Question Bank
1st Sem – MEC-1

Ch. I
Introduction to Micro Economics

Short Questions

(1) State the three basic questions of resource allocation in a society.

(2) Explain the idea of optimization.

(3) Discuss the problem of scarcity and choice.

(4) Mention the idea of business decision making.

(5) State the basic dilemma between resources and wants.

(6) How does the idea of opportunity cost arise?

(7) What is a PPC? What is its significance?

(8) Mention the circular flow of income w.r.t. product and factor markets.

(9) Discuss the role of price mechanism.

(10) Mention the properties of a PPC.

(11) State the various aims of the firm.

(12) What is opportunity cost?
LONG QUESTIONS

(1) a) State the fundamental problems of the economy?
   b) Explain these problems in detail and their solutions.

(2) a) Explain the concept of a PPC?
    b) How can the PPC be used to address the three central problems of the society?

(3) a) Explain the idea of price mechanism.
    b) Trace out the significance of such a mechanism.

(4) a) ‘Problems of scarcity and choice are interrelated’ – Justify.
    b) How would the concept of opportunity cost arise?

(5) a) Mention the significance of a PPC.
    b) State, in detail, the properties of PPC.

(6) Explain the price mechanism “by considering the interaction between firms and households”.

(7) How are the fundamental problems solved by the price mechanism?

(8) Explain how the price mechanism functions in a market oriented economy.

(9) Discuss the various goals which a firm might follow.

(10) Discuss – want & scarcity.

(11) Discuss price system as an economic mechanism
(13) Define demand and state its difference with desire.

(14) State the law of demand.

(15) By considering linear demand curve, interpret the intercept and slope.

(16) Explain the idea of ‘direct’ and ‘indirect’ demand function.

(17) What is the crucial assumption that helps us to derive the market demand curve?

(18) Distinguish between changes in quantity demanded and change in demand.

(19) Explain the idea of shift in demand.

(20) State the differences between changes in quantity demanded and change in demand.

(21) Explain the idea of price elasticity of demand. Why does the formula have a negative sign?

(22) Why is the elasticity formula, free of units?

(23) Draw the demand curves when (i) $e_d > 1$, (ii) $e_d > 1$.

(24) Find out the slope of the demand curve when the demand curve is (i) vertical (ii) perfectly horizontal

(25) Define income elasticity and use it to comment on the nature of various goods.
(26) Explain as what would happen to the demand for kerosene stoves if
   (i) Price of LPG cylinders rise
   (ii) Price of Kerosene oil rises

(27) What are the two properties of demand curve?

(28) Define supply. How is a supply equation specified?

(29) State two reasons as to why the supply curve is upward rising.

(30) Define the concept of equilibrium with respect to demand and supply
     curves.

(31) Explain the idea of elasticity of supply \((e_s)\)

(32) Explain the idea of consumer’s surplus and producer’s surplus.

(33) Discuss the concept of ‘Paradox of value’.

(34) Define tariff. Explain the idea when tariff is imposed as
     a) Specific tax  b) advalorem Tax

(35) Explain the idea of quota.

(36) Define a tax. How would you explain subsidy?

(37) Briefly explain the idea of price control and price support.

(38) Explain which is more price elastic – cooking gas or Maggi Instant
     Noodles?

(39) If excise tax on cars is expected to fall what will happen to the current
     market demand for cars?
(40) For a giffen good, the demand curve is positively sloped. True or false?
justify  2006

(41) The slope of the demand curve and the price elasticity of demand are identical concepts. True or false? Justify  2007

(42) All giffen goods are interior but all inferior goods are not giffen. Explain  2007

(43) Shaw that two goods cannot be inferior in a two commodity world. 2007

(44) What type of a demand curve world have a constant price elasticity of demand?  2007

(45) “The demand curve is negatively sloped due to diminishing marginal utility”. Justify.  2008

(46) Discuss the role of price mechanism  2008, 2009

(47) Show $e_d$ varies from zero to infinity along a linear demand curve  2009

(48) What will be the impact on the supply curve if
(i) Tax is imposed on a good.
(ii) Subsidy is imposed on a good  2009

(49) If there is a simultaneous change in demand and supply, show by using diagram under which price will increase but quantity sold remains unchanged.  2010
LONG QUESTIONS

(12) a) Define demand.
    b) State the law of demand.
    c) Briefly state the reasons for the downward sloping demand curve.

(13) a) Discuss as to how an individual demand curve can be derived?
    b) How can one derive the market demand? Explain the idea by using the desirable assumptions.

(14) Explain the idea of shift in demand. What are the factors affecting the shift in demand?

(15) Discuss the possible cases as to when we can expect the exceptions to law of demand.

(16) a) Define price elasticity of demand.
    b) Discuss the area method of calculating it?

(17) Discuss as why the price elasticity of demand varies along with straight line demand curve.

(18) a) Define income elasticity.
    b) Discuss as to how we can classify goods according to the various values.

(19) a) Discuss the various factors affecting elasticity
b) Mention the uses of the idea of elasticity

(20) a) Distinguish between a demand curve and demand equation?
b) What is the contradiction between the two?
c) How is this contradiction resolved?

(21) a) Explain the idea of SE and IE.
b) How can the law of demand be explained with the help of SE and IE?

(22) A supply and demand schedule are given. In this context
   a) Explain the concept of equilibrium.
   b) Analyse the stability concept of equilibrium by considering ‘price’
      as the adjusting variable.
   c) Explain the significance of the market equilibrium.

(23) Let a supply and a demand curve be given. In this regard, discuss the
     possible effects when
     a) Only supply rises, demand remains unchanged.
     b) Only demand rises, supply remains unchanged.
     c) Both demand and supply rise.

(24) a) Explain the idea of consumer surplus.
     b) Discuss the concept with the help of a graphical exercise.

(25) a) Discuss the idea of producer surplus.
(8)

b) Explain the idea with the help of a graphical exercise.

(26) With the help of consumer surplus, resolve the water – diamond paradox.

(27) Discuss in details, the various uses of consumer’s surplus.

(28) a) Explain the idea of tariff.

b) How is it different from quota?

c) Explain the logic as to why a tariff is imposed?

(29) a) Explain in detail, the effects of tariff.

b) Show that welfare declines for a tariff imposing country.

c) What is the economic interpretation of net loss?

(30) a) Explain, in detail, the effects of quota

b) Show that quota and tariff are more or less same except for the revenue effect.

(31) a) Explain as under what conditions, tariff and quota are equivalent

b) Show that the domestic producers producing importable goods prefer quota to tariff.

(32) a) Distinguish between a tax and subsidy.

b) Analyse the effects following the imposition of a tax.

(33) Compare the tax burden of the buyer and seller when

a) Supply curve is relatively elastic
b) Supply curve is relatively inelastic

c) Demand curve is relatively elastic

d) Demand curve is relatively inelastic

(34) a) Define Excess burden of a tax

b) Calculate the excess burden of a tax

c) What are the methods to lower excess burden?

(35) a) Define maximum price legislation.

b) Explain the idea by using a suitable diagram.

c) Trace out the welfare effects of such an exercise.

(36) a) Explain the idea of minimum price legislation.

b) Discuss the idea by considering the labour market.

c) Calculate the welfare effects of such an exercise.

(37) a) If a specific tax is imposed show that for the buyer the price rises, for the seller the price falls.

b) Consider a competitive market for wheat. What would be the impact of a price support programme (price floor) on the quantity demanded and supplied. Do you think that price support is responsible for over-production?
c) In the same market if the govt. decides to pursue a price contact policy, what would be the impact on quantity of wheat produced and the associated welfare impacts? 2006, 2009

(38) a) Examine economic effects of tariff.

b) Discuss the conditions under which quota is equivalent to tariff. 2007

(39) a) Distinguish between market equilibrium and changes in market equilibrium.

b) Under what cases will change in market equilibrium lead to increase in both price and quantity? 2007

(40) a) Shaw that the price elasticity of demand will vary between zero to infinity for a straight line demand curve.

b) Consider two parallel demand curves. Comment on the price elasticity of demand of the demand curves at the same price. 2007

(41) a) Distinguish between tariffs & quotas.

b) Discuss economic effects of a tariff. 2008

(42) Discuss price control & its effects 2008

(43) Show how the share of the tax paid by the buyers depends in price elasticity of demand & supply 2009

(44) How would you measure $e_d$ at a point on the linear demand curve? 2010
NUCLEAR QUESTIONS

(1) At price 14, two units are demanded. The slope of the demand curve is $-3$. Find the equation of the demand curve.

(2) Along the demand curve, total revenue is always a constant. Show that $e_d = 1$

(3) Let the initial price be 8, and quantity demanded is 6. As price rise to 10, the quantity demanded falls to 4. Find $e_d$.

(4) Let the demand curve be given as $q = A p^{-\alpha} m^\beta$ where $A, \alpha, \beta$ are constants. Find price elasticity and income elasticity.

(5) A market has two consumers where they demand $q_1$ and $q_2$, such that $q = q_1 + q_2$.
   a) Find out the price elasticity of market demand.
   b) What happens if there are ‘n’ consumers?

(6) The demand curve is given as $p = 24 - 3q$ For what output range would demand be elastic?

(7) Show that an isoelastic demand curve is never linear.
(8) Show that in a two commodity world, two goods cannot be inferior at the same time.

(9) A consumer spends 80% of his income on good x, rest on good y. If income elasticity of y is 2.5, find that of x.

(10) From the given table, comment whether the goods are substitutes or complements.

<table>
<thead>
<tr>
<th>p_x</th>
<th>q_x</th>
<th>p_y</th>
</tr>
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<tbody>
<tr>
<td>5</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>5</td>
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</tbody>
</table>

(11) Let AB, AC be the two non-parallel demand curves where the price level is given as $\bar{p}$. Compare the $e_d$ values at x, y.

(12) Let AB, CD be the two non-parallel demand curves where the price level is given as $\bar{p}$. Compare the $e_d$ values at x, y.
AB and CD are two demand curves intersecting at \( x \). The point \( x \) lies on both the demand curves. Which demand curve would have a higher elasticity value at \( x \)?

Show that the sum of own price elasticity of demand, cross elasticity and income elasticity is equal of zero.

a) Show that \( |e_d| = \left( \frac{1}{\text{slope of demand curve}} \right) \times p \)

c) The demand curve is given as \( p = 10 - q \) and the supply curve as \( p = 6 + q \). Find \( e_d \) and \( e_s \) at equilibrium.

The demand curve is given as \( p = 20 - 2q \). Calculate consumer's surplus when 3 units are demanded.

The market demand for good \( x \) is

\[ Q_x = 70 - 3.5P_x - 0.6M + 4P_z \]

where
\( Q_x \) is the number of units of \( x \) demanded;
\( P_x \) is the price of good \( x \), \( M \) is income, \( P_z \) is the price of a related good \( Z \).

a) Is \( X \) normal or inferior good? Explain.

b) Are \( X \) & \( Z \) substitutes or complements?

c) If \( P_x = 10 \), \( M = 30 \), \( P_z = 6 \), find price, income & cross elasticities.
(18) Let demand curve be \( p = 10 - 2q \). Find \( e_d \) when 3 units are produced  

2007

(19) The demand curve is \( q = 50 - 0.5p \). 
If the price is Rs.50, find \( e_d \).  

2008

(20) Given \( Q_d = 100 - 2p \), \( Q_s = 4 + 4p \) 
Find equilibrium price & quantity.  

2009

(21) The demand function is \( q = 30 - 4p - p^2 \) 
Find \( e_d \) at \( p = 3 \).  

2010

(22) The demand function is given as 
\( Q = 100 - 10P + 0.5Y \) where \( P = 7 \) and \( Y \) (income) = 50. 

a) At \( P = 7 \), what is \( e_d \)?  

b) At \( Y = 50 \), what is income elasticity?  

2010

(23) The demand & supply of one – room apartments 
are: \( Q_d = 100 - 0.04p \) \( Q_s = 40 + 0.02p \). 

Determine the rental price \( (p) \) and the number 
of apartments rented.  

2010
SHORT QUESTIONS

(50) Define a Production function. What is its significance?

(51) How can inputs be changed into output?

(52) What are the properties of a production function?

(53) Define (i) Average Product (ii) Marginal product.

(54) Explain the Idea of Total Product Curve.

(55) What do you mean by point of inflexion?

(56) State the law of variable proportions?

(57) If the law of variable proportions is true, how can food be provided to a population that is continuously rising?

(58) Explain the idea of an IQ

(59) Discuss the concept of MRTS

(60) Why do we consider that the IQ does not touch either axis?

(61) Explain the idea of an iso-cost line.

(62) What do you mean by factor prices?

(63) Explain the idea of produce’s equilibrium.

(64) What do you mean by returns to scale?

(65) Discuss the idea of a homogeneous production function and state how the concept of returns to scale can be explained with that idea.

(66) When $AP_L$ falls, $MP_L$ must be below it. True or false? Justify.
(67) The average and marginal products are equal when average product maximum

(68) If \( w = r \) and \( MP_L > MP_K \), is the firm operating efficiently? Why or why not?

(69) In the law of variable proportions, which stage will the producer select for production?

(70) Explain the meaning of CRS

(71) The Marginal product curve intersects the average product curve at its maximum point. Explain

(72) Explain the idea of IRS

(73) Illustrate neutral technological progress

(74) Illustrate the concept of labour-saving technological progress with an example.

(75) How is a dynamic setup related to technological changes?
LONG QUESTIONS

(47) a) Explain the idea of production function.
    b) What are the properties of a production function?

(48) a) Explain the idea of $AP_L$ and $MP_L$.
    b) By using the total product curve, explain the economic
       significance of $AP_L$ and $MP_L$.

(49) a) State the law of variable proportions by mentioning the
       desirable assumptions.
    b) Discuss the graphical exercise of this law
    c) What is the significance of the law?

(50) a) Discuss how would you derive an IQ.
    b) What are the properties of such an IQ?

(51) Discuss in detail the concept of declining MRTS on an IQ.

(52) Derive the isocost line of a producer where he use two inputs –
     capital and labour.

(53) Show that output maximization and cost minimization for a firm would
     give us the same answer

(54) Discuss the relationship between $AP_L$ and $MP_L$

(55) Explain the various concepts of returns to scale with the help of an
     expansion path.
(56) a) Define expansion path.

b) A firm uses two inputs & a homogeneous production function.

Show that the expansion path is a linear line through the origin. 2008, 2010

(57) Explain the difference between diminishing returns to a variable input and diminishing returns to scale. 2006

(58) Trace out the difference between returns to scale and returns to the variable factor. 2007

(59) Discuss the concept of diminishing marginal rate of technical substitution and convexity of isoquants 2010
NUMERICAL QUESTIONS

(24) Show that $AP_L = MP_L$ when $MP_L$ is maximum.

(25) Let the production function be $q = 100 + L^2 + L^3$.
Find the $AP_L$ & $MP_L$ values at $L = 5$.

(26) Let the production function be $q = 30L^2 - 2L^3$. Find

a) Maximum $AP_L$

b) $MP_L$ when $AP_L$ is maximum.

c) Maximum output.

d) The value of $L$ for which $MP_L$ is maximum.

(27) The production function is given as

$$Q = -\frac{L^3}{3} + L^2 + 6L$$

Beyond which point, diminishing returns to labour exist?

(28) The production function is given as $q = 200 - K^2 - L^2$ where $w = 2, r = 3$. The total cost is as 39. Find maximum output.

(29) The production function is given as $q = KL$, where $w = 4, r = 3$.

If the target output is 1200 units, find minimum cost.

(30) The production function is given as

$$Q = 2L^2 - 32Lx + 30x^2$$

where $L$ is labour and $x$ is the units of land cultivated. Determine the various stages of production if 2 units of land are cultivated.
Determine the degree of the homogeneous function and state if these are IRS, CRS, DRS

a) \( q = K^2 + L^2 \)

b) \( q = KL \)

c) \( q = \sqrt{K^2 + L^2} \)

e) \( q = (K^2 + L^2)^{1/3} \)

The production is

\( q = K^{0.8} L^{0.4}, \) \( w = 8, \) \( r = 16 \) and \( C = \text{\bar{C}}, \)

Find equilibrium values of \( K, L. \)

The production function is

\( q = K^{0.3} L^{0.7}, \)

(i) Derive \( A P_L, M P_L \) functions.

(ii) Show that \( A P_L, M P_L \) will decline as \( L \) rises

If \( q = 15L^2 - L^3, \) find \( A P_L, M P_L \) at \( L = 5 \)

Consider the production functions

a) \( q = 6KL \)

b) \( q = 6K^{1/6} L^{1/6} \)

What kind of RTS are the production functions subject to? Also find out the degree of homogeneity in each case.

For a firm, \( w = Rs. 200, \) \( r = Rs \ 1000, \) \( M P_L = 20, \) \( M P_K = 60. \) Is the firm operating optimally?

What adjustment is necessary to achieve optimality?

Gain \( q = K^{0.5} L^{0.8}, \) \( r = Rs \ 4, \) \( w = Rs \ 8 \) and \( C = Rs \ 400. \)

a) Derive equation of isocost line

b) Find optimum levels of \( K \& L \) employed.

c) Determine the maximum level of output produced.
(21)

Ch. 4

**SHORT QUESTIONS**

(76) Define cost. How would you explain economic cost?

(77) Explain the idea of TFC. Give 2 examples.

(78) Mention two examples of TVC and explain the same.

(79) Why does the TVC curve start from the origin?

(80) Show that the total cost curve depends positively on output.

(81) Why is the TC curve concavo-convex?

(82) Does the TC curve always start from the origin?

(83) Define AFC, AVC.

(84) Show that $AVC = w \frac{AP_L}{MP_L}$, $MC = w \frac{MP_L}{MP_L}$

(85) Why can’t the AFC curve touch either axis?

(86) Explain why AFC curve is downward sloping?

(87) Why does AFC curve has the shape of a rectangular hyperbola?

(88) Discuss as to why AVC curve is U shaped.

(89) Explain why AC and AFC come closer and closer to each other as output rises but they never meet?

(90) Define marginal cost. Show that it is the mirror image of the $MP_L$ curve.

(91) Show that if $MC > AC$, the $AC$ would rise.

(92) Show that $MC$ equals $AC$ when $AC$ is minimum.

(93) Explain the idea of long run total cost (LRRTC)?

(94) Why is the LAC called a planning curve?
(95) Distinguish between private and social costs by stating an example.

(96) Justify the shape of LRTC.

(97) Why does LRTC start from origin?

(98) Explain the idea of economies of scope?

(99) State the measure of economies of scope and explain its significance.

(100) Explain the idea of the learning curve and state its significance.

(101) Explain briefly as to why a learning curve is useful to the firms.

(102) ‘All products show learning curve effect’. True or false? Justify.

(103) State whether existence of excess capacity is necessary for exhibiting economies of scope.

(104) Explain the idea of economies of scope in purchasing and mention its significance.

(105) State the measure of economies of scale and scope in advertising and state its use.

(106) What is the use of economies of scale & scope in R. & D?

(107) Define cost reduction strategies. How is it different from cost control methods?

(108) State the elements needed for a successful cost reduction strategy.

(109) Mention four advantages and disadvantages of cost reduction strategies.

(110) Explain the idea of BE analysis.

(111) State the significance of contribution margin.

(112) Trace out how can the BE output can be expressed in terms of sales.

(113) State the concept and significance of operating leverage.
(114) If a firm’s long run average cost curve (LAC) is horizontal, what can you say about the long run marginal curve (LMC)?

(115) MC cuts AC at its minimum. True or False? Explain.

(116) If $AP_L$ is dome-shaped, the AVC is U-shaped. Explain.

(117) Show $MC = \frac{w}{MP_L}$.

(118) MC intersects AC at its maximum. Explain.

(119) Distinguish between private & social costs of education.

(120) What does operating leverage reflect?

(121) Draw AFC & mention its properties.

(122) Suppose a new car factory had come up in a backward region. What kind of positive externalities would you expect?
LONG QUESTIONS

(60) a) Explain idea of short run costs.
    b) Explain the concept of TFC, TVC.
    c) Why does TFC have a positive vertical intercept?

(61) a) Derive the short run total cost curve of a firm.
    b) Explain why it is concavo-convex.
    c) What would be the value of TC if no output is produced?

(62) a) Explain the idea of AFC & AVC.
    b) How would you derive the AFC curve?
    c) What are the properties of AFC curve?

(63) a) Discuss the idea of AVC.
    b) How would you derive the AVC curve?

(64) a) Discuss the derivation of the short run AC curve.
    b) Why do AC and AVC come closer and closer to each other?

(65) Explain the reason as to why the AC curve is U shaped by considering the various returns to factor.

(66) a) Define MC
    b) How would you derive MC through a graphical exercise?

(67) a) Discuss the relation between AC and MC.
    b) Show that AC is equal to MC when AC is minimum.
(68)  a) Discuss the relation between MC and AVC.
     b) Show that MC = AVC when AVC is minimum.

(69)  a) Distinguish between short run and long run w.r.t. the costs of a firm.
     b) Discuss the method to derive long run total cost.

(70)  a) Trace out the method of deriving the long run average cost curve.
     b) Where would a rational producer select his point of operation w.r.t. LAC ?

(71)  Explain the shape of LAC by using the various concepts of RTS.

(72)  Discuss the basic idea behind economies of scope.

(73)  ‘The learning curve reflects the efficiency gains resulting from the cumulative total of all output produced till date’ – Elucidate.

(74)  a) Discuss the concept of economies of scale & scope.
     b) Analyse this concept
         (i) in purchasing (ii) in advertising (iii) in R & D.

(75)  a) Define cost reduction strategies.
     b) Analyse the basic concept of cost reduction strategies.
     c) What are the factors that affect cost reduction ?

(76)  a) Distinguish between cost reduction and cost control strategies.
     b) What are the advantages and disadvantages of cost reduction ?

(77)  Discuss in detail the concept of operating leverage.

(78)  a) Define the idea of BE.
b) Analyse the concept by taking linear TR, TC schedules.

(79) a) Determine BE output with the help of a linear break even analysis.

b) Show that as variable cost rise, the break-even output will also rise.


(80) Explain why LAC is U shaped

2006


2006

(82) Derive the relationship between AC & MC

2007

(83) a) Explain how AC is derived from TC in short run.

b) Explain the relation between AC & MC (both graphically & mathematically)

2009

(84) Discuss – a) Learning Curve b) Economies of scope c) Economies of scale & scope in advertising

2009

(85) a) Why does MC consist of variable cost only?

b) Why are all costs variable in long run?

c) Derive the LAC from the short run average cost curves.

2010

(86) Discuss – a) BE analysis b) Learning Curve

2010
NUMERICAL QUESTIONS

(38) AFC is given as \( 10 \frac{q}{q} \). Find the slope of AFC when 10 units are produced.

(39) Let \( TC = 36 + q^2 \). Find minimum AC.

(40) For a cubic cost function given as
\[ TC = a + bq - dq^2 + kq^3, \] where \( a, b, d, k \) are positive constants, show that MC reaches its minimum before AVC.

(41) Maruti produces 10,000 cars per month, its long run total cost is Rs.150,000,000. If it produces 10,500 cars per month, its long run total cost is Rs.227,500,000. Does Maruti exhibit economies or diseconomies of scale? 2006

(42) The fixed cost is Rs.10,000, the price per unit is Rs.100, the variable cost per unit is Rs.75. Find BE output.

(43) A firm employs 20 workers (labour is the only variable input) at wage rate Rs.60. The average product of labour is 30. The firm has produced 12 units of additional output from the last worker employed. The total fixed cost is Rs.3600/-
   a) What is the value of MC?
   b) What is the value of AVC?
   c) How much output is produced?
   d) What is the value of AC? 2009

(44) Calculate BE output if
   Variable cost per unit = Rs.12, fixed cost = Rs.60000, selling price per unit = Rs.18. 2009

(45) If \( C = q^2 + 5q + 36 \) then show at minimum AC we have \( MC = AC \).

(46) Show that \( AC/MC \) can be interpreted as output elasticity of cost.

(47) If \( LRTC = 7q + 2q^2 - q^3 \), find the optimum output of the firm.