills, which are essential for excelling in the exam.

We hope that this book becomes an indispensable part of your UGC-NET economics preparation journey and helps you achieve the success you aim for. We are confident that with diligent study and consistent practice, you will be well-prepared to face the challenges of the exam.

Best of luck on your path to success!

A C K N O W L E D G E M E N T

First and foremost, I'd like to thank our entire Institute for Advanced Studies (IFAS) students for inspiring me to write this book. I would like to express my gratitude to Er. Radheshyam Choudhary, founding CEO of IfAS Edutech Pvt. Ltd. and Director of IFAS Publications, for his invaluable assistance and critical suggestions in completing the work.

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UNIVERSITY GRANTS COMMISSION

NET BUREAU NET SYLLABUS

Subject: ECONOMICS

Code No.: 01

Unit - 1 : Micro Economics

- Theory of Consumer Behaviour
- Theory of Production and Costs
- Decision making under uncertainty Attitude towards Risk
- Game Theory — Non-Cooperative games
- Market Structures, competitive and non-competitive equilibria and their efficiency properties
- Factor Pricing
- General Equilibrium Analysis
- Efficiency Criteria: Pareto-Optimality, Kaldor — Hicks and Wealth Maximization
- Welfare Economics: Fundamental Theorems, Social Welfare Function
- Asymmetric Information: Adverse Selection and Moral Hazard

Unit - 2 : Macro Economics

- National Income: Concepts and Measurement
- Determination of output and employment: Classical & Keynesian Approach
- Consumption Function
- Investment Function
- Multiplier and Accelerator
- Demand for Money
- Supply of Money
- IS — LM Model Approach
- Inflation and Phillips Curve Analysis
- Business Cycles
- Monetary and Fiscal Policy
- Rational Expectation Hypothesis and its critique

Unit - 3 : Statistics and Econometrics

- Probability Theory: Concepts of probability, Distributions, Moments, Central Limit theorem
- Descriptive Statistics — Measures of Central tendency & dispersions, Correlation, Index Numbers
- Sampling methods & Sampling Distribution
- Statistical Inferences, Hypothesis testing
- Linear Regression Models and their properties — BLUE
- Identification Problem
- Simultaneous Equation Models — recursive and non-recursive
- Discrete choice models
- Time Series Analysis

Unit - 4 : Mathematical Economics

- Sets, functions and continuity, sequence, series
- Differential Calculus and its Applications
- Linear Algebra — Matrices, Vector Spaces
- Static Optimization Problems and their applications
- Input-Output Model, Linear Programming
- Difference and Differential equations with applications

Unit - 5 : International Economics

- International Trade: Basic concepts and analytical tools
- Theories of International Trade
- International Trade under imperfect competition
- Balance of Payments: Composition, Equilibrium and Disequilibrium and Adjustment Mechanisms
- Exchange Rate: Concepts and Theories

- Foreign Exchange Market and Arbitrage
- Gains from Trade, Terms of Trade, Trade Multiplier
- Tariff and Non-Tariff barriers to trade; Dumping
- GATT, WTO and Regional Trade Blocks; Trade Policy Issues
- IMF & World Bank

Unit - 6 : Public Economics

- Market Failure and Remedial Measures: Asymmetric Information, Public Goods, Externality
- Regulation of Market — Collusion and Consumers' Welfare
- Public Revenue: Tax & Non-Tax Revenue, Direct & Indirect Taxes,
- Progressive and non-Progressive Taxation, Incidence and Effects of Taxation
- Public expenditure
- Public Debt and its management
- Public Budget and Budget Multiplier
- Fiscal Policy and its implications

Unit – 7: Money and Banking

- Components of Money Supply
- Central Bank
- Commercial Banking
- Instruments and Working of Monetary Policy
- Non-banking Financial Institutions
- Capital Market and its Regulation

Unit - 8 : Growth and Development Economics

- Economic Growth and Economic Development
- Theories of Economic Development: Adam Smith, Ricardo, Marx, Schumpeter, Rostow, Balanced & Unbalanced growth, Big Push approach.
- Models of Economic Growth: Harrod-Domar, Solow, Robinson, Kaldor
- Technical progress — Disembodied & embodied; endogenous growth
- Indicators of Economic Development: PQLI, HDI, SDGs
- Poverty and Inequalities — Concepts and Measurement
- Social Sector Development: Health, Education, Gender

Unit - 9 : Environmental Economics and Demography

- Environment as a Public Good
- Market Failure
- Coase Theorem
- Cost-Benefit Analysis and Compensation Criteria
- Valuation of Environmental Goods
- Theories of Population
- Concepts and Measures: Fertility, Morbidity, Mortality
- Age Structure, Demographic Dividend
- Life Table
- Migration

Unit-10 : Indian Economy

- Economic Growth in India: Pattern and Structure
- Agriculture: Pattern & Structure of Growth, Major Challenges, Policy Responses
- Industry: Pattern & Structure of Growth, Major Challenges, Policy Responses
- Services: Pattern & Structure of Growth, Major Challenges, Policy Responses
- Rural Development — Issues, Challenges & Policy Responses
- Urban Development — Issues, Challenges and Policy Responses.
- Foreign Trade: Structure and Direction, BOP, Flow of Foreign Capital, Trade Policies
- Infrastructure Development: Physical and Social; Public-Private Partnerships
- Reforms in Land, Labour and Capital Markets
- Centre-State Financial Relations and Finance Commissions of India; FRBM
- Poverty, Inequality & Unemployment

UGC NET ECONOMICS

EXAM CUT – OFF

Year	Category	UNRESERVED	OBC (NCL)	EWS	SC	ST	PWD
2023 DEC	Assistant Professor	154	138	142	130	126	128
	JRF & Assistant Professor	180	162	170	154	148	140
2023 JUNE	Assistant Professor	170	152	154	142	136	146
	JRF & Assistant Professor	188	178	178	162	154	176
2021 DEC/ 2022 JUNE	Assistant Professor	192	170	172	152	150	144
	JRF & Assistant Professor	209	196	198	176	172	188

EXAM PATTERN

Paper	Subject	Number of Questions	Maximum Marks	Marking Scheme
Paper 1	Teaching Aptitude, Research Aptitude, Reading Comprehension, Communication, Reasoning (including Maths), Logical Reasoning, Data Interpretation, Information & Communication Technology (ICT), People & Environment, and Higher Education System	50	100	+2 marks for the correct answer. No negative marking is applicable
Paper 2	Economics	100	200	+2 marks for the correct answer. No negative marking is applicable

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UNIT-1		2011		2012		2013		2014		2015		2016	2017		2018		2019		2020	2021	2022	2023			2024
MICRO ECONOMICS		JUN	DEC	JUN	DEC	JUN	DEC	JUN	DEC	JUN	DEC	JUL	JAN	NOV	JUL	DEC	JUN	DEC	JUN	JUN	OCT	MAR	JUN	DEC	JUN
1	Theory of Consumer Behaviour	4	2	4	3	2	4	4	3	3	6	4	3	6	3	2	2	3	2	2	3	8	3	5	5
2	Theory of Production and Costs	1	-	5	3	4	3	2	4	3	2	2	6	3	4	4	3	7	5	3	2	5	-	5	3
3	Decision making under uncertainty attitude towards risk	-	-	-	-	1	-	-	1	1	-	1	-	-	-	-	2	1	1	2	-	2	-	-	-
4	Game Theory-Non Cooperative games	-	-	-	-	1	-	1	-	-	-	-	-	-	1	-	1	-	2	-	1	7	1	1	1
5	Market strucutures, competitive and non-competitive equilibria and their efficiency properties	-	2	3	5	5	5	4	5	2	9	5	5	5	4	2	3	1	-	-	-	1	2	4	3
6	Factor Pricing	-	-	1	2	3	-	2	-	-	2	-	1	-	-	-	-	1	-	2	-	4	-	-	-
7	General equilibrium Analysis	-	-	1	1	-	-	-	-	1	-	2	-	2	-	-	1	-	-	1	1	-	1	-	-
8	Efficiency criteria:	-	-	-	-	1	2	1	-	2	-	1	-	2	-	1	1	2	-	-	-	-	-	-	-
9	Welfare Economics-Fundamental theorems, Social welfare function	1	-	-	-	-	-	-	-	-	-	-	2	-	1	-	1	-	3	1	1	2	1	-	1
10	Asymmetric information:	-	-	-	-	-	-	3	-	-	-	-	-	-	1	1	1	-	1	-	-	1	-	-	1

UNIT- 1 MICRO ECONOMICS

Unit 1.1: Theory of Consumer Behaviour

PREVIOUS YEARS EXAM QUESTIONS

[JUNE 2011]

1. Which of the following gives measures of price elasticity of demand?
   (a) $\frac{\Delta Q_x}{\Delta P_x} \cdot \frac{P_x}{Q_x}$ (b) $\frac{\Delta P_x}{\Delta Q_x} \cdot \frac{P_x}{Q_x}$
   (c) $\frac{\Delta Q_x}{\Delta P_x} \cdot \frac{Q_x}{P_x}$ (d) $\frac{\Delta P_x}{\Delta Q_x}$

[JUNE 2011]

2. If the price consumption curve of a commodity is bending backwards, then the commodity must be
   (a) An inferior commodity
   (b) A perfectly elastic commodity
   (c) Normal commodity
   (d) Giffen goods

[JUNE 2011]

3. Assertion (A): Demand curve is vertical when elasticity of demand is zero.
   Reason (R): Marginal utility of a product is increasing.
   Codes:
   (a) Both (A) and (R) are true, and (R) is the correct explanation of (A).
   (b) Both (A) and (R) are true, and (R) is not the correct explanation of (A).
   (c) (A) is true but (R) is false.
   (d) (A) is false but (R) is true.

[JUNE 2011]

4. The candidates are required to match List - I against List II and select the correct answer code.

List-I	List-II
(A) Consumer's Surplus	(i) Supply decision
(B) Utility theory	(ii) Art of Advertising
(C) Cost Analysis	(iii) Progressive taxation
(D) Product differentiation	(iv) Welfare economics

   Codes:
   (a) (A)-(iv), (B)-(iii), (C)-(i), (D)-(ii)
   (b) (A)-(iv), (B)-(iii), (C)-(ii), (D)-(i)
   (c) (A)-(iii), (B)-(iv), (C)-(ii), (D)-(i)
   (d) (A)-(iii), (B)-(iv), (C)-(i), (D)-(ii)

[DEC 2011]

5. The price elasticity of demand is equal to one for a demand curve, which is
   (a) horizontal line
   (b) vertical line
   (c) rectangular hyperbola
   (d) downward moving line

[DEC 2011]

6. Tick (✓) mark the option having the right chronological order:
   (i) Says Law of Markets
   (ii) Theory of Surplus Value
   (iii) Theory of Absolute Advantage
   (iv) Tableau Économique
   Codes:
   (a) (iii) (iv) (ii) (i) (b) (iv) (i) (ii) (iii)
   (c) (iv) (iii) (i) (ii) (d) (i) (iv) (iii) (ii)

[JUNE 2012]

7. For an inferior goods, income consumption curve and Engel's curves are
   (a) Positively sloped
   (b) Negatively sloped
   (c) Are the same
   (d) Income consumption curve positively sloped and the Engel's curve is negatively sloped

[JUNE 2012]

8. **Assertion (A):** Giffin's paradox rarely occurs in the real world.
   Reason (R): Inferior goods are narrowly defined for which suitable substitutes are available.
   Codes:
   (a) Both (A) and (R) are correct and (R) is the correct explanation of (A).
   (b) Both (A) and (R) are correct and (R) is not the correct explanation of (A).
   (c) (A) is correct, but (R) is incorrect.
   (d) (A) is incorrect, but (R) is correct.

[JUNE 2012]

9. The revealed preference approach to the derivation of indifference curve
   (a) Assumes stability over time of an observed person's tastes.
   (b) Assumes that all people have identical tastes.
   (c) Relies on repeated observations of the market behaviour of a single person.
   (d) Is correctly described by both A and C.

[JUNE 2012]

10. Match the items in List-I with items in List-II:

List-I	List-II
I. Cardinal Utility Theory of Demand	1. Hicks
II. Revealed Preference Theory of Demand	2. A. Marshall
III. Indifference Preference Theory of Demand	3. Neuman & Morgenstern
IV. Utility Index under uncertainty	4. Samuelson

Select the correct answer from the following codes:
Codes:
(a) I-1, II-2, III-3, IV-4 (b) I-4, II-3, III-2, IV-1
(c) I-2, II-4, III-1, IV-3 (d) I-4, II-1, III-3, IV-2

[DEC 2012]

11. Identify the order of chronological development of the theory of demand.
A. Marshall's theory of demand
B. Indifference curves
C. Revealed preference theory
D. Weak Preference ordering theory of demand
Codes:
(a) A, C, D, B (b) D, B, A, C
(c) A, C, B, D (d) A, B, C, D

[DEC 2012]

12. A demand curve, which is parallel to the horizontal axis, showing quantity, has the price elasticity equal to
(a) Zero (b) Infinity
(c) Less than one (d) One

[DEC 2012]

13. If $X_1 = f(P_1, P_2)$ and $X_2 = \phi(P_1, P_2)$, then the two commodities are substitutes if
(a) $(\delta X_1/\delta P_2) < 0, (\delta X_2/\delta P_1) > 0$
(b) $(\delta X_1/\delta P_2) > 0, (\delta X_2/\delta P_1) < 0$
(c) $(\delta X_1/\delta P_2) > 0, (\delta X_2/\delta P_1) > 0$
(d) $(\delta X_1/\delta P_2) < 0, (\delta X_2/\delta P_1) < 0$

[JUNE 2013]

14. Match the items in the List-I with items in List-II. Select the correct answer from the code given below:

List-I	List-II
I. Agency Theory of Firm	1. O.E. Williamson
II. X-inefficiency	2. M.C. Jensen and W.J. Meckling
III. The Utility Maximisation Model	3. Wilfredo Pareto
IV. Edgeworth box diagram first used by	4. Harvey Leibenstein

Codes:
(a) I-3, II-2, III-1, IV-4 (b) I-2, II-4, III-1, IV-3
(c) I-2, II-3, III-4, IV-1 (d) I-3, II-4, III-1, IV-2

[JUNE 2013]

15. For substitutes, cross elasticity of demand is
(a) Positive
(b) Negative
(c) Zero
(d) Always less than one

[DEC 2013]

16. MATCH

List-I	List-II
A. Tea and Coffee	1. Veblen goods
B. Car and Petrol	2. Substitutes
C. Gold and Diamonds	3. Giffen goods
D. Ragi and Bajra	4. Complementary

Codes:
(a) A-2, B-1, C-3, D-4 (b) A-2, B-4, C-1, D-3
(c) A-4, B-1, C-2, D-3 (d) A-4, B-3, C-1, D-2

[DEC 2013]

17. Put the following in chronological order on the basis of development:
(i) Law of Demand
(ii) Revealed Preference Analysis
(ii) Indifference Curve Analysis
(iv) Law of Diminishing Marginal Utility
(a) (i) (iii) (ii) (iv) (b) (i) (iv) (iii) (i)
(c) (i) (ii) (iv) (iii) (d) (i) (iii) (iv) (ii)

[DEC 2013]

18. Assertion (A): Consumer Surplus is the difference between the potential price and actual price.
Reason (R): There exists an inverse relationship between the price and consumer surplus.
Codes:
(a) Both (A) and (R) are true and (R) is the correct explanation of (A).
(b) Both (A) and (R) are true, but (R) is not the correct explanation of (A).
(c) (A) is true, but (R) is false.
(d) (A) is false, but (R) is true.

[DEC 2013]

19. Which of the following is true?
A. Indifference curves slope downward from left to right.
B. Indifference curves slope downward from right to left.
C. Indifference curves are convex to the point of origin of the two axes.
D. Indifference curves never intersect each other.
(a) A, B and C are true. (b) B, C and D are true.
(c) A, C and D are true. (d) A and D are true.

[JUNE 2014]

20. Who distinguished between value in use and value in exchange and gave the famous example of diamonds and water?
    (a) Adam Smith (b) David Ricardo
    (c) Alfred Marshall (d) Karl Marx

[JUNE 2014]

21. Which of the following are the basic assumptions of cardinal utility analysis?
    I. Utility is a measurable and quantifiable entity.
    II. Marginal utility of money changes with changes in real income.
    III. Utilities derived from various goods are interdependent.
    IV. The use of introspective methods in judging the behaviour of marginal utility.
    Codes:
    (a) I and II are correct
    (b) I and III are correct
    (c) I and IV are correct
    (d) I, III and IV are correct

[JUNE 2014]

22. Engel Curve denotes
    (a) various amounts of a good which a consumer would be willing to purchase at various price levels.
    (b) various amounts of a good which a consumer would be willing to purchase at various income levels.
    (c) various amounts of a good purchased when the price of its substitutes tend to rise.
    (d) the relationship between income effect and substitution effect.

[JUNE 2014]

23. A graphical illustration used to explain efficiency conditions and demonstrates how the allocations of some goods and resources can be improved through exchange is called
    (a) production possibility curves
    (b) social indifference curves
    (c) Edgeworth box diagram
    (d) Phillips curve

[DEC 2014]

24. Which is called Gossen's second law?
    (a) Law of Equi-marginal Utility
    (b) Law of Diminishing Marginal Utility
    (c) Revealed Preference Theory
    (d) Indifference Curve Approach

[DEC 2014]

25. Which among the following statements are true for the Revealed Preference Theory?
    Choose the correct answer from the code given below:
    Statement:
    I. Income elasticity of demand should be positive.
    II. Consumer preferences satisfy strong ordering.
    Codes:
    (a) Both are true (b) None are true
    (c) Only I is true (d) Only II is true

[DEC 2014]

26. Demand for foodstuff is income inelastic. This is explained by
    (a) Giffen's Paradox (b) Engel's Law
    (c) Gossen's Law (d) Ricardo's Law

[JUNE 2015]

27. Giffen paradox occurs when income effect is:
    (a) Greater than the substitution effect
    (b) Equal to the substitution effect
    (c) Less than the substitution effect
    (d) Negative and is greater than the substitution effect

[JUNE 2015]

28. Which of the following is an inferior good?
    (a) Kerosine (b) Cooking gas
    (c) Electricity (d) Chemical fertilizers

[JUNE 2015]

29. Match List-I (Consumer behaviour approach) with List-II (Economist with whom it is associated) and select the correct answer using the codes given below:

List-I	List-II
(a) Cardinal Approach	(i) Von Newman Morgenstein
(b) Indifference curve	(ii) Alfred Marshall
(c) Revealed Preference Approach	(iii) J. K. Hicks
(d) Neo-utility theory of risky choices	(iv) P. A. Samuelson

    (a) (a)-(ii), (b)-(iii), (c)-(i), (d)-(iv)
    (b) (a)-(iii), (b)-(ii), (c)-(i), (d)-(iv)
    (c) (a)-(ii), (b)-(iii), (c)-(iv), (d)-(i)
    (d) (a)-(iii), (b)-(ii), (c)-(iv), (d)-(i)

[DEC 2015]

30. For the demand function $D = D(p)$ and supply function $S = S(p)$, the excess demand brings about market equilibrium in which of the following situations?

(a) $\frac{d\,E(p)}{dp} > 0$ (b) $\frac{d\,E(p)}{dp} < 0$

(c) $\frac{d\,E(p)}{dp} = 0$ (d) $\frac{d\,E(p)}{dp} = \infty$

[DEC 2015]

31. In the context of a straight line demand curve touching both the axes, which one of the following is correct? The demand is elastic:
    (a) below the midpoint
    (b) above the midpoint
    (c) at the midpoint of the curve
    (d) throughout the length of the demand curve

[DEC 2015]

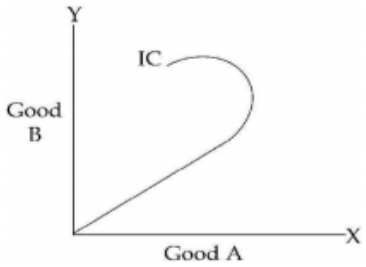
32. Slutsky equation deals with decomposition of:
    (a) price effect into substitution and income effects
    (b) goods into superior and inferior goods
    (c) goods into necessities and luxuries
    (d) consumer and producer surplus

[DEC 2015]

33. For a linear demand curve, which of the following is true?
    (a) Elasticity of demand is unity at all points.
    (b) Elasticity of demand is constant at all points.
    (c) Elasticity increases as one slides down the demand curve.
    (d) Elasticity declines as one slides down the demand curve.

[DEC 2015]

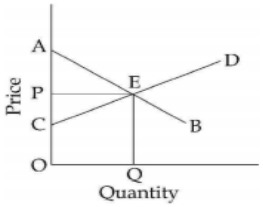
34. In the above diagram, if curve IC represents income-consumption curve, then it means that:



    (a) Only (A) is an inferior good.
    (b) Only (B) is an inferior good.
    (c) Both (A) and (B) are inferior goods.
    (d) (A) is a normal good.

[DEC 2015]

35.



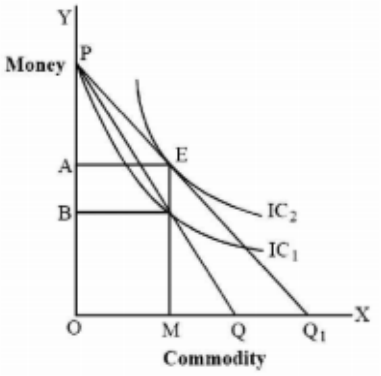
In the above diagram, the consumer surplus is represented by the area of:

(a) ΔPCE (b) ΔAPE

(c) ΔACE (d) Rectangle OPEQ

[JULY 2016]

36. In the standard adjoining diagram, the measure of consumer surplus is:



(a) PA (b) OB

(c) AO (d) AB

[JULY 2016]

37. Slutsky equation explains the:
    (a) Demand for durable goods
    (b) Supply of durable goods
    (c) Split between price, income and substitution effects
    (d) Demand for rare or non-reproducible goods

[JULY 2016]

38. In consumption, inferior goods have:
    (a) Negative income effect
    (b) Positive income effect
    (c) Zero income effect
    (d) Infinite income effect

[JULY 2016]

39. If Sales tax on a commodity is raised, but the revenue earned through its sale decreases sharply, which one of the following statements about the nature of this commodity would be correct?
    (a) Price elasticity of demand for it is unity
    (b) It must be an essential goods
    (c) Price elasticity of demand for it is high
    (d) Price elasticity of demand for it is low

[JAN 2017]

40. Given the demand function:
    $Q = \frac{20}{P}$, where symbols have their usual meaning, at which price, the elasticity of demand would be unity?
    (a) 20 (b) 10
    (c) 5 (d) All of the above

[JAN 2017]

41. Why does the demand curve have a negative slope?
    I. Due to income effect only
    II. Due to substitution effect

Answer from the code below:

(a) Both I and II (b) Only I

(c) Only II (d) Neither I nor II

[JAN 2017]

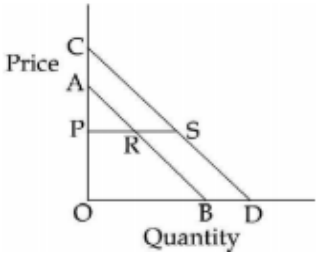
42. The demand for rare paintings, and rare stamps, etc., is explained by which among the following effects?

(a) Snob effect (b) Bandwagon effect

(c) Veblen effect (d) None of the above

[NOV 2017]

43. Consider the following diagram with two parallel demand curves AB and CD:



The price elasticity of demand at:

(a) points R and S is equal

(b) point R is greater than that at point S

(c) point R is less than that at point S

(d) points R and S is infinity

[NOV 2017]

44. Assume that people like onions on their hamburgers. If the supply of hamburgers decreases, the demand for onions will most likely:

(a) remain unchanged because hamburgers and onions are different goods

(b) increase because hamburgers and onions are substitutes

(c) increase because hamburgers and onions are complements

(d) decrease because hamburgers and onions are complements

[NOV 2017]

45. **Assertion (A):** Revealed preference theory excludes the explanation of Giffen good.

Reasons (R): Revealed preference theory considers only negative income elasticity of demand

Key to these questions is as follows:

(a) Both (A) and (R) are true and (R) is the correct explanation of (A).

(b) Both (A) and (R) are true, but (R) is not the correct explanation of (A).

(c) (A) is true, but (R) is false.

(d) (A) is false, but (R) is true.

[NOV 2017]

46. A good is called a 'Giffen good' when the income effect is:

(a) positive and is greater than the substitution effect

(b) Equal to substitution effect

(c) Less than the substitution effect

(d) Negative and is greater than the substitution effect

[NOV 2017]

47. Movement from an inefficient allocation to an efficient allocation in the Edgeworth Box will:

(a) increase the utility of all individuals

(b) increase the utility of at least one individual, but may decrease the level of utility of another person

(c) increase the utility of one individual, but cannot decrease the utility of any individual

(d) decrease the utility of all individuals

[NOV 2017]

48. In explaining the price effect, which of the following is/are constant?

A. Real Income

B. Money Income

C. Price ratio

Choose the correct answer from the code given below:

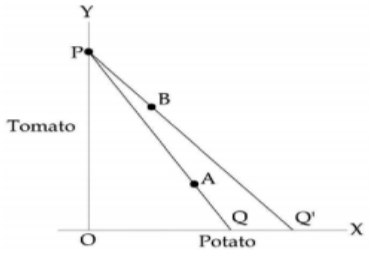
Code:

(a) Only A (b) Only B

(c) Both B and C (d) Both A and C

[JULY 2018]

49. In the given diagram, after the price change, the price line shifts from PQ to PQ'. And the consumer comes to equilibrium at point B instead of point A. Then what is true for potatoes?



(a) It is a normal good.

(b) It is an inferior good.

(c) It is a Giffen good.

(d) Nothing can be said about the nature of the good.

[JULY 2018]

50. Which amongst the following is a correct description of inverse demand function?

(a) $p = f(D)$ (b) $D = f(p)$

(c) $D = f\left(\frac{1}{p}\right)$ (d) $P = f\left(D, \frac{1}{y}\right)$

Where p = price, D = demand and y = income.

[JULY 2018]

51. Given the Demand function of a consumer $D = 10 - 2p$, the consumer's surplus at price =2 is:

(a) 2 (b) 10
(c) 9 (d) 15

[DEC 2018]

52. If demand for a consumer is given by the function $p = 27 - 3x - x^2$ (where x = quantity demanded, p = price), the consumers surplus at x = 3 is:
(a) 50.5 (b) 49.5
(c) 31.5 (d) 32.5

[DEC 2018]

53. The price elasticity of demand for a good with the demand function $q = kp^r$, (where p is price q is quantity demanded and k and r are positive constants) is:
(a) 1
(b) R
(c) Not constant as the function is non-linear
(d) $1/r$

[JUNE 2019]

54. Match List-I with List-II:

List-I	List-II
(a) Various combinations that a consumer can purchase	(i) Indifference map
(b) Various combinations of two commodities providing equal satisfaction to consumer	(ii) Indifference curve
(c) A set of indifference curves	(iii) Budget line
(d) Point of tangency of a budget line on an indifference curve	(iv) Consumer's equilibrium

Choose the correct option from the following:
(a) (a)-(i), (b)-(ii), (c)-(iv), (d)-(iii)
(b) (a)-(iv), (b)-(iii), (c)-(i), (d)-(ii)
(c) (a)-(ii), (b)-(iii), (c)-(iv), (d)-(i)
(d) (a)-(iii), (b)-(ii), (c)-(i), (d)-(iv)

[JUNE 2019]

55. If AR = 15 and MR = 5, the price elasticity of demand is:
(a) 2.3 (b) 1.5
(c) 1.75 (d) 1

[DEC 2019]

56. Arrange in chronological order the following economists in relation to their contribution to the Theory of Consumer Behaviour.
Choose the correct answers:
(a) A. Marshall, R. Stone, P. Samuelson, J.R. Hicks, and R.G.D. Allen
(b) R. Stone, P. Samuelson, J.R. Hicks and R.G.D. Allen and A. Marshall
(c) P. Samuelson, J.R. Hicks and R.G.D. Allen, R. Stone and A. Marshall
(d) A. Marshall, J.R. Hicks, R.G.D. Allen, P.Samuelson and R. Stone

[DEC 2019]

57. Arrange in chronological order the following contributions of economists in theory of consumer. Choose the correct answer.
(a) Linear expenditure system, Revealed preference theory, Cardinal theory, Ordinal theory
(b) Cardinal theory, Ordinal theory, Revealed preference theory, Linear expenditure system
(c) Cardinal theory, Revealed preference theory, Ordinal theory, Linear expenditure system
(d) Revealed preference theory, Cardinal theory, Linear expenditure theory, Ordinal theory

[DEC 2019]

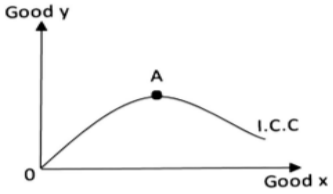
58. Given below are two statements-one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion: For certain goods, the expenditure by the consumer decreases.
Reason: For such goods, the income elasticity of demand is high.
In the light of the above two statements choose the correct option:
(a) Both (A) and (R) are true and (R) is the correct explanation of (A)
(b) Both (A) and (R) are true and (R) is not the correct explanation of (A)
(c) (A) is true but (R) is false
(d) (A) is false but (R) is true

[JUNE 2020]

59. Cross elasticity of demand for metro rides is 0.8 and total ridership per day is 1.5 Lakh. If price of bus rides rises by 5%, the change in total metro rides will be:
(a) 4000 (b) 5000
(c) 6000 (d) 7500

[JUNE 2020]

60. For the given Income Consumption curve in the diagram, which one of the following is correct, beyond point A?



(a) Good x is inferior and Good y is normal
(b) Good y is inferior and Good x is normal
(c) Good x and Good y are normal
(d) Good x and Good y are inferior

[JUNE 2021]

61. In case of indifference curve of two goods X and Y, as consumption of X increases:
    (a) MRSXY increases
    (b) MRSXY decreases
    (c) MRSXY remains the same
    (d) First MRS increases but later on XY MRSXY decreases

[JUNE 2021]

62. Arrange the following concepts of consumer behaviour in chronological order
    (A) Law of diminishing marginal utility
    (B) Law of demand
    (C) Revealed Preference Analysis
    (D) Indifference Curve Analysis
    Choose the correct answer from the options given below:
    (a) (A) (B) (D) (C) (b) (B) (A) (D) (C)
    (c) (B) (A) (C) (D) (d) (A) (B) (C) (D)

[OCT 2022]

63. Suppose a profit maximising monopolist is producing 800 units of output and is charging a price of Rs. 40 per unit. If the elasticity of demand for the product is -2, marginal cost of the last unit produced is _____
    (a) 10 (b) -400
    (c) -2 (d) 20

[OCT 2022]

64. If the income effect for a good is in the opposite direction as the substitution effect, but the substitution effect dominates then the good is
    (a) Normal (b) Giffen
    (c) Inferior but not giffen (d) None of the above

[OCT 2022]

65. Which of the following are assumptions of ordinal utility analysis?
    (A) Consumers are consistent in their preferences
    (B) Consumer can measure the total utility received from any given basket of goods
    (C) Consumer preferences follow transitivity
    (D) Consumers are non-satiated with respect to goods they confront
    (E) Consumers are irrational
    Choose the correct answer from the options given below:
    (a) (C), (D), (E) only (b) (A), (C), (D) only
    (c) (A), (B), (C) only

[MAR 2023 P1]

66. Which of the following is not true in case of Indifference curves?
    (a) The Indifference curves are usually convex or bowed inward.
    (b) Indifference curve for two goods that are perfect complements is shaped as right angles.
    (c) Indifference curve for two goods that are perfect substitutes is a downward sloping straight line.
    (d) Indifference curve for two normal goods is a downward sloping straight line.

[MAR 2023 P1]

67. Which one of the following is not true in case of producer's equilibrium?
    (a) $\frac{MP_L}{MP_K} = \frac{w}{r}$ (b) $MRTS_{LK} = \frac{MP_L}{MP_K} = \frac{w}{r}$
    (c) $\frac{MP_L}{w} = \frac{MP_K}{r}$ (d) $MRTS_{LK} = \frac{r}{w}$

[MAR 2023 P1]

68. If the demand and supply functions are given $P_d = 20 - 5x$ and $P_s = 4x + 8$; obtain Producer's surplus
    (a) 31/9 (b) 32/9
    (c) 129/9 (d) 29/9

[MAR 2023 P1]

69. The demand function for Good A is given by $Q_A = 100 - 2P_A + 0.2Y + 0.3P_B$.
    Find the cross - price elasticities of demand at $P_A = 6$, $Y=500$, $P_B=10$.
    (a) 0.06 (b) 0.026
    (c) 0.52 (d) - 0.06

[MAR 2023 P2]

70. In case of two goods for which the MRS is zero or infinite, then the nature of goods is:
    (a) Perfect substitutes (b) Normal goods
    (c) Perfect complements (d) Close substitutes

[MAR 2023 P2]

71. Which of the following is not true?
    (a) Total effect of price change on consumption of a good is a combination of income effect and substitution effect
    (b) For inferior goods, the income effect is always larger than the substitution effect, in absolute terms.
    (c) For corner solution $MRS_{xy} \neq \frac{P_x}{P_y}$
    (d) For a normal good both the income and substitution effect hold

[MAR 2023 P2]

72. The negative network externality in which a consumer wishes to own an exclusive or unique good such as specially designed sports car is:
    (a) Bandwagon effect (b) Tequila effect
    (c) Snob effect (d) Pigou effect

[MAR 2023 P2]

73. Which of the following are the essential features of weak sustainability?
    A. It considers human-made capital and natural capital as close substitutes.
    B. It puts emphasis on the initial size of an economy since the size of the initial capital stock is considered relevant.
    C. It requires from each generation to ensure that their actions do not compromise the productive capacity of the generations to follow
    D. The composition of the capital stock of an economy does not hold great significance
    E. It renders natural capital as an absolute necessity for sustaining net national income over an indefinite period.

    Choose the most appropriate answer from the options given below:
    (a) A, C and D only (b) A, B and C only
    (c) C, D and E only (d) A, B and E only

[JUNE 2023]

74. Suppose good 1 is taken on the horizontal axis and good 2 on vertical axis, then what happens to the budget line if the price of good 1 doubles and price of good 2 triples?
    (a) The budget line becomes steeper
    (b) The budget line becomes flatter
    (c) The budget line become vertical
    (d) The budget line remains unchanged

[JUNE 2023]

75. Properties of expenditure function are (in the context of utility theory),
    A. Homogeneous of degree one in price, P
    B. Strictly increasing in utility, u and non-decreasing in price, P for any good 1.
    C. Concave in P
    D. Continuous in P and u
    E. Strictly convex in P

    Choose the correct answer from the option given below:
    (a) A, C, D, E only (b) A, B. D. E only
    (c) A, B, C, D only (d) B, C, D, E only

[JUNE 2023]

76. The utility function of a consumer is given by$U = f(q_1, q_2) = q_1.q_2$, suppose the price of $q_1$is $P_{q1} = 1$ and price of q_2 is $P_{q^2} = 2$. The consumer wants to spend amount of k units only what will be his demand for q_1 and q_2?
    (a) $(q_1, q_2) = \left(k, \frac{k}{2}\right)$ (b) $(q_1, q_2) = \left(\frac{k}{4}, \frac{k}{6}\right)$
    (c) $(q_1, q_2) = \left(\frac{k}{2}, \frac{k}{4}\right)$ (d) $(q_1, q_2) = \left(\frac{k}{2}, \frac{k}{3}\right)$

[DEC 2023]

77. Consider a consumer's choice based on only 2 commodities $i.e., X\epsilon\, R_+^2$, where X is a set of all commodity bundles which the consumer can conceive of. Suppose x and y are the 2 different commodity bundles and the budget set B of the consumer can be written as: $B = \{(x, y): Pix + P_2y \leq M);\ x; > 0, i = 1,2$. Which of the following statements is true?
    (a) The budget set is an open, bounded and convex set
    (b) The budget set is not a bounded set
    (c) The budget set is a closed and non-convex set
    (d) The budget set is a closed, bounded and convex set

[DEC 2023]

78. In case of two perfect complement goods, which following statement is not true?
    (a) The substitution effect is zero.
    (b) The indifference curves are straight lines.
    (c) The indifference curves are L shaped
    (d) The goods are always demanded in fixed proportions.

[DEC 2023]

79. Consider the following statements:
    Assume a consumer's choice is based on only 2 commodities ie., $X\epsilon\, R_+^2$, where X is the set of an possible commodities which a consumer can conceive of:
    (A) Monotonicity of preference implies strong monotonicity but not the other way round.
    (B) A preference relation is monotone if for all commodity bundle $x, y\, \epsilon\, X, y \geq x\ and\ y \neq x$; then $y \succeq x$.
    (C) A preference relation $\succeq$ on X is strongly monotone if for all commodity bundles $x, y\, \epsilon\, X$, $y \gg x\ and\ y \neq x;\ then\ y \succeq 1.$
    (D) A preference which is locally non satiated must follow monotonicity and strong monotonicity.

    Choose the correct answer from the options given below:
    (a) (B) and (D) Only (b) (A), (B) and (D) Only
    (c) (A), (C) and (D) Only (d) (A) and (D) Only

[DEC 2023]

80. Consider the following statements:
    (A) If the 2 utility functions $u(x)$ and $b(r)$ are related by $u(x) = V(b(x))$, where $V'(.) > 0, then\ V(x)$ is a utility function representing the same preference as $b(x)$.
    (B) If the 2 utility functions represents the same preference, the solutions to the consumer's utility

maximization problem are the same with the 2 utility function but the indirect utility functions are different.

(C) If the local non satiation assumption of preference is satisfied, any solution to the consumer's utility maximization problem satisfies the budget constraint with equality.

(D) If the indirect utility function of b(x) is homogenous of degree 0 then indirect utility function of $u(x) = V(b(x)), where\ V'(.) > 0,$ is a homogenous function of degree 1.

Choose the correct answer from the options given below:

(a) (B) Only
(b) (A), (B) and (D) Only
(c) (A), (B) and (C) Only
(d) (B), (C) and (D) Only

[DEC 2023]

81. Match List - I with List - II.

List – I	List – II
(A) Shephard's Lemma	(I) Hidden types of agent
(B) Adverse Selection	(II) Envelope theorem
(C) Hotelling Lemma	(III) Indirect utility function
(D) Roy's Identity	(IV) Profit function

Choose the correct answer from the options given below:

(a) (A)-(IV), (B)-(I), (C)-(II), (D)-(III)
(b) (A)-(II), (B)-(I), (C)-(IV), (D)-(III)
(c) (A)-(II), (B)-(I), (C)-(III), (D)-(IV)
(d) (A)-(II), (B)-(IV), (C)-(I), (D)-(III)

[JUNE-2024]

82. Which of the followings is/are true pertaining to the marginal rate of substitution (MRS) of two goods.

(A) MRS is the rate at which consumer substitutes one good for the other.

(B) MRS falls as we move down the indifference curve from left to right.

(C) An indifference curve is convex, if the MRS increases along the curve.

(D) If MRS along the IC remains constant, then the IC is a straight line.

(E) If MRS for two goods is zero or infinite, IC are shaped as right angles.

Choose the most appropriate answer from the options given below:

(a) A and B only
(b) B and C only
(c) A, C and D only
(d) A, B, D and E only

[JUNE- 2024]

83. In the short run which of the following always gets smaller as output increases?

(a) Average Fixed Cost
(b) Average Variable Cost
(c) Short run Average Cost
(d) Short run Marginal Cost

[JUNE- 2024]

84. Two factors of production, say A and B have the same price. The least cost combination of A and B for producing a given level of output will be achieved at a point where the Isoquant has a slope of:

(a) 2
(b) 0
(c) -1
(d) -2

[JUNE- 2024]

85. The rule of thumb to express price directly as a mark up marginal cost is:

(a) $P = \frac{MC}{1+\left(\frac{1}{E_d}\right)}$
(b) $P = \frac{MC}{1-\left(\frac{1}{E_d}\right)}$
(c) $P = \frac{MC+1}{E_d}$
(d) $P = \frac{MC-1}{E_d}$

[JUNE -2024]

86. Match List-I with List-II

List-I	List-II
A. Income elasticity coefficient exceed unit	I. Substitute commodities
B. Positive cross-price elasticity coefficient	II. Inferior good
C. Downward slopping price consumption curve	III. Relative elastic demand
D. Negative income effect	IV. Luxurious commodity

Choose the correct answer from the options given below:

(a) A-IV, B-III, C-II, D-I
(b) A-III, B-I, C-II, D-IV
(c) A-III, B-I, C-IV,D-II
(d) A-IV, B-I, C-III, D-II

Answer Key									
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
(a)	(d)	(c)	(a)	(c)	(c)	(b)	(b)	(d)	(c)
11	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
(d)	(b)	(c)	(b)	(a)	(b)	(b)	(a)	(c)	(a)
21	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
(c)	(b)	(c)	(a)	(a)	(b)	(d)	(a)	(c)	(b)
31	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**
(b)	(a)	(d)	(a)	(b)	(d)	(c)	(a)	(c)	(d)
41	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**
(a)	(a)	(b)	(d)	(c)	(d)	(c)	(b)	(c)	(a)
51	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
(c)	(c)	(b)	(d)	(b)	(d)	(b)	(c)	(c)	(b)
61	**62**	**63**	**64**	**65**	**66**	**67**	**68**	**69**	**70**
(b)	(b)	(d)	(c)	(b)	(d)	(d)	(b)	(b)	(c)
71	**72**	**73**	**74**	**75**	**76**	**77**	**78**	**79**	**80**
(b)	(c)	(a)	(b)	(c)	(c)	(d)	(b)	*	(c)
81	**82**	**83**	**84**	**85**	**86**				
(b)	(d)	(a)	(c)	(b)	(d)				

SOLUTIONS

1. Correct Answer is (a): The correct formula for the price elasticity of demand is:

$$\frac{\Delta Q_x}{\Delta P_x} \cdot \frac{P_x}{Q_x}$$

This represents the percentage change in quantity demanded divided by the percentage change in price.

2. Correct Answer is (d): If the price consumption curve bends backwards, it typically indicates that the commodity is a **Giffen good**. Giffen goods exhibit an increase in demand when the price rises, which is contrary to the usual law of demand, and this is often due to the income effect overpowering the substitution effect.

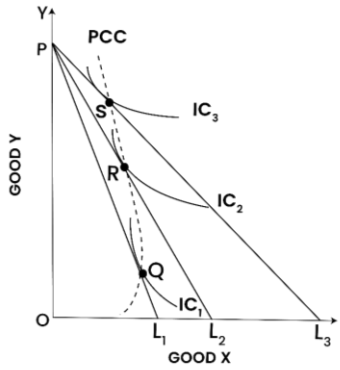


Diagram- Backward sloping Price Consumption Curve in case of Giffen goods

Backward sloping price consumption curve for good X indicates that when price of X falls, after a point smaller quantity of it is demanded or purchased

3. Correct Answer is (c): Explanation

The **Assertion (A)** is correct: when the price elasticity of demand is zero, the demand curve is vertical, indicating that the quantity demanded does not change regardless of price changes.

The **Reason (R)** is incorrect: marginal utility of a product typically decreases as consumption increases, not increases. This does not explain why the demand curve would be vertical.

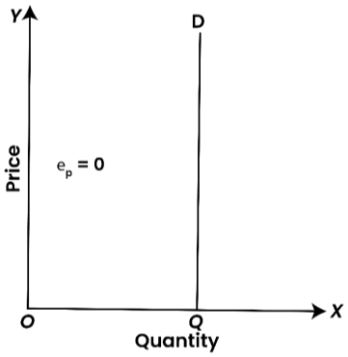
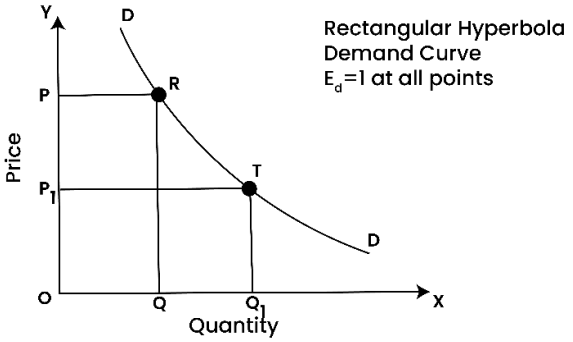


Diagram-Perfect Inelastic Demand

In this case, changes in price of a commodity does not affect the quantity demand of the commodity at all. Demand curve is a vertical straight line(parallel to Y axis).



4. Correct Answer is (a): Here is the correct matching of List I and List II:

- (A) **Consumer's Surplus** matches with **(iv) Welfare economics**, as consumer surplus is a concept used in welfare economics to measure the benefit consumers receive.
- (B) **Utility theory** matches with **(iii) Progressive taxation**, since utility theory is often applied to understand the effects of progressive taxation on individual welfare.
- (C) **Cost Analysis** matches with **(i) Supply decision**, as cost analysis is crucial for making decisions about production and supply.
- (D) **Product differentiation** matches with **(ii) Art of Advertising**, as product differentiation is often achieved through advertising to distinguish products in the market.

5. Correct Answer is (c): The price elasticity of demand is equal to one when the demand curve is a **rectangular hyperbola**, because the percentage change in quantity demanded is exactly equal to the percentage change in price at every point on this curve. This means the demand is unit elastic.

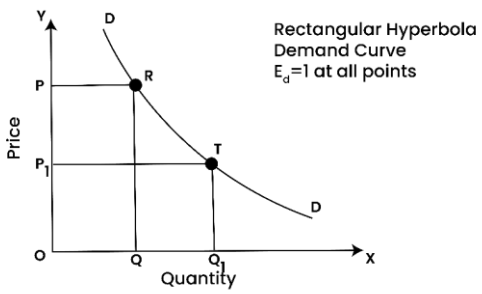


Diagram-Rectangular Hyberbola demand curve

The area of each rectangle formed under demand curve is equal.

6. Correct Answer is (c): The correct chronological order is:

1. **Tableau Économique** (1758) – Developed by François Quesnay.
2. **Theory of Absolute Advantage** (1776) – Introduced by Adam Smith in *The Wealth of Nations*.
3. **Say's Law of Markets** (1803) – Formulated by Jean-Baptiste Say.
4. **Theory of Surplus Value** (1867) – Introduced by Karl Marx in *Das Kapital*.

7. Correct Answer is (b): For **inferior goods**, as income increases, the quantity demanded decreases, leading to a **negatively sloped** income consumption curve. Similarly, Engel's curve, which shows the relationship between income and quantity demanded, will also be negatively sloped for inferior goods.

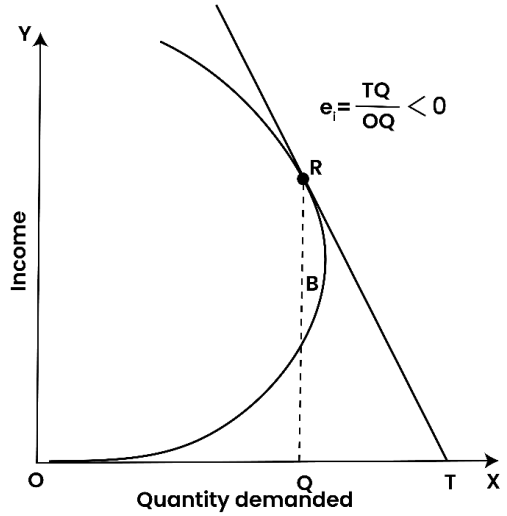


Diagram-1 Backward bending Engel Curve of an inferior good

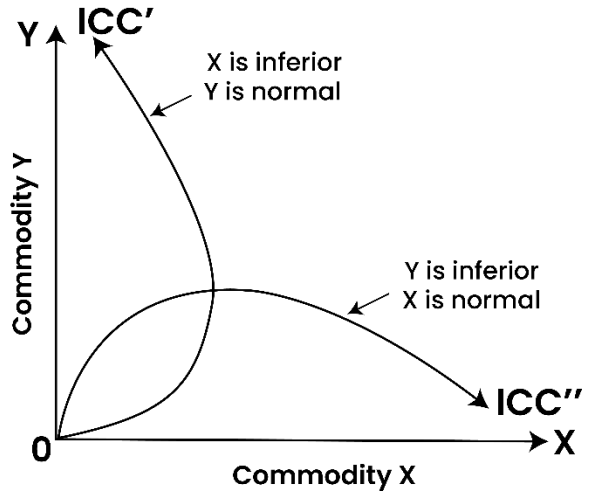


Diagram-2 Income Consumption curves of inferior goods

If income effect for good X is negative, income consumption curve will slope backward to the left as ICC'.

If good Y happens to be an inferior good and income consumption curve will bend towards X-axis as ICC''.

8. Correct Answer is (b):

- **Assertion (A) is correct**: Giffen's paradox, where a decrease in the price of a good leads to a decrease in demand, is rare in the real world due to the specific conditions needed for it to occur (the good must be an inferior good, and the income effect must dominate the substitution effect).
- **Reason (R) is also correct**: Inferior goods are narrowly defined, and often suitable substitutes are available, which makes it difficult for Giffen behavior to manifest.
- However, (R) does not fully explain (A) because the rarity of Giffen's paradox is more due to the unique interaction between the income and substitution effects, rather than just the availability of substitutes.

9. Correct Answer is (d): The Revealed Preference Approach, developed by Paul Samuelson, assumes that a person's preferences are stable over time and relies on repeated observations of their market behavior to derive indifference curves. It does not assume that all people have identical tastes.

10. Correct Answer is (c): Let's match the items correctly:

1. **Cardinal Utility Theory of Demand** is associated with **A. Marshall** (Marshall developed the concept of cardinal utility).
2. **Revealed Preference Theory of Demand** is associated with **Samuelson** (Paul Samuelson formulated the Revealed Preference Theory).
3. **Indifference Preference Theory of Demand** is associated with **Hicks** (John Hicks developed the Indifference Curve Analysis).
4. **Utility Index under uncertainty** is associated with **Neumann & Morgenstern** (they developed the concept of utility under uncertainty in their work on game theory).

11. Correct Answer is (d): The correct chronological order of the development of the theory of demand is:

1. **Marshall's theory of demand** (Cardinal utility
2. theory) – late 19th century.
3. **Indifference curves** – developed by Hicks and Allen in the early 20th century.

4. **Revealed preference theory** – introduced by Samuelson in 1938.
5. **Weak preference ordering theory** – a more recent development in demand theory.

12. Correct Answer is (b): A demand curve that is parallel to the horizontal axis (i.e., perfectly elastic) indicates that any change in price will cause an infinite change in the quantity demanded. In this case, the price elasticity of demand is **infinite**.

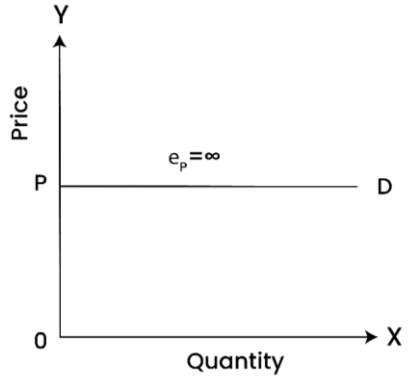


Diagram- PD is demand curve showing perfect elasticity (parallel to X-axis)

13. Correct Answer is (c): Two commodities are considered **substitutes** if an increase in the price of one commodity leads to an increase in the demand for the other. Mathematically, this implies that the partial derivative of the quantity demanded of one good with respect to the price of the other good is positive for both goods.

14. Correct Answer is (b): Explanation:

- **Agency Theory of Firm** is associated with **M.C. Jensen and W.J. Meckling**.
- **X-inefficiency** is associated with **Harvey Leibenstein**.
- **The Utility Maximisation Model** is linked to **O.E. Williamson**.
- **Edgeworth box diagram** was first used by **Wilfredo Pareto**.

15. Correct Answer is (a):

For substitutes, an increase in the price of one good leads to an increase in the demand for the other good. This relationship causes the cross elasticity of demand to be positive.

16. Correct Answer is (b):

- **Tea and Coffee** are **Substitutes** (A-2).
- **Car and Petrol** are **Complementary** goods (B-4).
- **Gold and Diamonds** are considered **Veblen goods**, where demand increases with price due to their status symbol (C-1).
- **Ragi and Bajra** are often treated as **Giffen goods** in certain situations, where higher prices may lead to higher consumption due to limited alternatives (D-3).

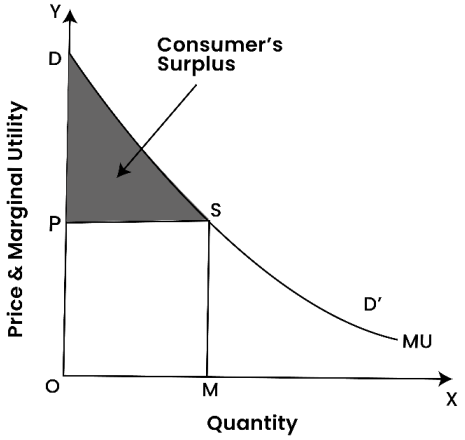
17. Correct Answer is (b):

1. **Law of Demand** came first, established by early economists like Alfred Marshall.
2. **Law of Diminishing Marginal Utility** followed, contributing to consumer choice theory.
3. **Indifference Curve Analysis** was developed next by economists like Edgeworth and Hicks.
4. **Revealed Preference Analysis** was introduced later by Paul Samuelson as a more empirical approach to consumer choice behavior.

18. Correct Answer is (a):

- **Assertion (A)** is true because consumer surplus is the difference between the price a consumer is willing to pay (potential price) and the actual price they pay.
- **Reason (R)** is also true because there is an inverse relationship between price and consumer surplus: when the price increases, consumer surplus decreases, and vice versa.

Since the inverse relationship explains why consumer surplus is the difference between the potential and actual price, **(R)** is the correct explanation of **(A)**.



As per the diagram, quantity demanded is shown on X-axis and Marginal Utility& Price are shown on Y-axis.

DD is the demand curve or marginal utility curve which is sloping downward.

Now, the total utility derived by the consumer from OM units is equal to ODSM. But given the price OP, the consumer is actually paying for OM units is OPSM.

Thus, Consumer derives extra utility equal to DPS(shaded area)=ODSM-OPSM

19. Correct Answer is (c):

A: Indifference curves slope downward from left to right because to maintain the same level of utility, a decrease in one good requires an increase in the other.

C: Indifference curves are convex to the origin, reflecting the diminishing marginal rate of substitution between the two goods.

D: Indifference curves never intersect each other because it would violate the assumption of consistent preferences.

B: is incorrect because indifference curves do not slope downward from right to left; they always slope from left to right.

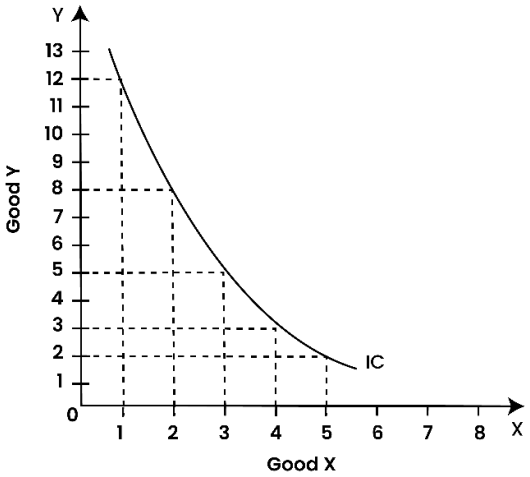


Diagram- IC is indifference curve sloping downward from left to right and convex to the origin

20. Correct Answer is (a): Adam Smith distinguished between **value in use** and **value in exchange** in his famous example of **diamonds and water** in "The Wealth of Nations." He pointed out that water, which is essential for life, has little exchange value, whereas diamonds, which are not essential, have high exchange value.

21. Correct Answer is (c):

I: Cardinal utility analysis assumes that **utility is measurable and quantifiable**, meaning that satisfaction can be assigned specific numbers.

IV: The cardinal approach uses **introspective methods** to judge the behavior of marginal utility, assuming that individuals can introspectively assess and quantify their satisfaction levels.

II and III are not basic assumptions of cardinal utility:

II: Cardinal utility analysis assumes that the **marginal utility of money remains constant** (not that it changes with income).

III: It assumes that utilities derived from various goods are **independent**, not interdependent.

22. Correct Answer is (b): The **Engel Curve** shows the relationship between a consumer's income and the quantity of a good they are willing to purchase. It illustrates how the demand for a good changes as the consumer's income changes.

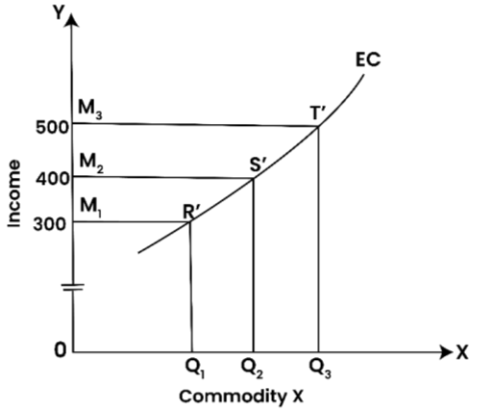


Diagram- Quantity demanded is shown on X-axis and Income of consumer is shown on Y-axis.

EC is Engel curve for normal goods which is upward sloping and shows that as income increases, consumer buys more pf a commodity.

23. Correct Answer is (c): The **Edgeworth box diagram** is a graphical illustration used in economics to demonstrate how the allocation of goods and resources between two parties can be improved through exchange. It shows the possible distributions of two goods between two individuals and helps illustrate the conditions for **Pareto efficiency** in an exchange economy.

24. Correct Answer is (a): Gossen's second law, also known as the **Law of Equi-marginal Utility**, states that consumers will allocate their resources (income) among different goods in such a way that the **marginal utility per unit of money spent on each good is equalized**. This maximizes total utility given a budget constraint.

25. Correct Answer is (a):

- **Statement I**: According to **Revealed Preference Theory**, the consumer is expected to choose bundles of goods based on their preferences, and typically **income elasticity of demand is positive** for normal goods, as increased income leads to higher demand for these goods.
- **Statement II**: In **Revealed Preference Theory**, consumer preferences are assumed to follow **strong ordering**. This means that consumers consistently make rational choices that can be ranked and transitive (if A is preferred to B, and B is preferred to C, then A is preferred to C).

26. Correct Answer is (b): Engel's Law states that as a household's income increases, the proportion of income spent on food decreases, even if the actual amount of money spent on food rises. This means that the **demand for food is income inelastic**, as food consumption does not increase proportionally with income.

27. Correct Answer is (d): The **Giffen paradox** occurs when the income effect is **negative** and larger than the substitution effect. This leads to an increase in the quantity demanded of an inferior good as its price increases, which is contrary to the typical law of demand.

28. Correct Answer is (a): Kerosene is considered an **inferior good** because, as people's income rises, they tend to switch to more efficient and cleaner energy sources like cooking gas or electricity. Inferior goods are those whose demand decreases as income increases.

29. Correct Answer is (c):

- **Cardinal Approach** is associated with **Alfred Marshall**.
- **Indifference Curve** theory is associated with **J. K. Hicks**.
- **Revealed Preference Approach** is associated with **P. A. Samuelson**.
- **Neo-utility theory of risky choices** is associated with **Von Neumann Morgenstern**.

30. Correct Answer is (b): Excess demand (E(p)=D(p)−S(p) refers to the situation where the quantity demanded exceeds the quantity supplied. For the market to reach equilibrium, excess demand must decrease as the price increases. This implies that the derivative of excess demand with respect to price $\frac{d(E_P)}{dp}$ must be **negative**, meaning that as price increases, excess demand decreases, leading to market equilibrium.

31. Correct Answer is (b): On a straight-line demand curve, **demand is elastic above the midpoint** because a small change in price leads to a relatively larger change in quantity demanded. **At the midpoint**, the demand is **unitary elastic** (elasticity equals 1), and **below the midpoint**, the demand becomes **inelastic** (elasticity is less than 1).

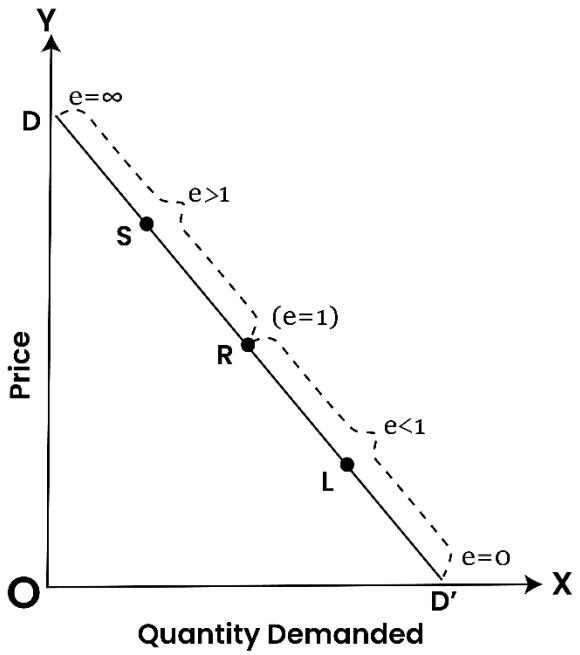


Diagram- DD' is the demand curve showing different elasticity of demand at various points on demand curve DD'.
At midpoint R, e=1

32. Correct Answer is (a): The **Slutsky equation** decomposes the total **price effect** into two components: the **substitution effect** (the change in consumption due to a change in relative prices, holding real income constant) and the **income effect** (the change in consumption due to a change in purchasing power caused by a change in price).

33. Correct Answer is (d): For a **linear demand curve**, the **elasticity of demand** varies along the curve. At the upper portion of the curve, the demand is more **elastic**, and as you slide down the curve, the elasticity **decreases**, eventually becoming **inelastic** at the lower portion. At the midpoint, the elasticity is **unitary (equal to 1)**.

34. Correct Answer is (a): In the diagram, the income-consumption curve (IC) bends backward, which suggests that one of the goods becomes inferior at higher levels of income.

- Initially, as income rises, more of **Good A** is consumed, showing that it is a **normal good** at lower income levels.
- However, beyond a certain point, consumption of **Good A** decreases as income increases, indicating that it has become an **inferior good** at higher income levels.

Therefore, the correct interpretation is that **Good A** is an inferior good at higher income levels.

35. Correct Answer is (b): In the given diagram, **consumer surplus** is represented by the area between the demand curve and the price level, up to the quantity purchased. It is the difference between what consumers are willing to pay and what they actually pay.
In this case, the area of the **triangle APE** represents the consumer surplus, as it is the area between the demand curve (line AD), the price level (P), and the quantity demanded (Q).

36. Correct Answer is (d): In this diagram, the consumer's **consumer surplus** is typically the vertical distance between the price the consumer is willing to pay and the price they actually pay. Here:

- **P** represents the price the consumer is willing to pay initially.
- **B** represents the price they actually pay.

The distance **AB** is the consumer surplus, which is the difference between these two prices.

37. Correct Answer is (c): The **Slutsky equation** breaks down the total change in demand due to a price change into two components: the **substitution effect** (how demand changes as the relative price changes, holding utility constant) and the **income effect** (how demand changes as real income changes due to the price change).

38. Correct Answer is (a): For **inferior goods**, an increase in income leads to a decrease in the quantity demanded. This is because, as consumers' income rises, they tend to switch to more desirable substitutes. This results in a **negative income effect** for inferior goods.

39. Correct Answer is (c): If the sales tax on a commodity is raised and the revenue earned decreases sharply, it indicates that the **price elasticity of demand for the commodity is high**. This means that consumers are highly responsive to price changes, and when the price increases (due to higher sales tax), the quantity demanded decreases significantly, leading to a sharp drop in revenue.

40. Correct Answer is (d): To find the price at which the elasticity of demand would be unity, we need to calculate the price elasticity of demand (Ed). The formula for the elasticity of demand is:

$E_d = \frac{-p}{q}.\frac{dq}{dp}$

Given, $Q = \frac{20}{P}$

Now $\frac{dQ}{dp} = -\frac{20}{p^2}$

Thus , $E_d = \frac{-p}{20/p}.\frac{-20}{p^2}$=1

The elasticity of demand is 1, which means the absolute value of the elasticity is 1 (unitary elasticity). This implies that the elasticity of demand will be unity **at any price**.

41. Correct Answer is (a):

1. **Income Effect:** As the price of a good decreases, the consumer's real income or purchasing power effectively increases, allowing them to buy more of the good. Conversely, when the price increases, the real income decreases, reducing the quantity demanded.
2. **Substitution Effect:** When the price of a good falls, it becomes cheaper relative to other goods, leading consumers to substitute it for other goods. Conversely, if the price rises, the good becomes relatively more expensive, and consumers will substitute other goods for it.

42. Correct Answer is (a): The demand for rare paintings, rare stamps, and similar items is explained by the **Snob effect**. This effect refers to the situation where the demand for a good increases as its exclusivity or rarity increases, often because people desire such items to signal their uniqueness or social status.

43. Correct Answer is (b): Elasticity of demand generally decreases as we move downward along a linear demand curve. The higher the price, the more elastic the demand tends to be, while at lower prices, demand tends to be less elastic (more inelastic).
Since point R is higher up on the demand curve AB than point S is on demand curve CD, and the curves are parallel, we can conclude that the price elasticity of demand at R is higher than that at S.

44. Correct Answer is (d): If the supply of hamburgers decreases and people like onions on their hamburgers, the demand for onions will most likely:

(d) decrease because hamburgers and onions are complements

When the supply of hamburgers decreases, there will be fewer hamburgers available, which can lead to a decrease in the quantity of hamburgers consumed. Since onions are typically consumed with hamburgers, a decrease in hamburgers would likely lead to a decrease in the demand for onions as well, because the two are complementary goods.

45. Correct Answer is (c):

1. **Assertion (A) is true:** Revealed preference theory is based on the idea that a consumer's preferences can be inferred from their observed choices. Giffen goods, however, defy this theory. A Giffen good is one where the demand increases as the price increases, contrary to the usual law of demand. This anomaly is not easily explained by revealed preference theory.
2. **Reason (R) is false:** While revealed preference theory often assumes negative income elasticity for normal goods (demand decreases as income increases), it doesn't strictly limit itself to this. The theory can accommodate different types of goods, including those with positive income elasticity (inferior goods).

   Therefore, while the assertion is correct, the reason provided is not the accurate explanation for why revealed preference theory struggles with Giffen goods. The issue lies in the inherent contradiction between the theory's assumptions and the behavior of Giffen goods.

46. Correct Answer is (d): A good is called a **Giffen good** when the income effect is **negative** and **stronger** than the substitution effect. This means that as the price of the good decreases, the reduction in real income leads to an increase in the quantity demanded of the good, overriding the usual substitution effect. **(a) positive and is greater than the substitution effect**

In other words, the income effect is positive and stronger than the substitution effect, leading to an increase in quantity demanded when the price rises.

47. Correct Answer is (c): In the Edgeworth Box, an efficient allocation refers to Pareto efficiency, where resources are allocated in such a way that no one can be made better off without making someone else worse off. Moving from an inefficient allocation to an efficient allocation typically results in the following:

(c) increase the utility of one individual, but cannot decrease the utility of any individual

This is because, in reaching Pareto efficiency, at least one person's utility will improve, but no one's utility will decrease. An inefficient allocation means there are potential improvements where someone's utility can be increased without harming others.

48. Correct Answer is (b): Real Income (A) is **not constant** because it changes with the price of goods, affecting purchasing power.

Money Income (B) is **constant** in the context of the price effect since we assume it doesn't change with the price effect.

Price Ratio (C) is **not constant** as it changes with the price levels of the goods involved.

49. Correct Answer is (c):

Giffen good: A special type of inferior good where the demand for the good increases as its price increases.

Price line shift and equilibrium change: The shift from PQ to PQ' indicates a decrease in the price of potatoes. The consumer moving from point A to point B means they are buying *more* potatoes despite the lower price. This behavior is characteristic of a Giffen good, where the income effect (which would normally decrease demand due to increased purchasing power) is so strong that it outweighs the substitution effect (which would normally increase demand due to the lower relative price).

50. Correct Answer is (a): In the context of demand functions, the inverse demand function expresses the price p as a function of the quantity demanded D. So, it shows how the price changes with respect to changes in the quantity demanded.

51. Correct Answer is (c): Given the demand function D=10−2p

At p=2,D=10-2(2)=6

When D=0, then

0=10-2p

Thus, p=5

The maximum price consumers are willing to pay is $5.

Consumer's Surplus=$\frac{1}{2}$×(Base)×(Height)

Where:

- Base = Quantity demanded at p=2 = 6
- Height = Maximum price consumers are willing to pay - Price paid = 5 - 2 = 3
- Consumer's Surplus= $\frac{1}{2}$××6×3=9

52. Correct Answer is(c): Given Demand function $p = 27 - 3x - x^2$

At x=3, P=27-3(3)-$3^2 = 9$

At x=0, P=27

Consumer's Surplus=$\int_0^3 (27 - 3x - x^2).dx$ – (Price). (quantity)

First we will calculate $\int_0^3 (27 - 3x - x^2).dx$

$[27x - \frac{3}{2}x^2 - \frac{x^3}{3}]_0^3$

(27(3)-$\frac{3}{2}(3)^2$-$\frac{(3)^3}{3}$)-[27(0)-3(0)-0^2]

(81-$\frac{27}{2}$-9)=58.5

At x=3,p=9

Total Expenditure=9.3=27

Consumer Surplus=58.5-27=31.5

53. Correct Answer (b): Given demand function $q = kp^r$

Now Price Elasticity of demand(E)=$\frac{p}{q}.\frac{dq}{dp}$

Also $q = kp^r$

$\frac{dq}{dp}$=krp^{r-1}

Now E= krp^{r-1}.$\frac{p}{q}$

Put $q = kp^r$

Thus E= krp^{r-1}.$\frac{p}{kp^r}$=r

54. Correct Answer is (d): Here's the correct matching of List-I with List-II:

- **(a) Various combinations that a consumer can purchase**: (iii) Budget line
- **(b) Various combinations of two commodities providing equal satisfaction to consumer**: (ii) Indifference curve
- **(c) A set of indifference curves**: (i) Indifference map
- **(d) Point of tangency of a budget line on an indifference curve**: (iv) Consumer's equilibrium

55. Correct Answer is (b): Given AR = 15 and MR = 5

We know that Elasticity=$\frac{AR}{AR-MR}$=$\frac{15}{15-5}$=$\frac{15}{10}$=1.5

56. Correct Answer is (d): Correct Matching

A. Marshall (who laid foundational work on consumer theory with his principles of supply and demand in the late 19th century)

J.R. Hicks (who developed the indifference curve analysis and the concept of consumer equilibrium in the 1930s)

R.G.D. Allen (who worked on the theory of consumer choice and utility in the 1930s)

P. Samuelson (who further developed consumer theory and formalized utility theory in the 1940s)

R. Stone (who contributed to consumer theory through his work on national accounts and consumer expenditure in the 1950s)

57. Correct Answer is (b): Cardinal theory: The cardinal utility theory, which was developed by economists like **Alfred Marshall**, is based on the idea that utility can be measured and quantified. This theory dates back to the late 19th and early 20th centuries.

Ordinal theory: The ordinal utility theory, developed by **Vilfredo Pareto** and further expanded by **John Hicks** and **R.G.D. Allen**, emerged in the 1930s. It focuses on ranking preferences rather than measuring them in cardinal terms.

Revealed preference theory: Introduced by **Paul Samuelson** in the 1940s, this theory posits that consumer preferences can be revealed through their purchasing choices rather than through direct utility measurement.

Linear expenditure system: Developed by **Richard Stone** and others in the 1950s, this system extends the consumer theory by allowing for a more practical analysis of consumer behavior using linear budget constraints.

58. Correct Answer is (c): To assess the validity of the statements:

Assertion (A): For certain goods, the expenditure by the consumer decreases.

Reason (R): For such goods, the income elasticity of demand is high.

Let's analyze both statements:

1. **Assertion (A)** can be true. For some goods, especially inferior goods, as income increases, the consumer might spend less on these goods because they switch to higher-quality substitutes.
2. **Reason (R)** states that the income elasticity of demand is high. Income elasticity of demand measures how the quantity demanded of a good responds to changes in consumer income. A high income elasticity means that the quantity demanded increases significantly with income. For certain goods, particularly inferior goods, the income elasticity is negative, not high, meaning that as income increases, the quantity demanded of such goods decreases.

59. Correct Answer is (c):

Cross elasticity of demand:

$$E_{AB} = \frac{\%\ change\ in\ quantity\ demanded\ of\ good\ A}{\%\ change\ in\ price\ of\ good\ B}$$

Given:

- Cross elasticity of demand, E_{AB}=0.8
- Price change of bus rides = 5% (0.05)
- Total metro ridership = 1.5 lakh (150,000 rides)

% change in quantity demanded of metro rides=E_{AB} × $\%\ change\ in\ price\ of\ bus\ ride$

% change in quantity demanded of metro rides=0.8× $0.05 = 0.04\ or\ 4\%$

Change in total metro rides=Total metro ridership× Percentage change
in quantity demanded of metro rides=150000× $0.04 = 6000$

60. Correct Answer is (b):

- **Income Consumption Curve (ICC):** This curve shows the combinations of goods that a consumer can afford and is willing to buy at different levels of income.
- **Slope of ICC:** The slope of the ICC represents the marginal rate of substitution (MRS), which is the rate at which the consumer is willing to trade one good for another.
- **Upward Sloping ICC:** If the ICC slopes upward, it means that as the consumer's income increases, they consume more of both goods. This indicates that both goods are normal goods.
- **Downward Sloping ICC:** If the ICC slopes downward, it means that as the consumer's income increases, they consume less of one good and more of the other. This suggests that one good is inferior and the other is normal.

  In the given diagram, the ICC slopes downward beyond point A. This implies that as the consumer's income increases beyond the level represented by point A, they consume less of Good y and more of Good x. Therefore, Good y is an inferior good, and Good x is a normal good.

61. Correct Answer is (b): In the context of indifference curves for two goods X and Y, the Marginal Rate of Substitution (MRS) of X for Y is the rate at which a consumer is willing to give up Y in exchange for one more unit of X while maintaining the same level of satisfaction. Typically, as the consumption of X increases (and assuming Y remains constant), the consumer's willingness to give up Y for additional units of X diminishes. This is due to the principle of diminishing marginal rate of substitution, which implies that as you consume more of X, the marginal utility of X decreases relative to the marginal utility of Y.

62. Correct Answer is (b): Correct Chronology is:

(B) Law of demand: This is the earliest concept, stating that as the price of a good decreases, the quantity demanded increases, ceteris paribus.

(A) Law of diminishing marginal utility: This concept explains why the additional satisfaction derived from consuming one more unit of a good decreases as the consumer consumes more of that good.

(D) Indifference Curve Analysis: This is a more modern approach that uses indifference curves to represent consumer preferences and budget constraints.

(C) Revealed Preference Analysis: This is a relatively recent concept that infers consumer preferences from their observed choices, without assuming any underlying utility function.

63. Correct Answer is (d): For a monopolist, the marginal revenue (MR) is related to the price (P) and the elasticity of demand (E) by the following formula:

$MR=P(1+\frac{1}{E})$

Where:

- P is the price per unit (Rs. 40),
- E is the price elasticity of demand (−2).

$MR=40(1+\{-\frac{1}{2}\})$

$MR=40(1-\frac{1}{2})$

$MR=40.\frac{1}{2}=20$

In a profit-maximizing situation, marginal revenue equals marginal cost (MC). Therefore, the marginal cost of the last unit produced is:

MC=MR=20

64. Correct Answer is (c):

In the case where:

- The income effect is in the opposite direction to the substitution effect,
- The substitution effect dominates, the good is typically an **inferior good** but not necessarily a Giffen good.
- **Giffen Goods**: A specific type of inferior good where the income effect is so strong that it outweighs the substitution effect, leading to an increase in quantity demanded as the price rises.

  Given that the substitution effect dominates, this means the usual relationship of quantity demanded increasing with a price decrease holds true, and the income effect, while opposite, is not strong enough to reverse the overall effect.

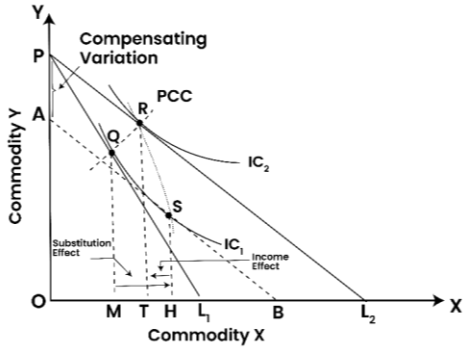


Diagram-Price-Demand relationship in inferior good

As per the diagram, fall in the price of good X shifts equilibrium from point R to point Q. As a result, quantity purchased of good X increases from OM to OT. Income effect is HT.

Also, substitution effect is equal to MH and is greater than negative income effect HT.

Therefore, the net effect of the fall in the price of good X is the increase in quantity demanded by MT.

Hence, in case of inferior goods, quantity demanded varies inversely with price when negative income effect is weaker than the substitution effect

65. Correct Answer is (b): In ordinal utility analysis, the focus is on ranking preferences rather than measuring the magnitude of utility. The main assumptions typically include:

(A) Consumers are consistent in their preferences: This means that if a consumer prefers basket A over basket B and basket B over basket C, then the consumer should prefer basket A over basket C.

(C) Consumer preferences follow transitivity: This is closely related to consistency, stating that if a consumer prefers basket A over basket B and basket B over basket C, then the consumer should prefer basket A over basket C.

(D) Consumers are non-satiated with respect to goods they confront: This implies that more of a good is always preferred to less, given that there are no satiation points within the range considered.

The assumptions **(B) Consumer can measure the total utility received from any given basket of goods** and **(E) Consumers are irrational** do not align with ordinal utility analysis. In ordinal utility analysis, measuring total utility is not required, and rationality is assumed.

66. Correct Answer is (d): Let's review each statement about indifference curves:

(a) The Indifference curves are usually convex or bowed inward: This is generally true. Indifference curves are typically convex to the origin due to the diminishing marginal rate of substitution.

(b) Indifference curve for two goods that are perfect complements is shaped as right angles: This is true. For perfect complements, the indifference curves are L-shaped or right-angled, reflecting that the goods are consumed together in fixed proportions.

(c) Indifference curve for two goods that are perfect substitutes is a downward sloping straight line: This is true. For perfect substitutes, the indifference curves are straight lines with a constant slope, reflecting that the consumer is willing to substitute one good for the other at a constant rate.

(d) Indifference curve for two normal goods is a downward sloping straight line: This is not true. For two normal goods, the indifference curves are typically convex to the origin, not straight lines. Straight-line indifference curves are associated with perfect substitutes, not normal goods.

67. Correct Answer is (d): In the context of producer's equilibrium, where a firm maximizes its output given its input costs, the correct conditions typically are:

a) $\frac{MP_L}{MP_K} = \frac{w}{r}$: This is true. At equilibrium, the ratio of the marginal products of labor (MP_L) and capital (MP_K) should equal the ratio of their prices (wage rate w and rental rate of capital r).

b) $MRTS_{LK} = \frac{MP_L}{MP_K} = \frac{w}{r}$: This is true. The Marginal Rate of Technical Substitution ($MRTS_{LK}$) is defined as $\frac{MP_L}{MP_K}$, and at equilibrium, this should equal the ratio of the input prices w/r

c) $\frac{MP_L}{w} = \frac{MP_K}{r}$. This is true. This equation expresses that the marginal product per unit of cost for each input should be equal in equilibrium.

d) $MRTS_{LK} = \frac{r}{w}$: This is not true. The $MRTS_{LK}$ is defined as $\frac{MP_L}{MP_K}$ and should equal w/r in equilibrium, not r/w.

68. Correct Answer is (b): Given $P_d = 20 - 5x$ and $P_s = 4x + 8$

Set P_d=P_s. Thus $20 - 5x = 4x + 8$

Or 9x=12

X=$\frac{4}{3}$

Put x=$\frac{4}{3}$ in demand function, we get

$P_d = 20 - 5(\frac{4}{3})$=20-$\frac{20}{3}$=$\frac{60-20}{3}$=$\frac{40}{3}$

The Producer's Surplus (PS) can be calculated using the formula: PS=Equilibrium Price× Equilibrium Quantity−Total Variable Cost

The Total Variable Cost is the area under the supply curve up to the equilibrium quantity. We will integrate the supply function from 0 to x:

Total Variable Cost=$\int_0^{\frac{4}{3}}(4x + 8)dx$

$\left(\frac{4x^2}{2} + 8x\right)^{\frac{4}{3}}$,

=[2($\frac{4}{3}$)^2+8(4/3)]=$\frac{32}{9}$+$\frac{32}{3}$=$\frac{32+96}{9}$=$\frac{128}{9}$

Now Producer's Surplus=($\frac{40}{3} \times \frac{4}{3}$)- $\frac{128}{9}$=$\frac{32}{9}$

69. Correct Answer is (b): Given $Q_A = 100 - 2P_A + 0.2Y + 0.3P_B$

The cross-price elasticity of demand measures the responsiveness of the quantity demanded of Good A to a change in the price of Good B. It is given by:

$E_{AB}=\frac{dQ_A}{dQ_B}\times\frac{P_B}{Q_A}$

Now, $\frac{dQ_A}{dQ_B}=0.3$

We will find Q_A at $P_A=6$,Y=500 and P_B=10

Q_A =100-2.6+0.2(500)+0.3(10)=100-12+100+3=191

Now, $E_{AB}=0.3\times\frac{10}{191}$=0.0157

the closest answer is:

(b) 0.026

70 Correct Answer is (c): When the Marginal Rate of Substitution (MRS) between two goods is zero or infinite, it reflects the extreme nature of the relationship between the two goods:

- **MRS is zero**: This means the consumer is willing to give up no units of one good for additional units of the other good. This occurs in the case of **perfect complements**, where the goods are used together in fixed proportions, and the consumer only gains satisfaction from using them together. For example, left shoes and right shoes.
- **MRS is infinite**: This means the consumer is willing to give up an infinite amount of one good to get one additional unit of the other good. This is also characteristic of **perfect complements**, where a large amount of one good cannot substitute for any additional amount of the other good.

Perfect substitutes are characterized by a constant and finite MRS, where the goods can be substituted for one another at a constant rate.

71. Correct Answer is (b): Option b is not correct because, for inferior goods, the income effect and substitution effect work in opposite directions, but it is not necessarily true that the income effect is always larger than the substitution effect. For a Giffen good, this could happen, but not for all inferior goods.

The other options are correct:

(a) correctly describes the combination of income and substitution effects.

(c) is true for corner solutions where the marginal rate of substitution does not equal the price ratio.

(d) is true for normal goods, where both income and substitution effects move in the same direction.

72. Correct Answer is (c): The snob effect refers to a negative network externality where a consumer prefers to own exclusive or unique goods, and the demand for such goods decreases as more people own them. This is opposite to the bandwagon effect, where demand increases as more people own the good.

73. Correct Answer is (a):

- **A** is correct because weak sustainability considers human-made capital and natural capital as close substitutes, meaning depletion of natural capital can be compensated by increasing human-made capital.
- **C** is correct because weak sustainability requires that each generation should ensure they don't compromise the productive capacity for future generations.
- **D** is correct as weak sustainability places less importance on the composition of the capital stock, focusing more on the total value of capital.

B and **E** are not correct:

- **B** is incorrect because weak sustainability does not put particular emphasis on the initial size of an economy.
- **E** is incorrect because it is characteristic of strong sustainability, where natural capital is considered irreplaceable and essential.

74. Correct Answer is (b):

The slope of the budget line is given by the ratio of the prices of the two goods: slope=$-\frac{P_1}{P_2}$.

Initially, if P_1 is the price of good 1 and P_2 is the price of good 2, the slope is $-\frac{P_1}{P_2}$.

If the price of good 1 doubles, it becomes $2P_1$

If the price of good 2 triples, it becomes $3P_2$

Now the new slope becomes:

new slope=$\frac{-2P_1}{3P_2}$

Comparing the original slope $-\frac{P_1}{P_2}$. with the new slope $\frac{-2P_1}{3P_2}$, the magnitude of the slope has decreased because 2/3<1.

Therefore, the **budget line becomes flatter**, not steeper.

75. Correct Answer is (c):

A. Homogeneous of degree one in price: The expenditure function is homogeneous of degree one in prices, meaning if all prices double, the minimum expenditure required to achieve a given level of utility also doubles.

B. Strictly increasing in utility and non-decreasing in price: The expenditure function increases as utility increases, and it does not decrease with an increase in prices.

C. **Concave in price**: The expenditure function is concave in prices, reflecting the idea that as prices increase, the incremental increase in expenditure required to maintain utility diminishes.

D. **Continuous in price and utility**: The expenditure function is continuous in both prices and utility, ensuring smooth changes in expenditure as prices or utility change.

E. **Strictly convex in price** is incorrect. The expenditure function is concave, not convex, in prices, which rules out option (a) and (b).

76. Correct Answer is (c): The consumer's budget constraint is: $P_{q_1}.\ q_1 + P_{q_2}.\ q_2 = k$

Substitute the prices: 1. $q_1 + 2.q_2 = k$

$q_1 + 2.q_2 = k$ equ(1)

To maximize utility by $U = f(q_1, q_2) = q_1.q_2$ subject to the budget constraint, we use the method of Lagrange multipliers or recognize that the consumer will allocate their spending to equalize the marginal utility per dollar spent.

Now MU_{q_1}= q_2 and MU_{q_2}= q_1

To maximize utility, set the ratio of marginal utilities to the ratio of prices:

$\frac{MU_{q_1}}{MU_{q_2}}=\frac{P_{q_1}}{P_{q_2}}$

Substitute the marginal utilities and prices:

$$\frac{q_1}{q_2} = \frac{1}{2}$$

Or $q_2 = 2\ q_1$ equ (2)

Substitute equ (2) in the budget constraint (1):

$q_1+2\frac{q_1}{2}$=k

$2\ q_1 = k$

$$q_1 = \frac{k}{2}$$

Substitute $q_1 = \frac{k}{2}$ in equ (2):

$q_2 = \frac{\frac{k}{2}}{2}=\frac{k}{4}$

Thus demand for $q_1 and\ q_2 = (\frac{k}{2}, \frac{k}{4})$

77. Correct Answer is (d): The given budget set is described as:

$$B = \{(x, y): P_1x + P_2y \leq M);\ x; > 0, i\ =\ 1,2$$

This defines the consumer's budget constraint, where P_1 and P_2 are the prices of goods x and y, respectively, and M is the consumer's income. The set includes all combinations of x and y that the consumer can afford.

Let's analyze the characteristics of this budget set:

1. **Closed or Open:**
The budget set includes all points where P_1x+ P_2y≤M. Since the boundary (whereP_1x+P_2y=M) is included (i.e., the consumer can spend the entire budget), the set is **closed**. The inclusion of the boundary makes the set closed, not open.
2. **Bounded or Unbounded:**
The budget set is **bounded** because the consumer's income M limits how much they can spend on xxx and y. The maximum values of x and y are constrained by M, so the set is bounded.
3. **Convexity:**
The budget set is **convex** because it satisfies the property that for any two points within the budget set, the line segment connecting them is also within the set. This is a consequence of the linearity of the budget constraint P_1x+ P_2y≤M , which implies that combinations of affordable bundles are also affordable.

Conclusion:

The budget set is **closed**, **bounded**, and **convex**.

78. Correct Answer is (b):

In the case of two perfect complement goods, the following analysis applies:

1. **Substitution Effect:**
- For perfect complements, the substitution effect is **zero** because the consumer always consumes the two goods in fixed proportions. There is no possibility of substituting one good for another. Hence, the statement in option (a) is **true**.

2. **Indifference Curves:**
- **Indifference curves for perfect complements are L-shaped**, not straight lines. This is because perfect complements are consumed in fixed proportions, and any deviation from those proportions reduces utility. Therefore, option (c) is **true**, and option (b), which states that the indifference curves are straight lines, is **false**.

3. **Fixed Proportions:**
- Perfect complements are always consumed in fixed proportions, meaning the consumer demands them in a specific ratio, such as one unit of good 1 for every unit of good 2. Hence, the statement in option (d) is **true**.

Conclusion:

The **false** statement is **(b) The indifference curves are straight lines**, because for perfect complements, indifference curves are **L-shaped**, not straight.

79. Correct Answer is (Drop): Note- Answer was not provided in the official answer key of NTA-NET and was written as Dropped

80. Correct Answer is (c):

(A) is correct: Utility maximization and expenditure minimization both lead to the same demand functions, though they approach the problem differently (one through utility maximization, the other through cost minimization).

(B) is correct: Even if the utility functions are different, if the demand functions are the same, the solutions to the maximization problem will be the same, though the indirect utility functions may differ.

(C) is correct: If the local non-satiation assumption holds, a consumer will spend their entire budget, meaning the budget constraint will hold with equality.

(D) is incorrect: If the indirect utility function of b(x) is homogeneous of degree 0, transforming the utility function u(x)=V(b(x)) with a positive derivative does not make the resulting indirect utility function homogeneous of degree 1. It will still be homogeneous of degree 0 due to the properties of indirect utility functions.

81. Correct Answer is (b):

(A) **Shephard's Lemma** is associated with the **Envelope Theorem (II)**, which states that the derivative of the cost function with respect to prices gives the demand for inputs.

(B) **Adverse Selection** is linked with **Hidden types of agents (I)**, which refers to a situation where one party in a transaction has more information about a relevant characteristic than the other party.

(C) **Hotelling Lemma** is related to the **Profit function (IV)**, which says that the derivative of the profit function with respect to prices gives the supply of goods.

(D) **Roy's Identity** is connected to the **Indirect utility function (III)**, which relates optimal demand functions to the indirect utility function.

82. Correct Answer is (d):

(A) is true: The Marginal Rate of Substitution (MRS) represents the rate at which a consumer is willing to substitute one good for another while maintaining the same level of utility.

(B) is true: As we move down an indifference curve from left to right, the MRS typically falls because consumers are usually willing to give up less of one good to obtain more of another, reflecting diminishing marginal utility.

(C) is **false**: An indifference curve is convex if the MRS decreases, not increases, along the curve. Increasing MRS would indicate a non-convex curve.

(D) is true: If the MRS remains constant along an indifference curve, it indicates that the curve is a straight line, which happens in the case of perfect substitutes.

(E) is true: If the MRS is either zero or infinite, the indifference curves will be L-shaped, which occurs in the case of perfect complements (right-angle indifference curves).

83. Correct Answer is (a):

- **Average Fixed Cost (AFC)** always decreases as output increases because fixed costs are spread over more units of output. Since the fixed cost remains constant, dividing it by an increasing number of units results in a smaller AFC.
- **Average Variable Cost (AVC)** may initially decrease but can eventually increase due to diminishing marginal returns.
- **Short Run Average Cost (SRAC)** can decrease at first and then increase as output rises, depending on the cost structure.
- **Short Run Marginal Cost (SRMC)** typically decreases initially, but it eventually increases due to diminishing returns.

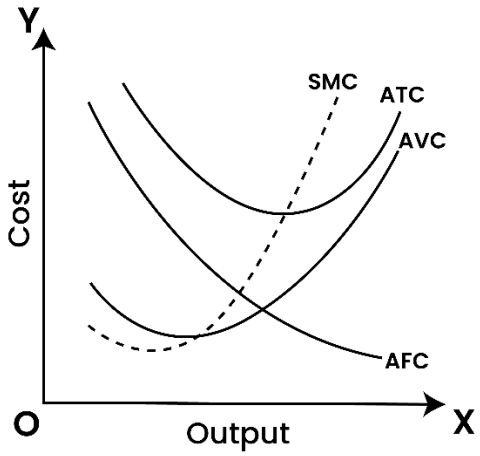


Diagram- AFC IS downward sloping from left to right SMC cuts AVC and ATC from below at their minimum point.

84. Correct Answer is (c): In the least cost combination of two factors of production, the marginal rate of technical substitution (MRTS) between the two factors must equal the ratio of their prices. When the two factors have the same price, the MRTS, which is the slope of the isoquant, must equal -1. This is because the firm can substitute one unit of factor A for one unit of factor B without changing the total cost, implying that the slope of the isoquant is -1 at the optimal combination.

85. **Correct Answer is (b):** This formula represents the **mark-up pricing rule** in microeconomics, where firms set prices above marginal cost based on the price elasticity of demand (E_d). The more inelastic the demand (lower elasticity), the higher the mark-up the firm can charge over marginal cost.

- **P** is the price.
- **MC** is the marginal cost.
- E_d is the price elasticity of demand.

This formula shows that as the demand becomes more inelastic, the denominator becomes smaller, leading to a higher price relative to marginal cost.

86. **Correct Answer is (d):**

A. **Income elasticity coefficient exceeds unit (IV. Luxurious commodity)**: If the income elasticity of demand is greater than 1, it implies that the good is a luxury, as demand increases more than proportionally with income.

B. **Positive cross-price elasticity coefficient (I. Substitute commodities)**: A positive cross-price elasticity indicates that the goods are substitutes, meaning that if the price of one good increases, the demand for the other good increases.

C. **Downward sloping price consumption curve (III. Relative elastic demand)**: A downward-sloping price consumption curve suggests that the demand for the good is relatively elastic, meaning that a decrease in price leads to a proportionally larger increase in the quantity demanded.

D. **Negative income effect (II. Inferior good)**: A negative income effect occurs when an increase in income leads to a decrease in the demand for a good, which is characteristic of inferior goods.

Unit 1.2: Theory of Production and Costs

PREVIOUS YEARS EXAM QUESTIONS

[JUNE 2011]

1. Consider a Cobb Douglas production function: $q = AK^{\alpha}L^{\beta}$ which is a homogeneous function of degree 4. Of what degree of homogeneity are its marginal products functions (mp$l$ and mpk) i.e. $\frac{\delta_q}{\delta L}, \frac{\delta_q}{\delta K}$?
   (a) 4 (b) 3
   (c) 2 (d) 1

[JUNE 2012]

2. Arrange the following in chronological order:
   I. CES production function
   II. Cobb-Douglas production function
   III. Translog production function
   IV. The law of variable proportions
   Codes:
   (a) III, I, IV, II (b) I, IV, II, III
   (c) IV, II, I, III (d) II, III, I, IV

[JUNE 2012]

3. Match

List-I	List-II
I. Behavioural theory of the firm	1. J.B. Clark
II. Marginal productivity theory of distribution	2. Cyert and Mark
III. Double criterion of welfare	3. Kenneth Arrow
IV. Impossibility Theorem	4. Scitovsky

   Codes:
   (a) I-2, II-1, III-4, IV-3 (b) I-3, II-2, III-4, IV-1
   (c) I-1, II-4, III-3, IV-2 (d) I-2, II-1, III-3, IV-4

[JUNE 2012]

4. The producer will substitute capital for labour till he reaches that point of isoquant at which,
   (a) The price of the goods he produces equals wage rate.
   (b) Marginal rate of technical substitution equals interest rate.
   (c) Marginal rate of technical substitution equals marginal revenue.
   (d) Marginal rate of technical substitution equals the ratio of marginal productivity of labour and capital.

[JUNE 2012]

5. Match the items from the List-I with items in List-II:

List-I	List-II
I. Sales maximization as the objective of the firm	1. Morris
II. Growth maximization as objective of the firm	2. Baumol
III. Managerial Utility Function Maximization as objective of the firm	3. Williamson
IV. Sales, profit & growth maximization as objective of the firm	4. Kaldor

   Select the correct answer from the following codes:
   Codes:
   (a) I-2, II-1, III-3, IV-4 (b) I-1, II-2, III-3, IV-4
   (c) I-2, II-1, III-4, IV-3 (d) I-4, II-3, III-2, IV-1

[JUNE 2012]

6. In a competitive market, a tax on wage income falls wholly on labour if:
   (a) Labour supply is inelastic
   (b) Labour supply is elastic
   (c) Labour supply is highly elastic
   (d) Demand for products has infinite elasticity

[DEC 2012]

7. For downward movement along the iso-quant, MRTS of Labour per unit of capital $(MRTS_{L,K})$ is given by
   (a) $-dK/dL$ (b) dK/dL
   (c) dL/dK (d) $-dL/dK$

[DEC 2012]

8. **Assertion (A):** In short run, the marginal cost of output is the cost of additional labour and materials used in production.
   Reason (R): Materials and labour used in production alone vary in short run.
   Codes:
   (a) (A) is correct but (R) is incorrect.
   (b) (A) is incorrect but (R) is correct.
   (c) Both (A) and (R) are correct, and (R) is the correct explanation of (A).
   (d) Both (A) and (R) are incorrect.

[DEC 2012]

9. Which of the following conditions specify the least cost-output combination?
   (a) $P_L/P_k = MRTS$ (b) $P_L/P_k = MP_L/MP_k$
   (c) $MP_k/MP_L = dL/dK$ (d) All the above

[JUNE 2013]

10. At the point of tangency between short-run average total cost and long-run average cost, the short-run marginal cost

(a) greater than long-run marginal cost
(b) less than long-run marginal cost
(c) is far above long-run marginal cost
(d) equals long-run marginal cost

[JUNE 2013]

11. Who is widely known as the founder of Austrian School?
(a) W.S. Jevons (b) Leon Walras
(c) Knut Wicksell (d) Karl Menger

[JUNE 2013]

12. An economic region of production consists of
(a) The positively sloped portions of all isoquants
(b) The negatively sloped portions of all isoquants
(c) The middle of all isoquants
(d) The highest points of all isoquants

[JUNE 2013]

13. Elasticity of substitution is
(a) The substitution of cheaper inputs for dearer inputs.
(b) The rate at which the inputs (labour and capital) are substituted.
(c) A measure of the responsiveness of input ratio to a change in input-price ratio.
(d) A measure of the responsiveness of input prices and the substitution of the cheaper inputs.

[DEC 2013]

14. The cost incurred by the firm in hiring labour is called as
(a) Explicit Cost (b) Implicit Cost
(c) Marginal Cost (d) Total Cost

[DEC 2013]

15. The Model of Managerial Enterprise is associated with
(a) R.A. Gordan (b) R. Marris
(c) Baumul (d) Scitorsky

[DEC 2013]

16. Assertion (A): The long run cost curve is L shaped rather than U shaped.
Reason (R): The new technique of production of large plants reduces the total cost per unit of output in the long run.
Codes:
(a) Both (A) and (R) are true and (R) is the correct explanation of (A).
(b) Both (A) and (R) are true, but (R) is not the correct explanation of (A).
(c) (A) is false, but (R) is true.
(d) (R) is false, but (A) is true.

[JUNE 2014]

17. In an economy of two individuals A and B and two commodities X and Y, general equilibrium of production and exchange occurs when
(a) $MRT_{XY} = \left(\frac{P_X}{P_Y}\right)$
(b) MRS_{XY} for A and B$= \left(\frac{P_X}{P_Y}\right)$
(c) $MRS^A_{XY} = MRS^B_{XY}$
(d) $MRT_{XY} = MRS^A_{XY} = MRS^B_{XY}$

[JUNE 2014]

18. A producer is said to be operating with excess capacity
(a) when he produces an output greater than that given by the Minimum Average Total Cost
(b) when he produces an output greater than at given by the Maximum Average Total Cost
(c) When he produces an output equal to that given by the Minimum Average Total Cost
(d) When he produces an output smaller than that given by the Minimum Average Total Cost

[DEC 2014]

19. Law of diminishing returns begins to operate when:
(a) Total product begins to rise
(b) Total product begins to fall
(c) Marginal product begins to rise
(d) Marginal product begins to fall

[DEC 2014]

20. Who among the following economists developed the concept of 'Barriers to Entry' of firms?
(a) J.S. Bain (b) WJ. Baumol
(c) Alfred Marshall (d) W.S.Jevons

[DEC 2014]

21. Even as fixed average cost continues to fall, the average variable cost begins to rise because
(a) returns to factors start diminishing
(b) returns to factors start rising
(c) input prices start rising
(d) producers budget starts shrinking

[DEC 2014]

22. Consider the following statements:
I. The lowest point on the long run average cost curve is known as minimum efficient scale.
II. It is the output at which the long run average cost curve stops falling.
Choose the correct option from the code given below:
Codes:
(a) Both I and II are correct (b) Both are wrong
(c) Only I is correct (d) Only II is correct

[JUNE 2015]

23. Which one of the following curves will respond to the supply curve of labour?
    (a) Marginal product curve of labour
    (b) Marginal revenue product curve of labour
    (c) Value of marginal product curve of labour
    (d) Average product curve of labour

[JUNE 2015]

24. Limit price refers to the:
    (a) Price which maximizes the profits of the firm
    (b) Price which prevents entry of new firms
    (c) Price at which firm just starts earning a surplus over cost
    (d) Maximum price which the firm is allowed to charge

[JUNE 2015]

25. Shadow prices can be called:
    (a) Imputed cost (b) Opportunity cost
    (c) both A and B (d) neither A or B

[DEC 2015]

26. Exponents of the Cobb-Douglas production represent:
    (a) Output elasticity of factors
    (b) Share of factor income in total income
    (c) Both A and B of the above
    (d) Neither A nor B of the above

[DEC 2015]

27. Concept of scale economies applies in:
    (a) Long-run with constant technical coefficients.
    (b) Long-run with variable technology.
    (c) Short-run with constant technology.
    (d) Short-run with variable technical coefficient.

[JULY 2016]

28. L. shaped average cost curve is witnessed in the large firms because:
    (a) Only the law of increasing returns operates
    (b) The law of constant returns to scale operates
    (c) Only the law of constant return operates
    (d) The operation of law of decreasing returns is continuously postponed

[JULY 2016]

29. A firm will be of optimum size when:
    (a) Marginal cost is at a minimum
    (b) Average cost is at a minimum
    (c) Marginal cost is equal to marginal revenue
    (d) The firm maximises its output

[JAN 2017]

30. Marginal rate of transformation between two goods X and Y is defined as
    (a) $MRT_{X,Y} = \frac{MC_X}{MC_Y}$
    (b) $MRT_{X,Y} = MRS_{X,Y}$
    (c) $MRT_{X,Y} = MRS_{X,Y} = \frac{P_X}{P_Y}$
    (d) None of the above

[JAN 2017]

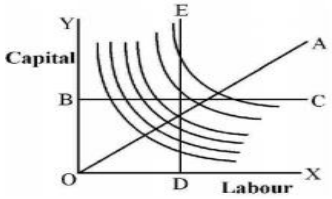
31. Consider the following statements regarding the expansion path of a firm:
    I. It shows the least cost combination for producing different levels of outputs.
    II. The input prices remain constant.
    Of the above which statement is/are true?
    Answer from the codes given below:
    Codes:
    (a) Both I and II are true.
    (b) Only I is true.
    (c) Only II is true.
    (d) Neither I nor II is true.

[JAN 2017]

32. The slope of the production possibility curve is the
    (a) marginal rate of exchange
    (b) marginal rate of substitution
    (c) average rate of transformation
    (d) marginal rate of transformation

[JAN 2017]

33. In the adjoining diagram, which of the lines represents the law of returns?



    (a) QA (b) BC
    (c) DE (d) Both B and C above

[JAN 2017]

34. The production function $Q = 150\,L^{0.7}\,K^{0.5}$. exhibits the returns to scale as:
    (a) Constant (b) Increasing
    (c) Decreasing (d) Fluctuating

[JAN 2017]

35. Given the following total cost and demand functions of a firm, find the price at which profits would be maximised:
    $C = 5Q^2 + 200 + 10$
    $P = 100 - 3Q$
    Where C = Total cost
    Q = Output
    P = Price
    (a) 95 (b) 85
    (c) 100 (d) 5

[NOV 2017]

36. Which amongst the following statements is correct?
    (a) The minimum point of AVC and MC are at the same level of output
    (b) Minimum of AVC is at lesser output than the minimum of MC
    (c) Minimum of AVC is at larger output than the minimum of MC
    (d) Any of the above is possible depending upon operating of the law of returns

[NOV 2017]

37. In the short run, which of the following costs must continuously decrease as output increases?
    (a) Total variable cost
    (b) Total fixed cost
    (c) Average variable cost
    (d) Average fixed cost

[NOV 2017]

38. Cobb - Douglas production function $Q = AL^a K^{1-a} (a > 0)$ is not characterised by:
    (a) Constant returns to scale
    (b) Unit elasticity of substitution
    (c) Variable elasticity of substitution
    (d) Linear homogeneity

[JULY 2018]

39. When the marginal cost is equal to average cost, the slope of the average cost is:
    (a) positive (b) negative
    (c) zero (d) infinite

[JULY 2018]

40. For the function $Q = A.K^{\alpha}.L^{\beta}$ Which of the following is correct?
    (a) The degree of homogeneity is 1
    (b) Elasticity of substitution is equal to $\alpha + \beta$
    (c) Output elasticity with respect to capital is α
    (d) Marginal product of a factor = Average product of the factor

[JULY 2018]

41. (A): The production possibility Frontier can be a straight line.
    (R): The factors are not specialised and can be substituted at no extra cost.
    Key to these questions is as follows:
    (a) Both (A) and (R) are true and (R) is the correct explanation of (A).
    (b) Both (A) and (R) are true, but (R) is not the correct explanation of (A).
    (c) (A) is true, but (R) is false.
    (d) (A) is false, but (R) is true.

[JULY 2018]

42. Total cost function of a producer is $C = 10 + 5Q + 2Q^2$. If price is 15, what is the marginal cost of the producer in equilibrium?
    (a) 10 (b) 5
    (c) 15 (d) 4

[DEC 2018]

43. Consider the following statements about the average fixed cost of a firm:
    (i) Its slope is always negative
    (ii) Its slope is always greater than one
    (iii) Its slope is always equal to one
    (iv) Elasticity with respect to output is equal to one
    Choose the correct answer from the code given below:
    Codes:
    (a) (i) & (iv) (b) only (iii)
    (c) (ii) & (iii) (d) only (i)

[DEC 2018]

44. The price elasticity of a linear supply curve through the origin is:
    (a) Unity (b) Less than unity
    (c) Zero (d) Infinity

[DEC 2018]

45. Consider the following statements about the law of variable proportion:
    (i) Input ratio remains unchanged
    (ii) Ultimately the marginal and average product of variable input becomes negative
    (iii) Effect of technological change is visible on output
    Choose the correct answer from the codes given below:
    Codes:
    (a) Only (ii) is correct
    (b) None of the above statements is correct
    (c) (i) & (ii) are correct
    (d) (ii) & (iii) are correct

[DEC 2018]

46. If for the constant elasticity of substitution production function, the value of the substitution parameter is -1, the elasticity of substitution will be:
    (a) Indeterminate (b) Infinite
    (c) Zero (d) Unity

[JUNE 2019]

47. Which of the following statements are true regarding Cobb-Douglas production function?
    (A) It is long period production function
    (B) It is short period production function
    (C) It is based on increasing returns to scale

(D) Output elasticities with respect to factors are constant

Select the correct option:

(a) (A) and (C) (b) (A) and (D)

(c) (B) and (C) (d) (C) and (D)

[JUNE 2019]

48. The firms are competitive and profit maximizing the demand curve for labour is determined by:

(a) the opportunity cost of workers' time

(b) the value of marginal product of labour

(c) offsetting income and substitution effect

(d) the value of marginal product of capital

[JUNE 2019]

49. The cost function of a monopolist is $C = 40 + 12X$. Write his demand function as $P = 60 - 3X$. What is his profit maximising output level?

(a) 12 (b) 11

(c) 8 (d) 9

[DEC 2019]

50. Choose the correct option for which the allocation of inputs is technically efficient?

(A) Output of one goods cannot be decreased without increasing the output of another goods

(B) Consumption of one goods cannot be increased without decreasing the consumption of another goods

(C) Consumer attains maximum satisfaction

Choose the correct option:

(a) (B) only

(b) (A) only

(c) Both (A) and (C)

(d) Both (B) and (C)

[DEC 2019]

51. Consider an economy with a linear homogeneous Cobb-Douglas production function with two inputs-capital and labour. The share of capital and labour are respectively 1/3 and 2/3. The rates of growth of capital and labour are respectively 6% and 3% per annum. If the rate of growth of output is 6% per annum, what is the rate of growth of output due to Total Factor Productivity (TFP)?

(a) 1% (b) 2%

(c) 3% (d) 4%

[DEC 2019]

52. The total cost function of a firm is $C = \frac{1}{10}q^3 - 3q^2 + 50q + 300$ where $C =$ total cost, $q =$ output, Marginal cost at $q = 10$ is:

(a) 20 (b) 10

(c) 30 (d) 50

[DEC 2019]

53. Match the Economists with their field of contribution in Mathematical Economics.

List-I	List-II
(A) Slutsky	(i) Linear programming
(B) Arrow	(ii) Input-output analysis
(C) Leontief	(iii) Consumer behaviour analysis
(D) Dantzig	(iv) CES production function

Choose the correct option from those given below:

(a) (A)-(ii), (B)-(iv), (C)-(i), (D)-(iii)

(b) (A)-(iii), (B)-(iv), (C)-(ii), (D)-(i)

(c) (A)-(i), (B)-(ii), (C)-(iv), (D)-(iii)

(d) (A)-(iv), (B)-(i), (C)-(iii), (D)-(ii)

[DEC 2019]

54. Among normal cost curves which one of the following curve does not have a minimum point?

(a) Average cost (b) Marginal cost

(c) Average variable cost (d) Average fixed cost

[DEC 2019]

55. For a Cobb-Douglas production function $Q = 100\,L^{0.7}K^{0.3}$. Which of the following is true?

(a) It is a linear homogeneous function

(b) It is characterized by constant returns to scale

(c) It is having zero elasticity of factor substitution

(d) It is characterized by unit elasticity of substitution

[DEC 2019]

56. Given below are two statements-one is labelled as Assertion (A) and the other is labelled as Reason (R):

Assertion (A): CES production function covers a large class of production functions.

Reason (R): CES production function has the property of constancy of elasticity of factor substitution.

In the light of the above two statements choose the correct option:

(a) Both (A) and (R) are true and (R) is the correct explanation of (A)

(b) Both (A) and (R) are true and (R) is not the correct explanation of (A)

(c) (A) is true but (R) is false

(d) (A) is false but (R) is true

[JUNE 2020]

57. For the production function, $Q = AL\,\alpha K^{\beta}$.

(A) The Coefficient A shows managerial efficiency.

(B) If $\alpha + \beta > 1$. then the production function exhibits increasing returns to scale.

(C) Marginal Rate of Technical Substitution of L for K is given by $\frac{\beta K}{\alpha L}$.

(D) The Marginal Product of Capital is given by $\beta\frac{Q}{K}$.

Choose the correct answer from the options given below:

(a) (A), (B) and (C) only
(b) (A) (B) and (D) only
(c) (A), (C) and (D) only
(d) (A), (B), (C) and (D) only

[JUNE 2020]

58. A leftward shift in labour demand curve is caused by:
(a) Increase in wage rate
(b) Decrease in wage rate
(c) Increase in marginal productivity of labour
(d) Decrease in marginal productivity of labour

[JUNE 2020]

59. Given the Total Cost, TC $= Q^3 - 10Q^2 + 60Q$, what will be the Minimum average cost? At what level of output will the minimum cost occur? (Q is the level of output)
(a) Minimum average cost is $AC_{Min} = 35$ at Q = 5
(b) Minimum average cost is $AC_{Min} = 175$ at Q = 5
(c) Minimum average cost is $AC_{Min} = 170$ at Q = 1
(d) Minimum average cost is $AC_{Min} = 45$ at Q = 1

[JUNE 2020]

60. Given the Total Revenue function, $TR = 1400Q - 6Q^2$ and Total Cost function, TC = 1500 + 80Q at Q = 100 units (where Q is the amount of output), which one of the following responses is correct?
A. MR > MC
B. MC = 80
C. MR < MC
D. MR = MC
Choose the most appropriate answer from the options given below:
(a) (A) and (B) are true only
(b) (B) and (C) are true only
(c) (B) and (D) are true only
(d) Can't be defined

[JUNE 2020]

61. Given the production function, $Q = 10\,L^{0.8}\,K^{0.2}$, the Marginal Product of Labour (MP_L) and Capital (MP_K), respectively are given by:
A. $MP_L = 8\,(K/L)^{0.2}$ B. $MP_L = 8\,(L/K)^{0.2}$
C. $MP_K = 2\,(L/K)^{0.8}$ D. $MP_K = 2\,(K/L)^{0.8}$
Choose the correct answer from the options given below:
(a) (A) and (D) are true only
(b) (A) and (C) are true only
(c) (B) and (C) are true only
(d) (B) and (D) are true only

[JUNE 2021]

62. In the short-run production function, which one of the following is CORRECT?
(a) Technology is assumed to change as labour input changes
(b) Technology is assumed to change as capital stock changes
(c) Technology is assumed to change positively until diminishing returns set in
(d) Technology is assumed to be constant for a given production function relationship

[JUNE 2021]

63. As output expands, LAC curve falls. This is due to:
(a) Law of variable proportions
(b) Law of diminishing returns
(c) Economies of scale
(d) Diseconomies of scale

[JUNE 2021]

64. Which of the following are NOT properties of Cobb-Douglas production function?
(A) Cobb-Douglas production function is a homogeneous production function
(B) Curves representing average and marginal productivity of inputs are not downward sloping
(C) Marginal productivity of labour and capital in Cobb-Douglas production function are functions of the capital-labour ratio
(D) Iso-quants of Cobb-Douglas production functions are positively sloped
Choose the correct answer from the options given below:
(a) (A) and (B) only (b) (B) and (D) only
(c) (B) and (C) only (d) (C) and (D) only

[OCT 2022]

65. Two factors of production, say A and B have the same price. The least cost combination of A and B for producing given level of output will be achieved at a point where the Iso-quant has slope equal to
(a) 0 (b) -1
(c) 2 (d) -2

[OCT 2022]

66. Which of the followings conditions prevail in the long run equilibrium of industry for achieving optimal resource allocation
(A) The output is produced at the minimum feasible cost
(B) Consumer pays the minimum possible price which just covers the marginal cost of the product
(C) Plants are used at full capacity in long run
(D) Firms earn supernormal profits
(E) Perfect competitive firms and price mechanism operates

Choose the correct answer from the options given below:
(a) (C), (D) and (E) only
(b) (B), (D) and (E) only
(c) (A), (B) and (E) only
(d) (A), (B) (C)and (E) only

[MAR 2023 P1]

67. _____ arises when the firm can produce any combination of the two outputs more cheaply than could two independent firms that each produced a single output.
(a) Learner's curve (b) Economies of scale
(c) Dis-economies of scale (d) Economies of scope

[MAR 2023 P1]

68. Find the Elasticity of Substitution (σ) of Constant elasticity of substitution (CES) Production function. When the substitution parameter(p) lies between $0 < \rho < \infty$
(a) $\sigma > 1$ (b) $\sigma < 1$
(c) $\sigma = 00$ (d) 01

[MAR 2023 P1]

69. Given below are two statements:
Statement I: Supply side policies are long term measures to increase the productive capacity of the economy leading to an outward shift in the production possibility curve.
Statement II: Privatisation is the act of selling state owned assets in order to increase competition, productivity and efficiency.
In light of the above statements, choose the correct answer from the options given below:
(a) Both Statement I and Statement II are true.
(b) Both Statement I and Statement II are false.
(c) Statement I is true but Statement II is false.
(d) Statement I is false but Statement II is true.

[MAR 2023 P2]

70. Find the substitution parameter ρ(rho) of constant elasticity of substitution (CES) production function when the elasticity of substitution (σ) is greater than one
(a) $\rho = 0$ (b) $\rho = 1$
(c) $-1 < \rho < 0$ (d) $0 < \rho < \infty$

[MAR 2023 P2]

71. Which of the following are true for ridge lines?
A. They separate the relevant from the irrelevant portions of the isoquants
B. Along the ridge lines, the slope of the isoquants is either zero or infinite
C. The relevant segment of the isoquants enclosed pertains to the stage II of production for labour and capital
D. Producers will never want to operate outside the region enclosed within the ridge lines.
E. The marginal product of both inputs-labour and capital is positive but declines for the portion of the isoquants within the ridge lines.
Choose the correct answer from the options given below:
(a) A, C and D only (b) B, C and E only
(c) A, C, D and E only (d) A, B, C, D and E only

[DEC 2023]

72. Consider a production function $q = x + y$, where x and y are the 2 inputs. If the respective input prices are w_x and w_y and assume $w_x > w_y$ Then the cost function C(q) is:
(a) $C(q) = w_x q >$
(b) $C(q) = w_y q$
(c) $C(q) = (w_x + w_y)q$
(d) $C(q) = min(w_x\, w_y\sqrt{q}$

[DEC 2023]

73. Suppose a cost function of producing q level of output in $C(w,r,q) where\ C(w,r,q) = q\left(\frac{w}{a} + \frac{r}{\beta}\right)$ where w and r are the wage cost and rental cost of the 2 inputs capital (K) and labour (1) respectively. What would be the production function q of k and 1?
(a) $q = \mathrm{ak} + \beta\mathrm{l}$ (b) $\mathrm{q} = [\mathrm{k}^{\alpha} + \mathrm{l}^{\beta}]\mathrm{r}$
(c) $\mathrm{q} = \min\{\alpha\mathrm{l}, \beta\mathrm{k}\}$ (d) $q = A(k^{\alpha}.\mathrm{l}^{\beta})$

[DEC 2023]

74. If the Average Revenue function $AR - 10 + 5q - q^2$, then the Marginal Revenue function is a :
(a) Convex function
(b) Concave function
(c) Can be both concave or convex function
(d) Weakly concave function

[DEC 2023]

75. Suppose the cost function $C(w_1, W_2, y) = y(w_1 + \sqrt{w_1 w_2} + w_2)$, where w, and w_2 are the prices of 2 inputs which are used in production of y. Which of the following properties of the cost function $C(w_1, W_2, y)$ is correct?
(a) Cost function $C(w_1, W_2, y)$ is monotone, concave and continuous function in W_1, W_2.
(b) Cost function $C(w_1, W_2, y)$ is a non-monotone, convex and continuous function in w_1, W_2.
(c) Cost function is continuous in w_1 and w_2 and discontinuous function in y.
(d) Cost function is a continuous function and homogeneous function in degree 0.