Study Note - 2

FORMS OF MARKET

This Study Note includes

2.1 Various Forms of Market
2.2 Concepts of Total Revenue, Average Revenue & Marginal Revenue
2.3 Pricing in Perfect Competition
2.4 Pricing in Imperfect Competition

2.1 VARIOUS FORMS OF MARKET

Market

- In economics, market means a social system through which the sellers and purchasers of a commodity or a service (or a group of commodities and services) can interact with each other.
- They can participate in sale and purchase.
- Market does not refer to a particular place or location.
- It refers to an institutional relationship between purchasers and sellers.
- Market is an arrangement which links buyers and sellers.
- A market can be of different types.
- The market differ from one another due to differences in the number of buyers, number of sellers, nature of the product, influence over price, availability of information, conditions of supply etc.

Economists discuss four broad categories of market structures:

1. Perfect Competion
2. Monopoly
3. Monopolistic Competition
4. Oligopoly

2.1.1 Perfect Competition

A market is said to be Perfectly Competitive if it satisfies the following features:-

(i) **Large number of buyers and sellers :** Under perfect competition, there exists a large number of sellers and the share of an individual seller is too small in the total market output. As a result a single firm cannot influence the market price so that a firm under perfect competition is a price taker and not a price maker. Similarly, there are a large number of buyers and an individual buyer buys only a small portion of the total output available.

(ii) **Homogenous goods :** Under perfect competition all firms sell homogenous goods which are identical in quantity, shape, size, colour, packaging etc. So the products are perfect substitutes of each other.

(iii) **Free entry and free exit :** Any firm can enter or leave the industry whenever it wishes. The condition of free entry and free exit ensures that all the firms under perfect competition will earn normal profits in the long run. If the existing firms are earning supernormal profits, new firms would be attracted to enter the industry and increases the total supply. This will reduce the market price and the supernormal profit will not sustain. On the other hand if the existing firm incur supernormal loss then firms would leave the industry, thus reducing the supply. As a result, price will again rise and the loss will be wiped out.

(iv) **Profit maximization :-** The goal of all firms is maximization of profit.

(v) **No Government regulation :-** There is no Government intervention in the market.

(vi) **Perfect mobility of factors :-** Resources can move freely from one firm to another without any restriction. The labours are not unionized and they can move between jobs and skills.

(vii) **Perfect knowledge :-** Individual buyer and seller have perfect knowledge about market and information is given free of cost. Each firm knows the price prevailing in the market and would not sell the commodity which is higher or lower than the market price. Similarly, each buyer knows the prevailing market price and he is not allowed to pay a higher price than that. The firm also has a perfect knowledge about the techniques of productions. Each firm is able to make use of the best techniques of production.

2.1.2 Imperfect Competition

Imperfectly competitive markets may be classified as : (i) Monopoly, (ii) Monopolistic Competition, (iii) Oligopoly and (iv) Duopoly

(1) Monopoly

Monopoly refers to the market situation where there is one seller and there is no close substitute to the commodities sold by the seller. The seller has full control over the supply of that commodity. Since there is only one seller, so a monopoly firm and an industry are the same.

Features :

(i) **Single seller and large number of buyers :** Under monopoly there is one seller and therefore a firm faces no competition from other firms. Though there are large numbers of buyers, no single buyer can influence the monopoly price by his action.

(ii) **No close substitute :** Under monopoly there is no close substitute for the product sold by the monopolist. According to Prof. Boulding, a pure monopolist is therefore a firm producing a product which has no substitute among the products of any other firms.

(iii) **Restriction on the entry of new firms :** Under monopoly new firms cannot enter the industry.

(iv) **Price maker :-** A monopoly firm has full control over the supply of its products and hence it has full control over its price also. A monopoly firm can influence the market price by varying it supply, for eg., It can make the price of its product by supplying less of it.

(v) **Possibility of Price Discrimination :** Price discrimination is defined as that market situation where a single seller sell the same commodity at two different prices in two different markets at the same time, depending upon the elasticity of demand on the two goods in their respective market. Under such circumstances a monopolist can incur supernormal loss then firms would leave the industry, thus reducing the supply. As a result, price will again rise and the loss will wiped out.

(2) Monopolistic Competition

It is that form of market in which there are large numbers of sellers selling differentiated products which are similar in nature but not homogenous, for eg., the different brands of soap. This are closely related goods with a little difference in odour, size and shape. We separate them from

each other. The concept of monopolistic competition was developed by an American economist "Chamberline". It is a combination of perfect competition and monopoly.

Features :

(i) **Large number of sellers and buyers :** In monopolistic competition the number of sellers is large and each other act independently without any mutual dependence. Here the action of an individual firm regarding change in price has no effect on the market price. The firms under monopolistic competition are not price takers.

(ii) **Product Differentiation :** Most of the firms under monopolistic sale products which are not homogenous in nature but are close substitutes. Products are differentiated from each other in the following ways:

   (a) **Real Differentiation :** These types of product differentiation arises due to differences in the quality of inputs used in making these products, differences in location of firms and their sales service.

   (b) **Artificial Differentiation :** It is made by the sellers in the minds of the buyers of those products through advertisements, attractive packing, etc.

(iii) **Non-price competition :** In this case, different firms may compete with each other by spending a huge sum of money on advertisements keeping the product prices unchanged.

(iv) **Selling Cost :** Expenditure incurred on advertisements and sales promotion by a firm to promote the sale of its product is called selling cost. They are made to persuade a particular product in preference to other products. Some advertisements have become so popular that people use a brand name to describe the product, for eg., brand name is used to describe all types of washing powder.

(v) **Free entry and free exit :** There are no restrictions on the entry of new firms and the firms decide to leave the industry. Every firm under monopolistic competition earns only normal profits in the long run and there arises no supernormal profit nor loss.

(vi) **Independent price policy :** A firm under monopolistic competition can influence the price of the commodity to some extent and hence they face an inverse relationship between price and quantity. In this case the price elasticity of demand would be relatively elastic because of the existence of many substitutes.

(3) Oligopoly

Oligopoly is a market situation in which there are few firms producing either differential goods or closely differential goods. The number of firms is so small that every seller is affected by the activities of the others.

Features :

(i) **Few Sellers :** There are few sellers in oligopoly market, such that number of sellers is small that each and every seller is affected by the activities of the others.

(ii) **Interdependence :** Interdependence among firms is the most important characteristic under Oligopoly. The number of sellers is so less in the market that each of these firms contribute a significant portion of the total output. As a result, when any one of them undertakes any measure to promote sales, it directly affect other firms and they also immediately react. Hence every firm decides its policy after taking into consideration the possible reaction of the rival firm. Thus every firm is affected by the activities of the other firms and this is called interdependence of firm.

(iii) **Nature of Product :** A firm under oligopoly may produce homogenous goods which is called oligopoly without product differentiation for eg. Cooking gas supplied by Indian Oil & HP.

Oligopoly may also produce differential products which is called oligopoly with product differentiation for eg. Automobile Industry.

(iv) **Barrier to Entry :** The existence of oligopoly in the long run requires the existence of barrier to the entry of the new firms. Several factors such as unlimited size of the market, requirement of huge initial investment etc. creates such barrier upon the entry of new firms.

(4) Duopoly

It is a specific type of oligopoly where only two producers exist in one market. In reality, this definition is generally used where only two firms have dominant control over a market. Duopoly provides a simplified model for showing the main principles of the theory of oligopoly: the conclusions drawn from analysing the problem of two sellers can be extended to cover situations in which there are three or more sellers. If there are only two sellers producing a commodity a change in the price or output of one will affect the other; and his reactions in turn will affect the first. In other words, in duopolies there are two variables of interest: the prices set by each firm and the quantity produced by each firm.

2.2 CONCEPTS OF TOTAL REVENUE, AVERAGE REVENUE AND MARGINAL REVENUE

The term revenue refers to the receipts obtained by a firm from the sale of certain quantities of a commodity at various prices. The revenue concept relates to total revenue, average revenue and marginal revenue.

2.2.1 Total Revenue (TR)- Total revenue is the total sale proceeds of a firm by selling certain units of a commodity at a given price.

If a firm sell 10 units of a commodity at ` 20 each, Them TR = 20 x 10 = ` 200.00

Thus total revenue its price per unit multiplied by the number of units sold.

TR = P x Q where P - Price per unit Q - Quantity sold.

2.2.2 Average Revenue (AR) - Average Revenue is the revenue earned per unit of output. Average Revenue is found out by dividing the total revenue by the number of units sold.

AR = TR/Q

TR = P.Q

Thus AR = P.Q/Q = P

2.2.3 Marginal Revenue - Marginal Revenue is the change in total revenue resulting from sale of an additional unit of the commodity.

e.g If a seller realises ` 200.00 after selling 10 units and `225 by selling 11 units, we say MR = (225.00 - 200.00) = ` 25.00

Mathematically it can be expressed as **MR = dTR/ dQ**

Where d is the rate of change.

2.3 PRICING IN PERFECT COMPETITION

2.3.1 Firm's Equilibrium under Perfect Competition

- A firm is a small producing unit.

- It supplies too small portion of the total product to influence price.
- By increasing or decreasing its contribution, it can hardly influence total supply and hence price.

- So a firm is said to be a Price Taker in the sense that it sells at the current market price as determined by the Industry.
- In determining its equilibrium output the firm is guided by the objective of profit maximization.
- The firm's strategy in this respect differs between short period and long period.

2.3.2 A Competitive Firm is not a Price Determinator, but an output Adjustor

- In Perfect Competition there are large numbers of firms producing homogenous goods.
- An individual firm in such market supplies a very small part of the total market supply.
- So, by changing its supply it cannot affect the price.
- The firms have no independent price making power.
- They cannot fix the price according to their wishes.
- Firms are bound to accept the price as determined by the industry.
- A firm is said to be a price taker because it accept the price from the market as a whole.
- In this sense the firms are Output Adjustor.
- A firm will produce the output where its profit is maximum.
- Price is given and so at the current price the firm can sell as much or as little as it wishes.
- Whether the output is large or small, price per unit will remain the same.
- Since price being fixed for all the units, the firm's price will be equal to average revenue and marginal revenue (P = AR = MR). This can be shown by the following table –

i.e.

$$TR = PQ$$

$$AR = \frac{TR}{Q} = P$$

$$MR = \frac{\Delta TR}{\Delta Q} = P$$

$$\therefore AR = MR = P$$

Units	Price per unit	Total revenue	Average revenue	Marginal revenue
50	` 5	` 250	` 5	-
51	` 5	` 255	` 5	` 5
52	` 5	` 260	` 5	` 5
53	` 5	` 265	` 5	` 5

From this table it appears that a firm's price is equal to AR and MR. Further they are equal for all units of

output. Hence the price curve is a horizontal straight line parallel to X–axis.

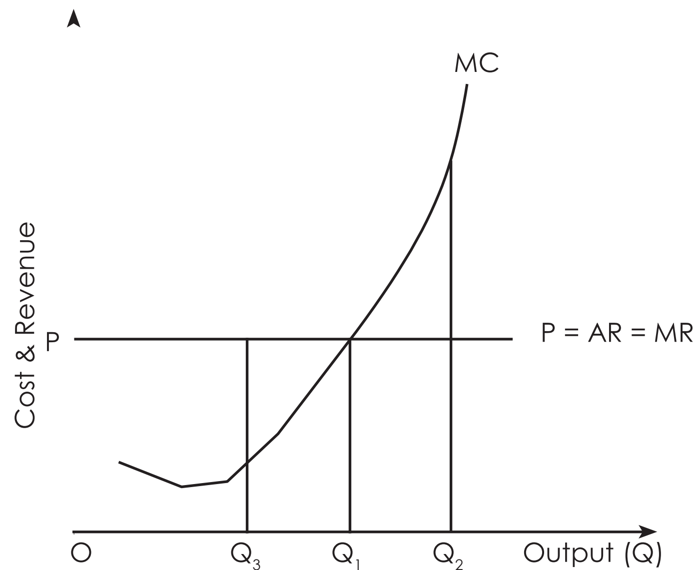


Fig. 2.1: Price Determination

- With a given price a firm in such a market produces the output up to the point where MR = MC.
- This is shown by the above graph.
- In this graph, when the firm produces OQ_1 its MR = MC.
- If it produces more than this quantity then for every unit it must have to suffer loss because MC will be more than MR.
- This is the shown by the output OQ_2.
- Similarly if it produces output lesser than OQ_1 it will enjoy excess profit because MC will be less than MR.
- The firm will therefore, get incentive to produce more.
- Thus a firm under perfect competition produces up to the point where MR = MC.
- The equality of MR = MC is a necessary but not a sufficient condition.
- The sufficient condition is that MC must cut MR from below as it is shown in the above graph.
- If MC cuts MR from above then the point of intersection will not be the point of equilibrium output as the firm will be able to earn more profit by producing more.

2.3.3 Determination of Equilibrium Price and Output of a firm under Perfect Competition

Perfect Competition (PC) is that market firm which is characterized by many sellers selling homogenous goods at uniform prices. Under such a market a single firm cannot makes its price, where as the price is decided by the industry consisting of all such firms.

Therefore a single firm under PC is a price taker and not a price maker. How the equilibrium price is determined by a firm under PC is shown below :

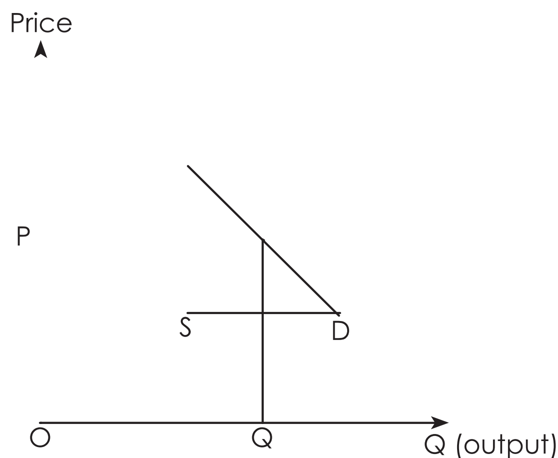


Fig. 2.2a

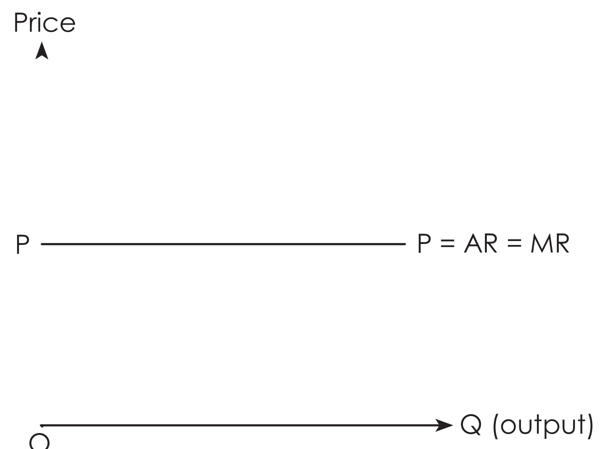


Fig. 2.2b

In fig(2.2a) point e is the equilibrium point of the industry where aggregate demand (D) = aggregate supply(S). The equilibrium price is OP which is decided by the industry has to be accepted by all firms in that industry as shown in fig (2.2b).

Under PC since several firms sell the same goods and there is a provision for free entry and free exit of the firm. Therefore per unit price = AR = MR.

[under PC, P = AR = MR]

2.3.4 Equilibrium under Short Run & Long Run

In order to find out equilibrium price and output of a firm under PC in the short run. There are two conditions.

(i) MC = MR.

(ii) MC curve cuts the MR Curve from below.

In the short run, there may be a situation of super normal profits or losses.

(a) In case of Super Normal Profit — When the AR of the firm exceeds the AC of the firm (i.e. when AC lies below the AR curve), Then there arises super normal profit. This is explained with the fallowing diagram:

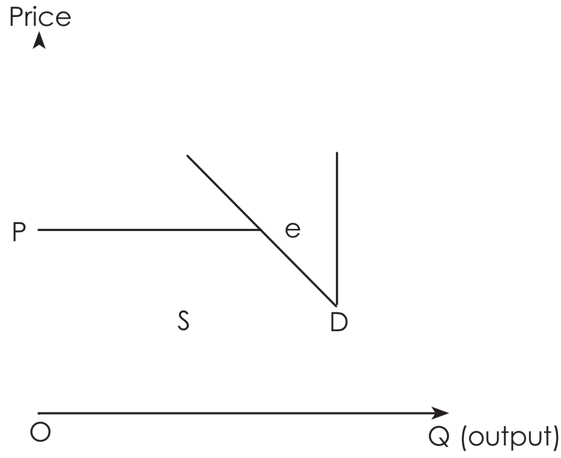


Fig. 2.3a

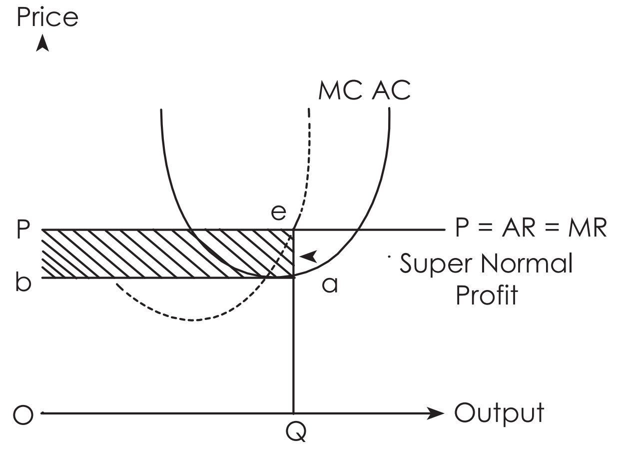


Fig. 2.3b

In Fig (2.3a) the equilibrium price OP which is found out by the intersection of D & S at the industry level which has to be accepted by all the firms belonging to that industry.

So, the equilibrium price of the firm is OP [Fig(2.3b)] point e is the equilibrium point where MC = MR and MC cuts MR form below. Therefore the total amount of Super Normal Profit is calculated below:

Total Profit = TR – TC

= (AR × Q) - (AC × Q) Where

= (eQ × OQ) – (aQ × OQ) baQO = Total Cost

= PeQO – baQO. PeQO = Total Revenue

= peab (shaded area).

(b) Loss : In case of loss the AC of the firm has to be greater than AR. It is explained in the following diagram:

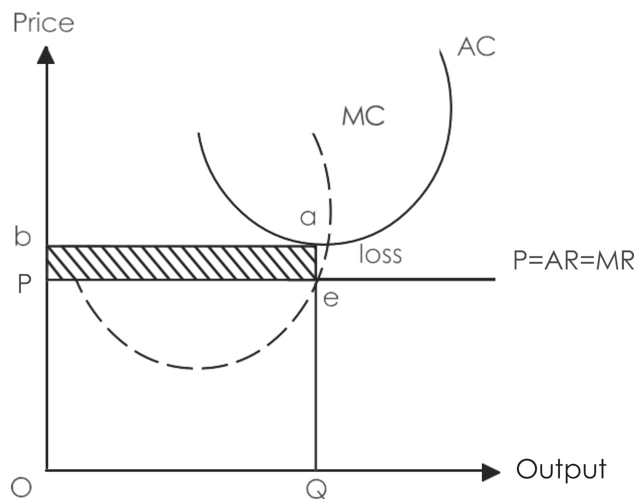


Fig - 2.4

In the above diagram we can show that AC curve lies above the AR curve. The equilibrium point at e where MC = MR & MC Curve cuts the MR Curve from below. Therefore OQ is the equilibrium quantity & the amount of loss is calculated as follows :

Total Loss = TC – TR Where

= (AC × Q) – (AR × Q) baQO = Total Cost

= (aQ × OQ) – (eQ × OQ) PeQO = Total Revenue

= baQO – PeQO

= Peab (shaded area)

(ii) Long Run

A Firm is said to be in equilibrium in the long run when P = AR = MR = MC = AC. Therefore under PC in the long run there exists normal profit and no super normal profits or losses exists. Existence of super normal profits in the short run attract more firm to the industry and thus aggregate supply will rise which will reduce the price and hence the sustained super normal profit will disappear.

On the other hand if there is an event of loss then the existing firms will gradually leave the industry and as a result the supply will fall, price will rise and the super normal loss will be wiped out.

2.4 PRICING IN IMPERFECT COMPETITION

2.4.1 Equilibrium Price and Output Determination under Monopoly

In case of a monopoly firm or industry there is a downward sloping demand curve or average revenue curve which suggests that a monopolist can reduce his unit price to encourage more sales. In case of monopoly the AR & MR curves are downward sloping and the MR curve lies below the AR curve, as shown below :

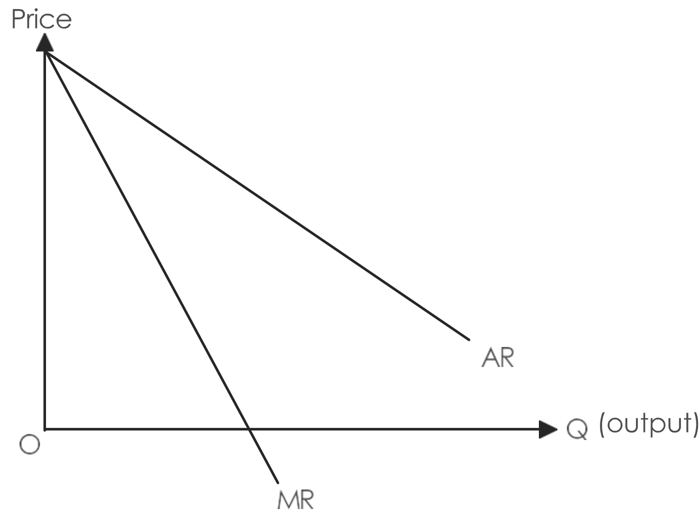


Fig. 2.5

In a monopoly market the conditions of equilibrium are - (i) MC – MR & (ii) MC curve cuts MR curve from below:

To explain the different situation of profit & losses under monopoly, we explain the following cases :

(a) Super normal profit – If a monopoly earns super normal profit then the AC curve will lie below the AR curve.

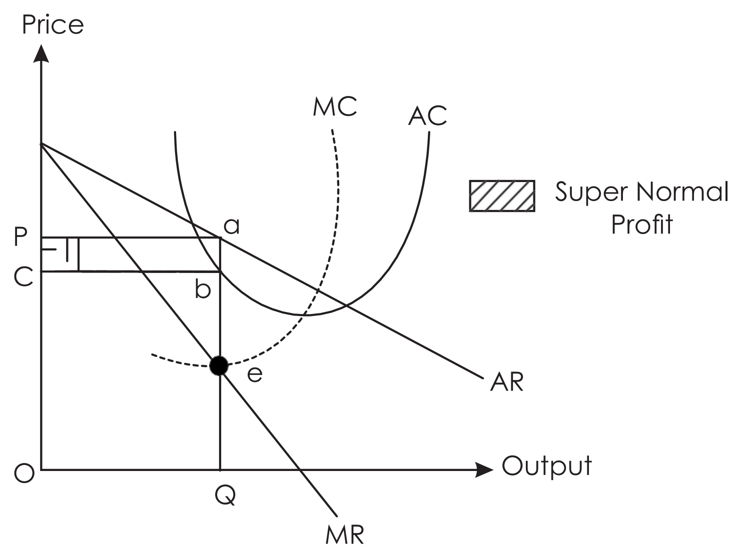


Fig.2.6

In the above diagram we measure output along the x-axis & revenue and cost on the y-axis pt e is the equilibrium point where MC = MR and MC cuts MR from below. OP is the equilibrium price and OQ is the equilibrium quantity. We calculate the total profit as:

Total Profit = TR – TC
= (AR x Q) – (AC x Q)
= (OQ x OP) - (bQ x oQ)
= PaQo – CbQo
= PabC (shaded area)

(b) Loss : In case of loss the AC curve lies above the AR.

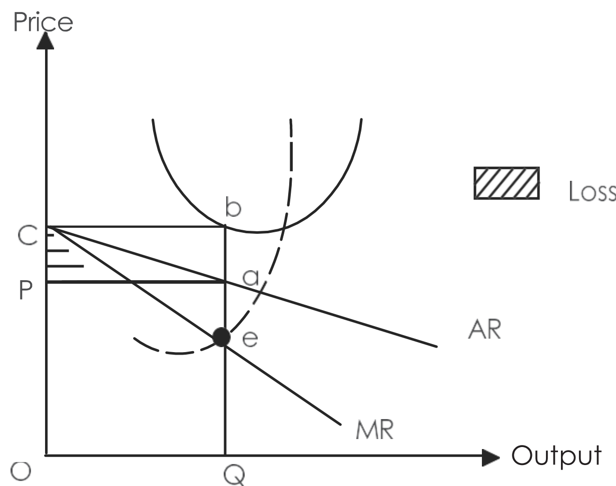


Fig.2.7

In the above diagram e is the point of equilibrium. OP is the equilibrium price and OQ is the equilibrium quantity. The amount of super normal loss is determined as follows:

Total loss = TC – TR
= (AC x Q) – (AR x Q)
= (bQ x OQ) - (aQ x OQ)
= CbQO - PaQO
= PabC (shaded region)

(c) No Super normal profit or loss : In this situation the AR = AC and therefore the AR curve is tangent to the AC Curve as shown below.

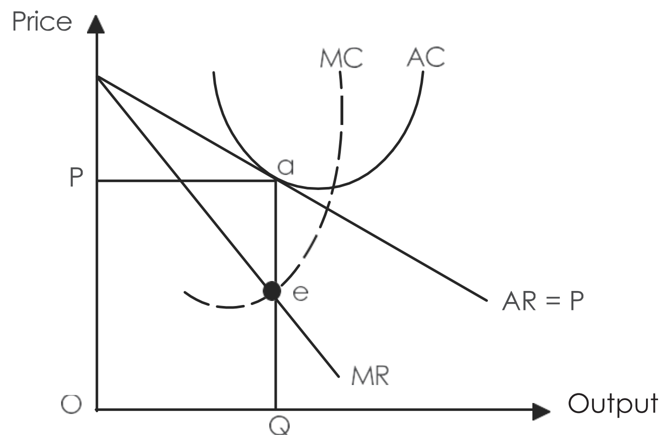


Fig.2.8

In the diagram e is the point of equilibrium, OP is the equilibrium price and OQ is the equilibrium output. The AR curve is tangent to the AC curve at point a and therefore AR = AC or

	TR	=	TC
	(AR x Q)	=	(AC x Q)
	(OQ x OQ)	=	(aQ x OQ)
Or,	PaQO	=	PaQO

2.4.2 Price Discrimination under Monopoly

- Sometimes the monopolist charges different prices to different consumers for the same commodity.
- A company producing electricity may charge one price for domestic consumers and another for industrial consumers.
- Sometimes, in order to capture a foreign market, a monopolist keeps the export price lower than the price in the domestic market. (This is called 'dumping').
- Sometimes exactly the opposite is done. A low price is charged for domestic consumers but the price is raised when the good is sold to a rich foreign nation.
- All these are cases of price discrimination.
- When a monopolist discriminated the price between consumers, the practice is called 'price discrimination'.

Classification of Price Discrimination:

Professor Pigou has classified price discrimination into three different types:

Price discrimination of the first degree	• The monopolist discriminates price not only between different consumers but also between the different units of purchase by a given consumer. • He extracts the maximum possible price for each unit of his output. • The monopolist has complete knowledge about the market demand curve. • He can charge the maximum price which a consumer is ready to pay for purchasing a given quantity.
Price discrimination of the second degree	• Price does not differ for each unit of purchase. • The consumer is made to pay one price upto a certain amount of purchase and another price for purchases exceeding this amount. • This is known as the principle of block pricing.
Price discrimination of the third degree	• A particular consumer pays a particular price, irrespective of the amount of his purchase. • But the price differs between different consumers (or different groups of consumers).

Our discussion here will mainly be confined to this third type of price discrimination.

When is price discrimination possible?

A monopoly firm can sell the same product at two different prices to two different groups of buyers. This type of price discrimination becomes possible under the following circumstances:

(a) Different price elasticities of demand : If the price elasticity of demand is different in two different markets, then such price discrimination becomes easier. The monopolist charges higher price for the product in a market where price elasticity of demand is relatively inelastic. On the other hand, he charges relatively lower price in a market where the price elasticity of demand is relatively elastic.

(b) Tariff barrier : If two markets are separated by a tariff wall, the monopolist can follow this principle of price discrimination. For example, the monopolist can sell its product at a lower price in the foreign market, and at a higher price in the domestic market. If there remains high import tariff then it might not be profitable for the domestic buyers to purchase that product at a lower price from the foreign market because they will have to pay a high import tariff on that

imported item. In this situation, products sold by the monopolist will not flow from the low-priced foreign market to the high-priced domestic market.

(c) **Geographical distance between the markets :** Price discrimination is also possible when two markets are separated from one another by geographical distance. In this case, the monopolist can sell its product at a lower price in a distant market and at higher price in the local market. In this case also, any buyer would find it unprofitable to purchase the product from the low priced distant market due to substantial amount of transport cost involved in this process. So, products will not flow from the low-priced distant market to the high-priced local market.

(d) **Impossibility of resale of a product (particularly service items) :** If it is not possible on the part of any buyer to resale the product sold by the monopolist, then the monopolist can easily follow the policy of price discrimination. This happens particularly in case of service items. For example, a renowned doctor can charge different fees for rendering similar service to two different patients. Similarly, a renowned lawyer can fix different service charges for two groups of clients for rendering similar services. Here, such doctors or the lawyers would be regarded as the discriminating monopolists.

(e) **Ignorance of the consumers :** If the consumers remain ignorant about the difference in prices of the same product in two different markets, then also the monopolist can easily follow the policy of price discrimination.

(f) **Typical behaviour of the consumers :** Sometimes the consumers do not pay any importance to the small differences in prices (say, a difference of only 20 paise) of the same product sold by the monopolist to different groups of consumers. In that situation it becomes easier for the monopolist to follow this policy. Again in some cases, a group of consumers consider higher price as an indicator of higher quality (the so called Veblen effect). Such typical behaviour of the consumers creates an opportunity for the monopolist to follow the policy of price discrimination.

2.4.3 Price and Output Determination under Monopolistic Competition

- **Two demand Curves**

(i) **Perceived Demand Curve**

This demand shows different combinations between quantity demanded and price such that neither of the form has any further incentive to deviate from their decisions.

(ii) **Proportional Demand Curve**

In this case, this demand curve captures the impact of all firms simultaneously changing the same price and hence it takes into account the effects of the action of rivals.

The following diagrams explains the demand curves.

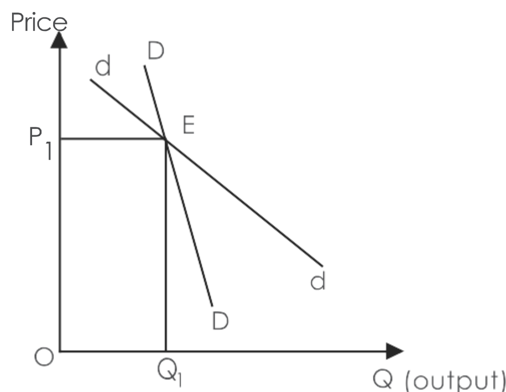


Fig. 2.9

Initially the firm settles at E where the perceived demand curve (dd) and proportional demand curve (DD) intersect. If any firm reduces, its price, it assumes that other firms keep their output

unchanged. Hence, it makes according to perceived demand curves. But actually, all firms simultaneously reduce the prices. Hence, the actual movement is along DD and perception is along dd.

- **Equilibrium Condition under Monopolistic Competition**

For short run equilibrium, the following conditions should be satisfied:

(i) MR = MC.

(ii) MC must cut MR from below

(iii) Perceived and proportional demand curves must intersect each other at the point of determination of price and output.

The following diagram represents the above condition:-

Here, equilibrium is attained at E where MR = MC and the equilibrium price, OP, ensures DD=dd.

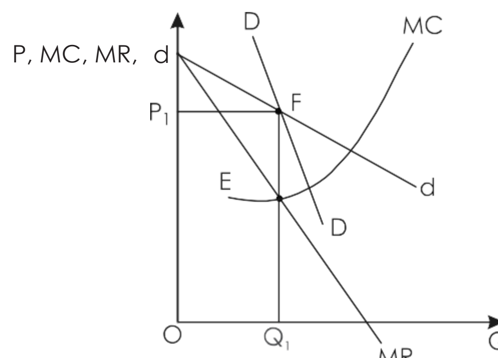


Fig. 2.10

- Long run equilibrium is achieved at the point where LMC equals MR.
- The equilibrium output is thus determined OQ_{mc}.
- At this output, AR equals AC.
- The firm gets normal profit by selling OQ_{mc} output at the price OP_{mc}.
- It operates less than its full utilization level, this call for the emergence of "Excess Capacity" in the market.
- The industry operates under Increasing Returns to scale as compared to perfect competition (Operates under constant returns to scale).
- The difference between ideal output and actual output captures excess-capacity.

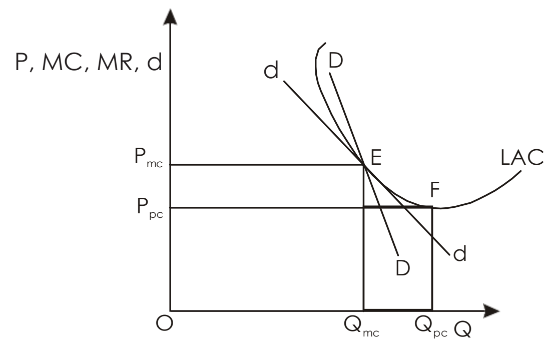


Fig. 2.11

The Fig. 2.11explains the case.

Hence the difference between Q_{pc} and Qmc captures the extent of excess capacity.

2.4.4 Price and Output Determination under Oligopoly/Duopoly

We shall now undertake the study of a number of models of oligopoly or duopoly put forward by some classical economists. The theory of no-collusive or uncoordinated oligopoly is one of the oldest theories of competition and monopoly or perhaps of all the theories of the behavior of the individual firm. A model of oligopoly (duopoly case) Cournot's model of oligopoly was subjected to economist, in 1838. Joseph Bertrand, a French mathematician, whose criticism in 1883 by not provided a substitute model of oligopoly.

Traditionally, Oligopoly Models are based on the assumption that an oligopolie's behavior will not affect his rival firm no matter what he does. This is technically termed as conjectural variation.

Cournot's Model	• Augustin Cournot, a French economist, published his theory of duopoly in 1838. • The case of two identical mineral springs operated by two owners who are selling the mineral water in the same market. • Their waters are identical. • Therefore, his model relates to the duopoly with homogenous products. • It is assumed by Cournot that the owners operate mineral springs and sell water without any cost of production. • Thus, cost of production is taken as zero. • Only the demand side of the market is analysed. • The duopolists fully know the market demand for the mineral water. • The market demand for the product is assumed to be linear, that is, market demand curve facing the two producers is a straight line. • Cournot begins his analysis with the fundamental assumption that each duopolist believes that regardless of his actions and their effect upon market price of the product, the other will go on producing the same amount of output which he is presently producing. • For determining the output to be produced, he will not take into account reactions of his rival in response to his variation in output. • Cournot's output is two third of competitive output and price is two third of most profitable i.e. monopoly price. • Cournot's Model is critised on the ground that zero cost of production is unrealistic.
Stackelberg Model	• The producer 1 under duopoly structure incorporates the decision level of his rival. • Incorporates in its own profit function and thereby maximizes profit. • Non-collusion is practiced at large. • Leader-follower relation emerges.
Bertrand Model	• According to Joseph Bertrand, each producers can always lower the price by undertaking the other and uncertainty his supply of output until price is equal to the cost of production. • Here, adjusting variable is price and not output.
Edgeworth Model	• Each duopolist believes that his rival will continue to charge the same price as he is just doing irrespective of what price he himself sets in. • No determinate equilibrium can exist under duopoly.
Collusive Oligopoly	• Each producer gains by colliding with each other. • A cartel is formed when firms jointly fixes price and output with a view to maximize joint profit. • For example OPEC countries form a cartel to jointly control the supply of oil like a pure monopolist and maximize joint profits. • It ensures that co-operation is always better than non-cooperation.

2.4.5 Pricing Strategies

- **Cost-plus pricing**

  Cost-plus pricing is the simplest pricing method. The firm calculates the cost of producing the product and adds on a percentage (profit) to that price to give the selling price. This method although simple but has two flaws; it takes no account of demand and there is no way of determining if potential customers will purchase the product at the calculated price.

- **Limit pricing**

  A limit price is the price set by a monopolist to discourage economic entry into a market, and is illegal in many countries. The limit price is the price that the entrant would face upon entering as long as the incumbent firm did not decrease output. The limit price is often lower than the average cost of production or just low enough to make entering not profitable.

- **Penetration pricing**

  Setting the price low in order to attract customers and gain market share. The price will be raised later once this market share is gained.

- **Price discrimination**

  Setting a different price for the same product in different segments to the market. For example, this can be for different classes, such as ages, or for different opening times.

- **Psychological pricing**

  Pricing designed to have a positive psychological impact. For example, selling a product at ` 3.95 or ` 3.99, rather than ` 4.00.

- **Dynamic pricing**

  A flexible pricing mechanism made possible by advances in information technology, and employed mostly by Internet based companies.

- **Price leadership**

  An observation made of oligopolistic business behavior in which one company, usually the dominant competitor among several, leads the way in determining prices, the others soon following. The context is a state of limited competition, in which a market is shared by a small number of producers or sellers.

- **Target pricing**

  Pricing method whereby the selling price of a product is calculated to produce a particular rate of return on investment for a specific volume of production. The target pricing method is used most often by public utilities, like electric and gas companies, and companies whose capital investment is high, like automobile manufacturers.

- **Absorption pricing**

  Method of pricing in which all costs are recovered. The price of the product includes the variable cost of each item plus a proportionate amount of the fixed costs and is a form of cost-plus pricing.

- **High-low pricing**

  Method of pricing for an organization where the goods or services offered by the organization are regularly priced higher than competitors, but through promotions, advertisements, and or coupons, lower prices are offered on key items. The lower promotional prices are designed to bring customers to the organization where the customer is offered the promotional product as well as the regular higher priced products.

- **Marginal-cost pricing**

  In business, the practice of setting the price of a product to equal the extra cost of producing an extra unit of output.

PROBLEMS ON FIRMS, PROFIT, COST AND PRODUCTION

Questions

1. Which of the following is most likely an example of production inputs that can be adjusted in the long run, but not in the short run?
   A. Amount of wood used to make a desk.
   B. Number of pickles put on a sandwich.
   C. The size of a McDonald's kitchen.
   D. Number of teacher's assistants in local high schools.
   E. The amount of electricity consumed by a manufacturing plant.
2. The Law of Diminishing Marginal Returns is responsible for
   A. AVC that first rises, but eventually falls, as output increases.
   B. AFC that first rises, but eventually falls, as output increases.
   C. MP that first falls, but eventually rises, as output increases.
   D. MC that first falls, but eventually rises, as output increases.
   E. ATC that first rises, but eventually falls, as output increases.
3. Which of the following cost and production relationships is inaccurately stated?
   A. AFC = AVC – ATC
   B. MC = ÄTVC/ÄQ
   C. TVC = TC – TFC
   D. APL = TPL/L
   E. MC = w/MPL
4. If the per unit price of labor, a variable resource, increases, it causes which of the following?
   A. An upward shift in AFC.
   B. An upward shift in MPL.
   C. A downward shift in ATC.
   D. An upward shift in MC.
   E. A downward shift in AFC.

   Use the following figure to respond to questions 5 to 6.

Answers and Explanations

1. **C**—The short run is a period of time too short to increase the plant size. All other choices involve decisions that could increase production almost immediately, with no change in the size of the facility. Increasing the size of a McDonald's kitchen takes quite some time and represents an increase in the total capacity of the kitchen to produce.
2. **D**—The Law of Diminishing Marginal Returns says that MPL eventually falls as you add more labor to a fixed plant. This question tests you on the important connection between production and cost. Remember that we derived this "bridge" and found that MC = w/MPL. So when MPL is initially rising, MC is falling. Eventually when MPL is falling, MC is rising. Choices A, B and E are just flat wrong. All three average costs begin by falling. AFC continues to fall, but AVC and ATC eventually rise.
3. **A**—AFC plus AVC equals ATC. If you do the subtraction, AFC = ATC – AVC, making choice A the only incorrect statement. If you have studied your production and cost relationships, you recognize that choices B, C, D and E are all stated correctly.
4. **D**—When labor is more expensive, the MC of producing the good increases, so the MC curve shifts upward. The price of a variable input has increased, so easily rule out any reference to fixed costs. If anything, a higher wage shifts MPL downward.

Applications

MICRO-ECONOMICS-I (*DENOTES ANSWERS)

1. Economic models or theories
   a. are limited to variables that are directly (positively) related
   *b. are simplifications of the real world they represent
   c. cannot be tested empirically
   d. are limited to variables that are inversely related
2. Allocative efficiency means that
   a. opportunity cost has been reduced to zero
   *b. resources are allocated to the use which has the highest value to society
   c. technological efficiency has not been achieved
   d. only relative scarcity exists
3. Operating inside a society's production possibilities frontier is a:
   a. drawback of capitalism relative to socialism
   *b. symptom of inefficiency or idle resources
   c. way to build reserves to stimulate investment and growth
   d. result whenever the capital stock depreciates rapidly
4. Which event will shift the butter/guns production possibilities frontier outward?
   *a. a new and superior method of producing butter
   b. a decrease in the resources devoted to the production of investment goods
   c. an increase in the production of guns
   d. a reduction in the production of butter
5. Which of the following is correct with respect to a firm's supply of a given product? The supply curve shows
   a. the amount of profit that will be earned for various output levels
   *b. the amount of a good that will be available for sale at various prices
   c. an inverse relationship between price and quantity supplied
   d. the amounts of a good that will be sold at various prices
6. If the real income of a consumer decreases and, as a result, his demand for product X increases, it can be concluded that product X is a/an
   a. complementary good
   b. normal good
   *c. inferior good
   d. substitute good
7. If bread and butter are complementary goods, then an increase in the price of bread will result in:
   a. an increase in the demand for butter

b. an increase in the demand for bread

*c. a decrease in the demand for butter

d. a decrease in the demand for butter

8. Excess demand occurs whenever

a. quantity demanded is less than quantity supplied

b. goods are scarce

c. the actual price is greater than the equilibrium price

*d. the actual price is less than the equilibrium price

9. At the equilibrium price in a market,

*a. there is no tendency for price to change

b. quantity supplied exceeds quantity demanded

c. there is a tendency for price to rise

d. there is a tendency for price to fall

e. quantity demanded exceeds quantity supplied

10. The price of lettuce rose 70 percent during the 1970's and, as a result, sales of salad dressing fell by more than 25 percent. In economic terms:

a. the cross elasticity of demand is negative indicating the two goods are substitutes

b. the price elasticity of supply for salad dressing is low

c. salad dressing has low price elasticity of demand

*d. the cross elasticity of demand is negative indicating these are complementary goods

11. Which of the following is not a determinant of the price elasticity of demand?

*a. the price elasticity of supply

b. whether the product is a necessity

c. whether the product is a luxury

d. the time period in question

12. The law of diminishing marginal utility:

a. provides an explanation for perfectly elastic demand curves

*b. suggests that as a individual's consumption of a good increases, his marginal utility must eventually decrease

c. suggests that total utility will eventually decrease if enough of the good is consumed

d. suggests that as a consumer buys more of a good, its price will drop

13. To maximize total utility, consumption should be arranged such that the

a. the total utility associated with each good consumed is equal for all goods consumed

b. the ratio of the total utility associated with each good consumed to the price of the good is equal for all goods consumed

c. marginal utility associated with the last unit of each good consumed is equal for all goods consumed

*d. ratio of the marginal utility associated with the last unit of each good consumed to the price of the good is equal for all goods consumed

14. Which of the following will generate additional American demand for the Mexican peso?

*a. increased American travel to Mexico

b. decision by Mexican petroleum companies to invest in the American oil fields

c. new American tariffs levied against Mexican goods

d. decline in American demand for tequila produced in Mexico

15. Quotas tend to be associated with efforts to:

*a. expand domestic production

b. raise foreign consumer prices

c. lower domestic consumer prices

d. lower profits in domestic industries

16. An example of an implicit cost is the

*a. interest that a corporation could earn on its undistributed profits

b. salaries paid to the managers of the firm

c. rent paid by a firm for the use of a warehouse

d. property taxes paid by the firm

e. wages paid to the blue collar worker

17. A driver wishes to buy gasoline and have his car washed. He finds that the market price of gasoline is `1.08 and that the wash costs `1.00 when he buys 19 gallons but that if he buys 20 gallons, the car wash is free. The marginal cost of the twentieth gallon is:

a. `1.00

b. zero

*c. 8 paisa

d. `1.08

18. When the total product of a resource is at a maximum then:

a. average product is equal to marginal product

b. average product is equal to zero

*c. marginal product is equal to zero

d. average product is at its maximum

e. marginal product is at its maximum

19. Which of the following is true concerning short-run total costs?

a. total costs are minimized when average total costs are minimized

b. total costs are at a maximum when the average physical product of labor is at its maximum value

c. at zero output, total costs equal zero

*d. total costs equal total variable costs plus total fixed costs

Forms of Market

20. The long-run average cost curve

    a. suggests that firms always utilize their fixed plant and capacity in an efficient manner

    b. suggests that firms will build over-sized plants and underutilize them at all levels of output

    c. is the sum of the short-run average-cost curves facing a firm

    *d. indicates the lowest average costs associated with different levels of output

21. If a perfectly competitive firm sells 250 units of output at a market price of 55 rupees per unit, its marginal revenue is:

    *a. ` 55

    b. `110

    c. more than ` 55 but less than `13,750

    d. less than ` 55

22. In a perfectly competitive market, the demand curve facing the firm is

    a. negatively sloped regardless of the characteristics of the market demand curve

    *b. perfectly elastic while the market demand curve is typically negatively sloped

    c. identical to the market demand curve

    d. perfectly inelastic even though the market demand curve is not

23. If the marginal cost of a firm is rising and greater than its marginal revenue, the firm should

    a. shut down in the short run

    b. shut down in the long run

    c. increase output to increase revenue and profit

    d. remain at the same level of output since any change would lead to larger losses

    *e. decrease output

24. The perfectly competitive firm's supply curve is exactly the same as:

    *a. its marginal cost curve for all prices above average variable cost

    b. its fully allocated costs

    c. the supply curve of all firms in the economy

    d. its average variable cost curve

25. When a perfectly competitive firm is in long-run equilibrium, the market price is equal to:

    a. average total cost, but may be greater or less than marginal cost

    b. marginal revenue, but may be greater or less than both average and marginal cost

    c. marginal cost, but may be greater or less than average cost

    *d. average total cost and also to marginal cost

26. Assuming no externalities, perfect competition results in efficient resource allocation (allocative

efficiency) because price:

a. is greater than average variable cost

*b. is equal to marginal cost

c. equals average total cost

d. is less than marginal cost

e. is equal to long-run average cost

27. The monopolist's demand curve is

*a. identical with the industry or market demand curve

b. nonexistent

c. perfectly elastic

d. perfectly inelastic

28. To maximize profits, a monopolist should produce at that level of output at which:

a. demand and marginal cost intersect

b. demand and average cost intersect

*c. marginal revenue equals marginal cost

d. marginal revenue equals average total cost

e. average total cost and marginal cost intersect

29. Which of the following may be a benefit to society associated with monopolistic competition that does not exist with perfect competition?

a. homogeneous products

b. interdependence in decision making

c. arbitrage

*d. product differentiation

30. In long run equilibrium, the typical monopolistically competitive firm will

a. earn a positive economic profit

b. face a perfectly elastic demand curve

*c. earn only a zero economic profit

d. cease to advertise

e. no longer need to engage in nonprice competition

31. The number of firms in an oligopoly must be

a. large enough that firms cannot closely monitor each other

*b. small enough that firms are interdependent in decision making

c. less than a dozen

d. large enough that firms cannot collude

e. large enough that firms will see no reason to engage in nonprice competition

32. When a group of individuals or firms who produce and supply the same good form an organization whose purpose is to reduce competition between themselves, the organization is known as a__________. This group, if successful, will (raise/ lower/ maintain) the level of output supplied relative to that produced previous to the organization's existence.
    a. oligopoly, lower

    b. natural monopoly, raise
    *c. cartel, lower
    d. monopoly, lower
33. Which of the following is a FALSE statement? Imperfect competition implies that in the long run
    a. too little of the good is produced relative to the societal optimum
    b. the firms demand curve is not horizontal
    c. the firm may not produce at its minimum average total cost
    d. price may be greater than marginal revenue
    *e. price is equal to marginal cost
34. Output for a price discriminating monopolist, in comparison to a single-price monopoly, will be
    a. lower and profits will be lower
    b. lower and profits will be higher
    c. higher and profits will be lower
    *d. higher and profits will be higher
35. As labor costs account for a larger portion of total costs, demand for labor becomes
    a. perfectly elastic
    b. perfectly inelastic
    c. less elastic
    *d. more elastic
36. The demand for labor is
    a. likely to increase with decreases in resource price
    b. a direct relationship between resource price and quantity demanded
    *c. a derived demand
    d. always unitary elastic
    e. an inverse relationship between quantity available and quantity demanded
37. Consider a situation in which there is perfect competition in both the input and output markets. The firm will hire that input level which equates
    *a. marginal revenue product with marginal factor cost
    b. marginal physical product with marginal factor cost
    c. marginal factor cost with supply

d. marginal revenue product with demand

e. marginal revenue product with marginal physical product

38. In a perfectly competitive labor market, the supply curve of labor faced by the individual firm is

a. given by the value of the marginal product (VMP) of labor curve

b. the upward sloping portion of the marginal factor cost (MFC) of labor curve

c. perfectly inelastic at the market wage

*d. equal to the market wage

39. In a nonunionized monopsonistic labor market the wage rate

a. will be higher and the level of employment lower than in a competitive labor market

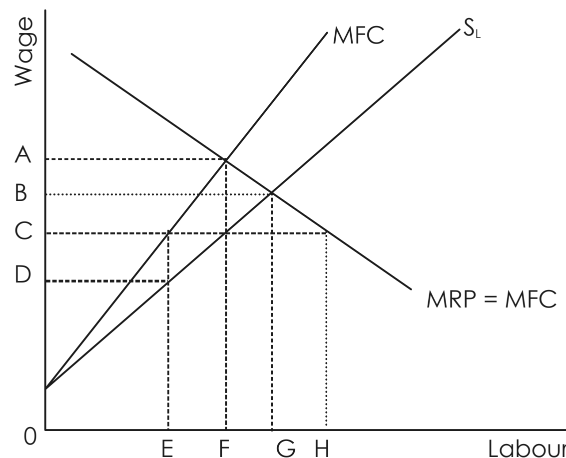
b. will be lower and the level of employment higher than in a competitive labor market

c. and the level of employment will both be higher than in a competitive labor market

*d. and level of employment will both be lower than in a competitive labor market

e. any one of the above is possible

Use the graph below to answer question number 40



40. The firm in the graph above will pay its workers a wage of `____.

*a. 0-C

b. 0-D

c. 0-A

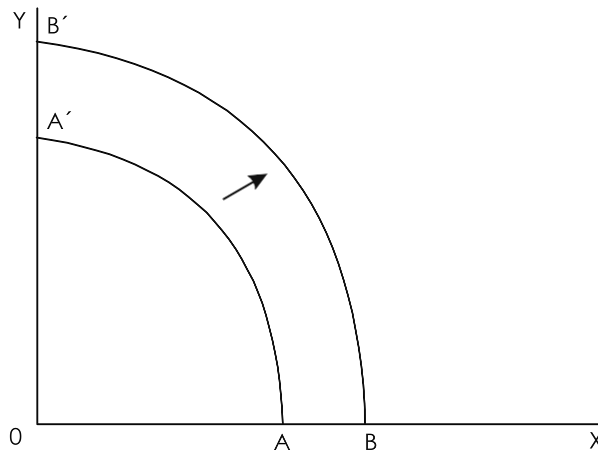
d. 0-B

Forms of Market

MICRO-ECONOMICS-II (*DENOTES ANSWERS)

1. Opportunity costs are the values of the:
   a. minimal budgets of families on welfare
   b. hidden charges passed on to consumers
   c. monetary costs of goods and services
   *d. best alternatives sacrificed when choices are made
   e. exorbitant profits made by greedy entrepreneurs
2. A mixed economy is one where
   a. the system changes from purely a free market economy to purely a control economy
   b. the market system handles resource allocation
   c. there are elements of democracy and dictatorship
   *d. there are elements of a free market economy and a control (planned) economy

Use the graph below to answer question number 3



3. According to the graph above, a shift in the production-possibilities frontier from A-A to B-B could result from:
   *a. improved technology in the production of both goods
   b. changes in the combination of goods produced
   c. unemployment
   d. inflation
   e. changes in consumers' tastes
4. A certain country produces only two goods, A and B. A change in government policy results in the society being able to enjoy more of good A without having to sacrifice any of good B. This situation:
   *a. suggests that before the policy change the economy was either operating inefficiently or had unemployed resources
   b. demonstrates that all economic problems are inter-related

c. demonstrates the law of scarcity

d. indicates that government was able to temporarily push society beyond its potential

5. Which one of the following will cause the demand curve for gasoline to shift to the right?

*a. a fall in the price of cars

b. an increase in the supply of gasoline

c. a fall in the price of gasoline

d. a rise in the price of cars

6. If the price of product ‘X’ decreases, the demand for a close substitute product ‘Y’:

a. is inelastic

*b. will shift to the left

c. will not be affected

d. is elastic

7. To say that oatmeal is an inferior good, as economists use the term

a. means that as the price of oatmeal falls, the quantity demanded of oatmeal falls

b. means that there is no real income effect when the price of oatmeal changes

c. provides an example of a normative statement

*d. means that as the average level of income falls, the demand for oatmeal rises

e. means that the supply of oatmeal is perfectly inelastic

8. Assuming that over the last three years the equilibrium quantity of wheat has risen while over the same period the equilibrium price has not changed, which of the following is the most likely explanation of these facts?

*a. An increase in the number of consumers and a reduction in input prices

b. A reduction in the price of a substitute for wheat and a reduction in input prices

c. A reduction in consumers’ income wheat is a normal good and an increase in input prices

d. An increase in consumers’ income wheat is a normal good and an increase in input prices

9. Price ceilings and price floors are usually intended to benefit:

a. government by increasing government revenue

*b. buyers (ceilings) and sellers (floors)

c. buyers

d. sellers

10. If the percentage change in quantity demanded for a product is smaller than the percentage change in price, then demand for the good is

a. infinitely elastic

b. of unitary elasticity

c. perfectly inelastic

*d. inelastic

e. elastic

Forms of Market

11. Two goods are complements in consumption if:
    a. both are inferior goods
    *b. the cross elasticity of demand between them is negative
    c. both have negative price elasticities
    d. one has a positive elasticity and the other has a negative price elasticity
12. Utility analysis suggests that
    a. a consumer will purchase only one good at a time
    *b. there is an inverse relationship between price and quantity demanded
    c. the law of demand is nonsense
    d. a consumer will always purchase goods in pairs
13. Consumers' surplus means
    a. total expenditure divided by the price per unit
    *b. the difference between the maximum price a consumer would have been willing to pay for a good and the actual price paid
    c. value in use
    d. value in exchange
14. The demand for a foreign currency results primarily from the:
    a. supply of domestically produced goods and services
    b. demand for goods and services produced domestically
    c. supply of that foreign currency at a given exchange rate
    *d. demand for foreign goods and services
15. A tax imposed only on an imported good is a
    a. subsidy
    b. embargo
    c. quota
    *d. tariff
16. The cost that does NOT vary with the quantity of output that a firm produces is
    a. average variable cost
    b. average fixed cost
    c. total variable cost
    d. total cost
    *e. total fixed cost
17. The meaning of the term "marginal cost" is most closely described by which of the following statements?
    a. unavoidable expenditures that must be paid regardless of the firm's output
    *b. the increase in total costs which occurs if output increases by one unit
    c. total variable cost divided by quantity

d. the total costs associated with producing some specific level of output

18. A driver wishes to buy gasoline and have his car washed. He finds that the market price of gasoline is `1.08 and that the wash costs `1.00 when he buys 19 gallons but that if he buys 20 gallons, the car wash is free. The marginal cost of the twentieth gallon is:

    a. `1.00

    b. zero

    *c. 8 paisa

    d. `1.08

19. In the short run, if average variable costs equal ` 6 and average total costs equal `10 and output equals 100, then total fixed costs equal:

    a. `16

    b. `1,600

    c. ` 4

    *d. ` 400

    e. ` 0.025

20. The factors which cause economies and diseconomies of scale help explain

    *a. why the firm's long-run average total cost curve is U-shaped

    b. the profit-maximizing level of production

    c. the distinction between fixed and variable costs

    d. why the firm's short-run marginal cost curve cuts the short-run average variable cost curve at its minimum point

21. The additional revenue a firm receives from selling an extra unit of output is

    a. average revenue

    b. marginal profit

    c. total revenue

    *d. marginal revenue

    e. price

22. If a perfectly competitive firm sells 250 units of output at a market price of 55 rupees per unit, its marginal revenue is:

    *a. ` 55

    b. `110

    c. more than ` 55 but less than `13,750

    d. less than `55

23. A profit-maximizing firm will produce that level of output where

    *a. marginal revenue equals marginal cost

    b. marginal cost equals marginal product

    c. price equals average cost

    d. price equals variable cost

e. marginal revenue exceeds marginal cost by the maximum amount

Forms of Market

24. In the short run if a profit-maximizing firm is incurring losses, it will
   a. produce if it can cover its fixed costs
   *b. produce if price exceeds average variable cost
   c. shut down
   d. go out of business
25. When firms leave a perfectly competitive market, other things equal,
   a. market demand will increase and market price will rise
   b. market demand will decrease and market price will fall
   *c. market supply will decrease and market price will rise
   d. market supply will decrease and market price will fall
26. Which of the following is characteristic of perfectly competitive firms in long-run equilibrium?
   a. firms experience diseconomies of scale
   *b. firms produce at minimum average total cost
   c. price exceeds marginal cost
   d. firms earn positive economic profit
27. Assume that at the current output level, a monopolist is breaking even (profit equals zero), has a marginal revenue of ` 7, and a marginal cost of ` 4. Which of the following statements is correct?
   *a. The firm could increase its profit by increasing its output
   b. The firm could increase its profit by decreasing its output
   c. The firm is producing the profit-maximizing output
   d. The firm could increase its profit by increasing its price
28. If a monopolist lowers price and total revenues rise, then
   a. average revenue must be less than marginal revenue
   b. there must be no close substitutes for the monopolist's product
   c. the monopolist must be in the inelastic region of its demand curve
   *d. the marginal revenue must be positive
29. Two of the characteristics of monopolistic competition are
   a. many firms, identical products
   *b. many firms, different products
   c. a single firm, several products
   d. a single firm, one product
30. In monopolistic competition, the demand curve facing a firm will become more elastic the:
   a. greater the obstacles to entry
   b. greater the elasticity of its supply curve

*c. greater the number of sellers

d. fewer the number of sellers

31. The number of firms in an oligopoly must be

a. large enough that firms cannot closely monitor each other

*b. small enough that firms are interdependent in decision making

c. less than a dozen

d. large enough that firms cannot collude

e. large enough that firms will see no reason to engage in nonprice competition

32. If a cartel determines the profit-maximizing quantity for the whole group, it will choose the quantity at which

a. price is highest

b. cost is lowest

*c. marginal cost equals marginal revenue

d. marginal cost equals demand

33. All markets that are NOT perfectly competitive have which of the following characteristics?

a. each firm's demand curve is the industry demand curve

b. products that the various firms sell are always differentiated to some extent

*c. firms in the market have some control over price (face a downward sloping demand curve)

d. there are only a few firms in the industry

e. all the firms make substantial profits

34. For price discrimination to be possible between different buyers, the seller must, among other things,

*a. prevent resale of the commodity

b. rely on the ignorance of one consumer about what other consumers are paying

c. produce at decreasing cost

d. face an inelastic demand

35. Marginal revenue product (MRP) equals

a. the product's price times marginal product

b. the product's price times marginal cost

c. marginal revenue times the product's price

*d. marginal revenue times marginal product

36. The firm's demand curve for an input is downward sloping because of the

a. willingness of workers to offer more labor at a higher price

*b. law of diminishing marginal productivity

c. fact that most firms buying factors of production are at least partial monopolists

d. fact that unions exist in many labor markets

Use the table below to answer question number 36

Number of Workers	Wage Rate (`)	Marginal Revenue Product (`)
0	4	-
1	4	6
2	4	5
3	4	4
4	4	3

37. According to the information in the table above, the number of workers that should be hired to maximize profit is:

a. 1

b. 0

c. 4

*d. 3

38. In a perfectly competitive labor market, the supply curve of labor faced by the individual firm is

a. given by the value of the marginal product (VMP) of labor curve

b. the upward sloping portion of the marginal factor cost (MFC) of labor curve

c. perfectly inelastic at the market wage

*d. equal to the market wage

39. A firm which is the sole employer in a particular area may be classified as

a. an oligopolist

b. a duopolist

c. a monopolist

*d. a monopsonist

40. The wage rate a monopsonist would pay

*a. is less than the marginal revenue product

b. is equal to the marginal factor cost

c. is equal to the marginal revenue product

d. is greater than the marginal revenue product

e. is greater than the marginal factor cost

MICRO-ECONOMICS-III (*DENOTES ANSWERS)

1. Microeconomics is the branch of economics that focuses on
   a. national economic activity
   *b. individual decision makers and markets
   c. deficit spending
   d. inflation and unemployment
2. Allocative efficiency means that
   a. opportunity cost has been reduced to zero
   *b. resources are allocated to the use which has the highest value to society
   c. technological efficiency has not been achieved
   d. only relative scarcity exists
3. Operating inside a society's production possibilities frontier is a:
   a. drawback of capitalism relative to socialism
   *b. symptom of inefficiency or idle resources
   c. way to build reserves to stimulate investment and growth
   d. result whenever the capital stock depreciates rapidly
4. The law of__________________________is illustrated by a production possibilities frontier which is bowed out (concave) from the origin
   a. constant opportunity costs
   b. decreasing opportunity costs
   c. comparative advantage
   *d. increasing opportunity costs
   e. of large numbers
5. A decrease in consumer preferences for a product, other things being equal, means that
   a. supply will decrease
   *b. market demand will shift to the left
   c. market demand will shift to the right
   d. quantity demanded will increase
   e. quantity demanded is not a function of price
6. An inferior good is a product
   a. that is not expensive
   b. for which there is no demand
   c. for which demand increases as income increases
   *d. for which demand falls as income increases
   e. that has an upward-sloping demand curve

Forms of Market

7. Substitution and income effects of a change in the price of a good may be used to explain the
   a. direct relationship between price and quantity purchased
   *b. inverse relationship between price and quantity demanded
   c. direct relationship between income and demand
   d. direct relationship between price and quantity supplied
8. When there is a shortage in a market
   *a. consumers are willing to buy more of the good at the current price
   b. the equilibrium price is below zero
   c. quantity supplied exceeds quantity demanded
   d. firms are willing to sell more of the good at the current price
   e. market shortages are not possible
9. The price of good X has increased significantly over the last year. Nonetheless, suppliers still sell the same quantity each week as last year. Evidently there has been
   a. a decrease in demand and an increase in supply
   b. a decrease in demand and a decrease in supply
   c. an increase in demand and an increase in supply
   *d. an increase in demand and a decrease in supply
10. Price elasticity of demand measures:
    a. the change in quantity supplied to the change in price
    b. the extent to which a demand curve shifts from the change in an exogenous variable (outside factor)
    c. the response between two goods when the price of one good changes
    *d. consumer responsiveness to price changes
11. Suppose the price of a certain good fell from `1.00 to `0.50 and, as a result, the quantity demanded increased from 500 to 750 units. Over this range, the demand curve is:
    a. elastic
    b. perfectly elastic
    c. perfectly inelastic
    *d. inelastic
12. The price of good X is `1.50 and that of good Y is `1. If a particular consumer's marginal utility for Y is 30, and he is currently maximizing his total utility, then his marginal utility of X must be:
    a. 30 units
    *b. 45 units
    c. 15 units
    d. 20 units
    e. 60 units

13. Utility refers to

*a. the satisfaction a consumer receives from consuming a good

b. the usefulness of a good

c. a shift in the demand curve for a good

d. a decline in the supply of a good

14. Assume that rapid price inflation in India results in an increase in the demand by Indians for goods produced in America. As a result,

a. the supply of Rupee increasees, hence the dollar price of the rupee rises

b. the demand for Rupee falls; hence the dollar price of the rupee falls

*c. the supply of Rupee increases; hence the dollar price of the rupee falls

d. the demand for Rupee increases; hence the dollar price of the rupee rises

15. A quota protects domestic producers by:

a. lowering the domestic price

b. encouraging competition among domestic producers

*c. setting an absolute limit on the amounts of imports

d. placing a prohibitive tax on imports

16. Economic profit is the difference between a firm's total revenue and its

a. implicit costs

b. accounting costs

c. average costs

d. explicit costs

*e. total costs

17. In the short run, if average variable costs equal `6 and average total costs equal `10 and output equals 100, then total fixed costs equal:

a. `16

b. `1,600

c. `4

*d. `400

e. `0.025

18. If marginal cost lies below average total cost, then

a. average fixed cost must be rising

b. average total cost must be rising

*c. average total cost must be falling

d. marginal cost must be falling

e. marginal cost must be rising

19. In the short-run, total cost at zero output is

    *a. total fixed cost (TFC)

    b. average total cost (ATC)

    c. total variable cost (TVC)

    d. average variable cost (AVC)

    e. marginal cost (MC)

20. Which economic concept explains why a large drug store chain can produce at a lower average cost than Towne Pharmacy, an individually owned drug store?

    a. diseconomies of scale

    b. constant returns to scale

    c. diminishing marginal returns

    *d. economies of scale

21. In which of the following markets would one find many sellers, homogeneous products, and easy entry?

    a. monopoly

    b. monopolistic competition.

    c. oligopoly

    *d. perfect competition

22. The price charged by a perfectly competitive firm is determined by

    *a. market demand and market supply together

    b. the firm's costs alone

    c. market supply alone

    d. market demand alone

    e. the firm's demand curve

23. Where marginal cost is rising and exceeds marginal revenue, a profit-maximizing firm would

    a. continue producing the same level of output in the short run

    b. shut down in the long run

    c. produce more

    *d. produce less

24. A perfectly competitive firm will shut down in the short run if

    a. it incurs an economic loss

    b. normal profit is greater than zero

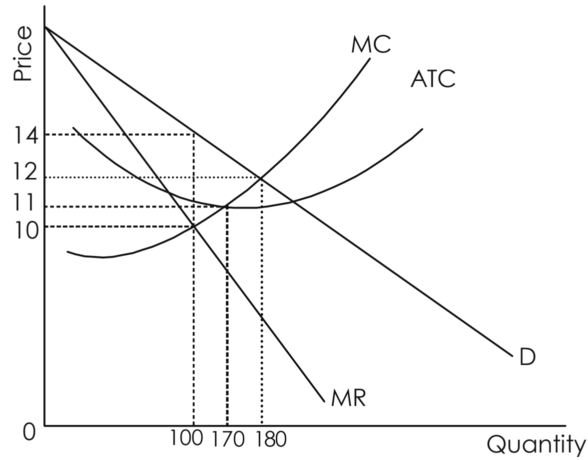
    c. total revenue is greater than total costs

    d. total costs are greater than total revenue

    *e. total revenue is less than total variable costs

25. Assuming no externalities, perfect competition results in efficient resource allocation (allocative efficiency) because price:
    a. is greater than average variable cost
    *b. is equal to marginal cost
    c. equals average total cost
    d. is less than marginal cost
    e. is equal to long-run average cost
26. When firms leave a perfectly competitive market, other things equal,
    a. market demand will increase and market price will rise
    b. market demand will decrease and market price will fall
    *c. market supply will decrease and market price will rise
    d. market supply will decrease and market price will fall
27. The demand curve facing the monopoly firm
    *a. is equivalent to the market-demand curve
    b. suggests that the monopolist can sell additional units without lowering the price
    c. is perfectly inelastic
    d. is equal to its total revenue curve
    e. all of the above are correct
28. Monopoly is allocatively inefficient because the monopolist produces where:
    a. marginal cost is greater than marginal revenue
    b. marginal revenue is greater than marginal cost
    c. price equals marginal revenue
    *d. price is greater than marginal cost

Use the graph below to answer question number 29



29. If this monopolistically competitive firm is a profit maximizer it will realize a short-run:
    a. loss of ` 250
    b. loss of ` 320

c. economic profit of `160

*d. economic profit of `320

e. economic profit of `600

30. When a monopolistically competitive firm is in long-run equilibrium, it is:

a. making a zero economic profit

b. allocatively inefficient since it produces where its price exceeds its marginal cost

c. technologically (productively) inefficient since it produces an output smaller than the one which would minimize its average costs of production

*d. all of the above are true

31. The number of firms in an oligopoly must be

a. large enough that firms cannot closely monitor each other

*b. small enough that firms are interdependent in decision making

c. less than a dozen

d. large enough that firms cannot collude

e. large enough that firms will see no reason to engage in nonprice competition

32. The kinked demand curve model

*a. assumes that oligopolistic rivals will ignore a price increase on the part of a rival and match a price decrease

b. assumes that oligopolistic rivals will match both a price decrease and a price increase

c. requires a collusive oligopoly

d. assumes that oligopoly pricing is flexible upward and downward

e. assumes product differentiation

33. For imperfectly competitive firms (monopoly, monopolistic competition, and oligopoly firms)

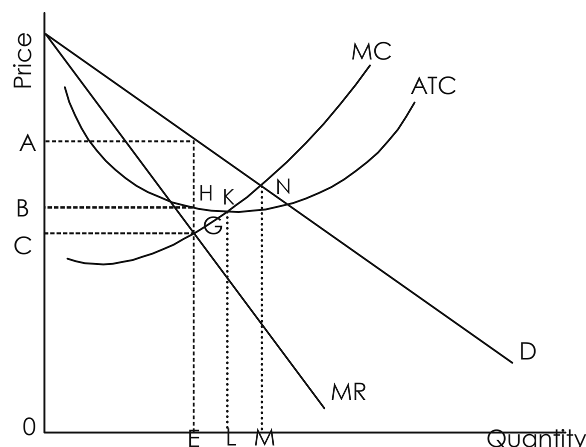
a. price is the same as marginal revenue at all output levels

b. price is either less than marginal revenue at particular output levels or the same as marginal revenue

c. price is less than marginal revenue at all or most output levels

*d. price is greater than marginal revenue at all or most output levels

Use the graph below to answer question number 34



34. The cost and revenue curves of a certain firm are shown in the graph to the right. In order to maximize profits or minimize losses the firm should produce:

    a. OM units and charge price NM

    *b. OE units and charge price OA

    c. OE units and charge price OB

    d. OL units and charge price LK

    e. OE units and charge price OC

35. When economists say that the demand for labor is a derived demand, they mean that the demand for labor is

    *a. related to the demand for the product labor is producing

    b. dependent upon government expenditures for social goods and services

    c. based on the assumption that workers are trying to maximize their money incomes

    d. based upon the desire of businessmen to exploit labor by paying below equilibrium wage rates

36. The law of diminishing marginal product (returns) implies

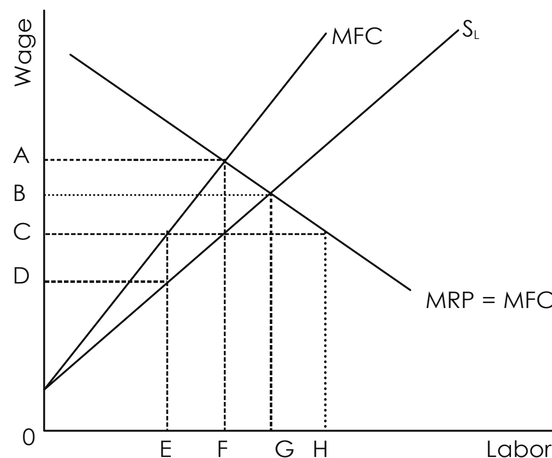
    a. a negatively sloped marginal factor cost curve

    b. a positively sloped marginal physical product curve

    *c. a negatively sloped marginal revenue product curve

    d. a positively sloped marginal revenue product curve

Use the graph below to answer question number 37



37. The firm in the graph above will pay its workers a wage of `_____.

    *a. 0-C

    b. 0-D

    c. 0-A

    d. 0-B

38. Consider a situation in which there is perfect competition in both the input and output markets. The firm will hire that input level which equates

*a. marginal revenue product with marginal factor cost

b. marginal physical product with marginal factor cost

c. marginal factor cost with supply

d. marginal revenue product with demand

e. marginal revenue product with marginal physical product

Use the table below to answer question number 39

Marginal Revenue Product (`)	Q of Labor	Wage Rate (`)	Marginal Factor Cost (`)
-	0	10	-
70	1	20	20
65	2	30	40
60	3	40	60
55	4	50	80
50	5	60	100

39. Above are a firm's marginal revenue product, wage rate, and marginal factor cost schedules. At the profit-maximizing employment level, the firm will pay a wage of:

*a. `40

b. `60

c. `10

d. `20

40. Assume that a firm can sell all the product it wants at `5 per unit. If the wage is `15 per worker, the firm is employing the profit maximizing quantity of labor if the marginal product of labor is

a. 5

b. 1/3

c. 2

*d. 3

MICRO-ECONOMICS-IV (*DENOTES ANSWERS)

1. "A compassionate welfare program should have a higher priority than strong defense." This statement is an example of

   a. the ceteris paribus fallacy

   *b. a normative economic statement

   c. a positive economic statement

   d. the fallacy of composition

2. In economics, capital is best defined as:

   *a. produced goods which are used as productive resources

   b. private property

   c. money needed to run a business

   d. the primary factor in productivity

3. Opportunity cost along a production possibilities frontier is

   a. zero

   b. the amount by which the production of guns increases when the production of butter increases

   c. how much of each good is produced

   *d. the sacrifice of one good required to produce one more unit of another good

   e. all of the above

4. A production possibilities frontier will shift out when:

   a. the production of investment goods decreases

   *b. the quantity and/or productivity of resources (factors of production) increases

   c. unemployment is decreased

   d. the labor force decreases

5. Demand shows the relationship between

   a. income and quantity needed per unit of time

   b. price of a good and the available quantity of that good per unit of time

   *c. the price of a good and the quantity consumers are willing and able to buy in a given time period

   d. income and quantity demanded per unit of time

6. The statement that oatmeal is an inferior good, as economists use the term

   a. means that as the price of oatmeal falls, the quantity demanded of oatmeal falls

   b. means that there is no real income effect when the price of oatmeal changes

   c. is an example of a normative statement

*d. means that as the average level of income falls, the demand for oatmeal rises

e. means that the supply of oatmeal is perfectly inelastic

7. The income effect of a price change arises because

*a. as price falls or rises there is an effect similar to an income increase or decrease

b. the effect of taxes on government revenues

c. higher or lower prices affect suppliers incomes

d. as the price of a good rises or falls buyers feel their incomes have fallen due to inability to recall the previous price and a suspicion regarding all price changes

8. An increase in demand accompanied by a simultaneous decrease in supply will result in

a. a change in equilibrium quantity

b. a decrease in equilibrium quantity

c. a decrease in equilibrium price

*d. an increase in equilibrium price

e. an increase in equilibrium quantity

9. A price ceiling will not cause a shortage if the government

a. enters the market and purchases the excess

b. always has perfect information

*c. does not enforce the ceiling price

d. sets the ceiling price below the equilibrium price

10. When the price of a certain good increases by 30%, quantity demanded decreases by 2%. What is the price elasticity of demand?

a. 15

b. 30

*c. 1/15

d. 2

11. If goods R and K have a cross elasticity of -5 and goods R and S have a cross elasticity of 5,

a. R and K are substitutes; R and S are complements

*b. R and K are complements; R and S are substitutes

c. K is price inelastic

d. S is price inelastic

e. R and K are normal goods; R and S are inferior goods

12. In the theory of utility, it is assumed that marginal utility

a. is zero as consumption of a product increases

*b. diminishes beyond some point as consumption of a product increases

c. increases as consumption of a product increases

d. increases as consumption of a product remains constant

e. remains constant as consumption of a product increases

13. If George gets 100 units of utility from watching the show “Family Ties” one time and 150 units of utility from watching the same show twice, his marginal utility from watching the second time is

a. 250

b. -50

*c. 50

d. 150

14. If the equilibrium dollar price of Dutch guilders is 40 cents, but for some reason the market opens at 30 cents, it is likely that

a. an excess supply of guilders will force a decline in the dollar price of guilders

b. the U.S. demand for Dutch guilders will increase

c. the Dutch demand for U.S. goods will increase, moving the dollar price of guilders toward equilibrium

*d. an excess demand for guilders will force a rise in the dollar price of guilders

15. Imposition of a U.S. tariff on imported shoes:

a. harms foreign consumers of shoes by decreasing the amount of shoes available for their consumption

b. harms U.S. shoe workers who now face a more hectic production schedule

c. benefits consumers in the United States by guaranteeing a high-quality product

*d. benefits domestic shoe producers by eliminating competitors

16. The short run is a period of time

a. during which all inputs are fixed

b. that is just long enough to permit entry and exit

c. that is always less than one year

*d. during which at least one input is fixed

e. during which all inputs can be varied

17. Which of the following is true concerning short-run total costs?

a. total costs are minimized when average total costs are minimized

b. total costs are at a maximum when the average physical product of labor is at its maximum value

c. at zero output, total costs equal zero

*d. total costs equal total variable costs plus total fixed costs

18. At its minimum point, the average total cost curve is intersected by the

a. total fixed cost curve

b. total variable cost curve

c. average fixed cost curve

d. average variable cost curve

*e. marginal cost curve

19. A. Rock operates the Telly Savalas Lolli-Pop Factory in Springfield, Mo. At the present level of output, he finds that his average fixed costs = `40, average variable costs = `60 and total costs = ` 9000. Given this information, what is the quantity being produced?

a. 225 units of output

*b. 90 units of output

c. insufficient information is given to determine the quantity being produced

d. 150 units of output

e. 450 units of output

20. If a firm's long-run average costs remain constant as production increases, then we say that the firm has

a. quasi-returns to scale

*b. constant returns to scale

c. economies of scale

d. diseconomies scale

21. Suppose a firm can sell as much or as little as it wants at a price of `5. This firm

a. can make infinitely large profits

*b. has constant marginal revenue

c. is likely to be a monopolist

d. is likely to be a oligopolist

22. The additional revenue a firm receives from selling an extra unit of output is

a. average revenue

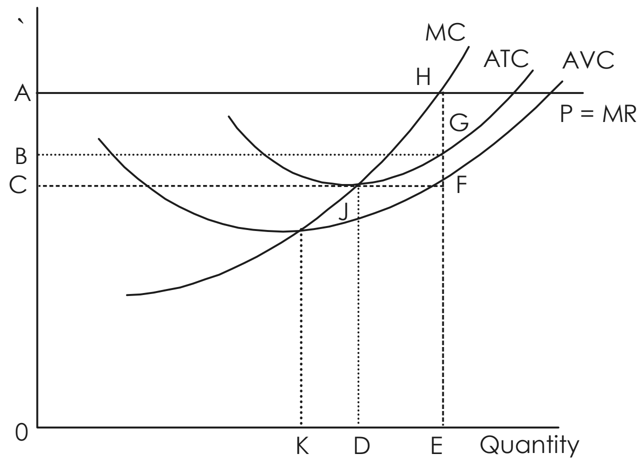
b. marginal profit

c. total revenue

*d. marginal revenue

e. price

Use the graph below to answer question number 23



23. According to the graph above, at a price of OA this profit maximizing firm will realize:
    a. an economic profit of ACFH
    *b. an economic profit of ABGH
    c. a loss equal to BCFG
    d. a loss equal to ACFH
    e. economic profits of zero
24. Assume that marginal revenue equals marginal cost at 100 units of output. At this output level, a profit-maximizing firm's total fixed cost is `600 and its total variable cost is `400. The price of the product is `5 per unit . In the short run the firm should produce
    *a. 100 units of output
    b. more than 100 units of output
    c. 0 units of output
    d. less than 100 units of output
25. Which of the following is NOT true of perfectly competitive firms in the long run?
    a. Price is equal to minimum ATC
    *b. Firms can make profits or losses
    c. Economic profits are zero
    d. Price is equal to marginal cost
26. In a perfectly competitive, constant cost, industry
    *a. the long-run market supply curve will be perfectly elastic
    b. the long run market demand curve will be perfectly inelastic
    c. the long-run market demand curve will be positively sloped
    d. the long-run market demand curve will be perfectly elastic
27. For a non-discriminating monopolist who is maximizing profits, which of the following cannot be true?
    a. marginal revenue equals average total cost
    b. price equals average total cost
    c. marginal revenue equals marginal cost
    d. average total cost equals marginal cost
    *e. price equals marginal revenue
28. If a monopolist lowers price and, as a result, its total revenue rises, then
    a. its price must be less than its marginal revenue
    b. there must be no close substitutes for the monopolist's product
    c. the monopolist must be in the inelastic region of its demand curve
    *d. its marginal revenue must be positive
29. If additional firms enter a monopolistically competitive industry
    a. the price would most likely increase

*b. the demand facing an existing firm would decrease

c. the demand facing an existing firm would increase

d. the profits of an existing firm would increase

30. When a monopolistically competitive firm is in long-run equilibrium, it is:

a. making a zero economic profit

b. allocatively inefficient since it produces where its price exceeds its marginal cost

c. technologically (productively) inefficient since it produces an output smaller than the one which would minimize its average costs of production

*d. all of the above are true

31. "Mutual Interdependence" means a situation in which each firm

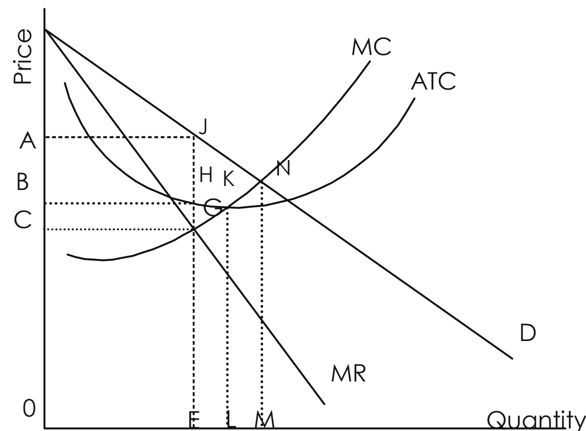
*a. considers the reactions of its rivals when it determines its price policy

b. faces a perfectly elastic demand for its product

c. produces a product similar but not identical to the products of its rivals

d. produces a product identical to the products produced by its rivals

Use the graph below to answer question number 32



32. The cost and revenue curves of a certain firm are shown in the graph above. When maximizing its profit, the firm will realize:

a. a loss of GH per unit

b. an economic profit of ACGJ

c. a loss equal to ABHJ

d. a loss of JH per unit

*e. an economic profit of ABHJ

33. According to the kinked demand curve model, which of the following is generally true with respect to firms in oligopolistic industries?

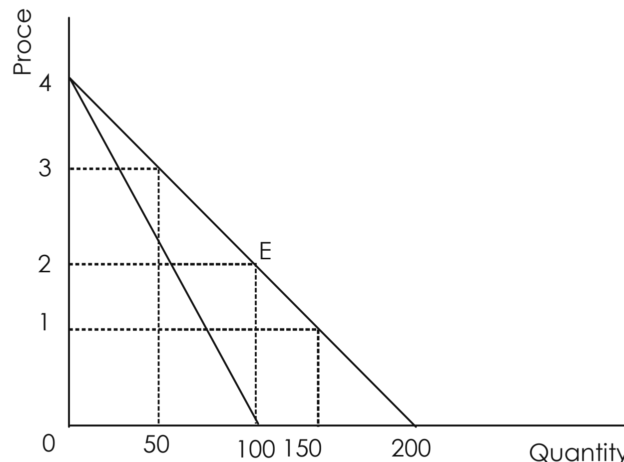
a. in recent decades they have tended to eliminate rivals through merger or predatory practices until a single monopoly firm remains in the industry

b. market conditions force the firms to be allocatively efficient

*c. they tend to be reluctant to change price but will use non-price competition to increase sales

d. they engage in vigorous price competition

Use the graph below to answer question number 34



34. Suppose that you own and operate a movie theater: the demand (and marginal revenue) for theater tickets is drawn in the graph above. The unique feature of this business is that all costs are fixed. (If you must pay `50 to rent a film that can be shown only once, your costs are `50 whether you have 1 or 100 customers).

    What are the number of tickets you should sell in order to maximize profits? What price should you charge? ` (Hint: draw the appropriate MC curve in the diagram below)

    a. 150, `1

    b. 200, `.50

    c. 50, `3

    *d. 100, `2

35. The marginal revenue product is the

    a. change in revenue associated with a change in the product price

    *b. extra revenue associated with hiring an additional unit of the input

    c. change in revenue associated with a change in factor price

    d. total revenue divided by the quantity hired of the resource

    e. extra revenue associated with selling an additional unit of the good

36. The marginal revenue product of labor is expected to decrease as more labor is employed because:

    *a. of the law of diminishing marginal productivity

    b. of the law of diminishing marginal utility

    c. the supply of labor is positively sloped

d. the supply of labor is backward bending

e. labor quality declines as the employment of labor increases

37. In a perfectly competitive output market, the marginal revenue product is equal to the

a. marginal physical product

*b. price of the product times the marginal product

c. price of the product

d. price of the input

38. If a firm hires an insignificant fraction of unskilled labor in its community, then the wage rate that it must offer in order to employ workers probably

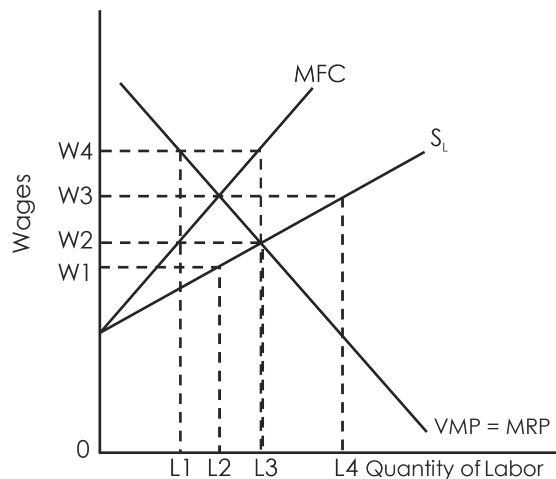
*a. does not change as the firm hires more workers

b. is very high

c. rises as the firm hires more workers

d. falls as the firm hires more workers

Use the graph below to answer question number 39



39. According to the above graph, this monopsony firm will hire a quantity of labor equal to

a. 0-L4

b. 0-L3

*c. 0-L2

d. 0-L1

40. A profit-maximizing monopsonist will hire additional units of labor as long as its:

a. marginal revenue product exceeds labor supply

*b. marginal revenue product exceeds marginal factor cost

c. marginal factor cost curve is horizontal

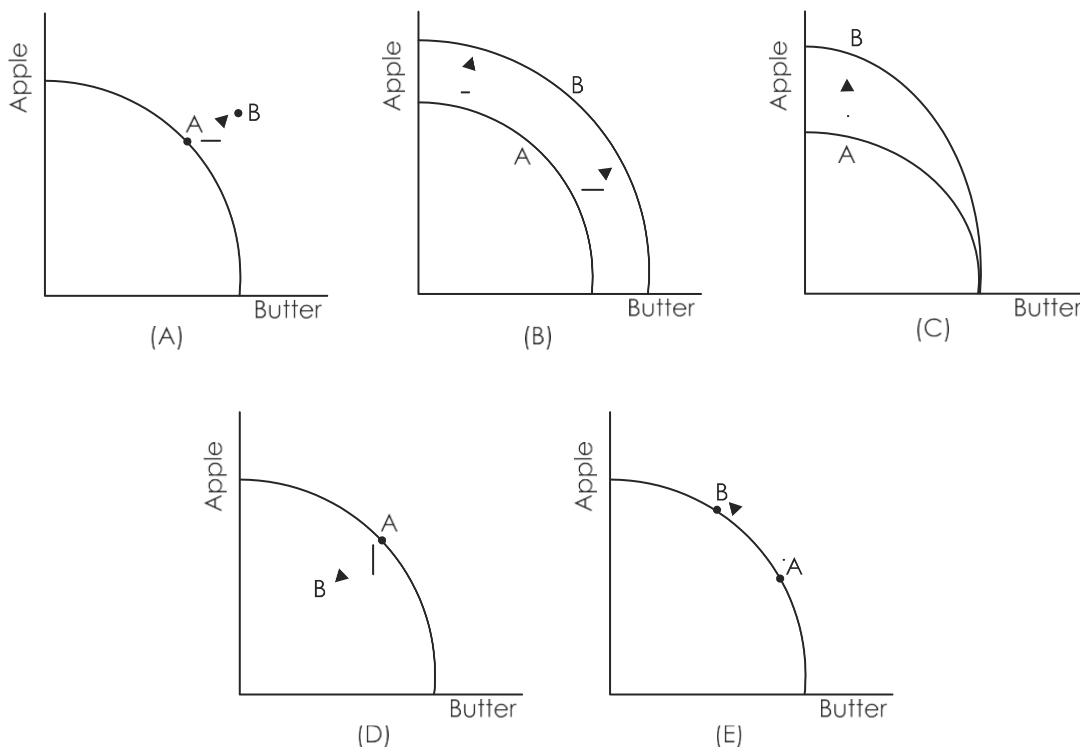
d. marginal revenue product curve is declining

e. marginal factor cost exceeds the marginal revenue product

MICRO-ECONOMICS-V (*DENOTES ANSWERS)

1. Factors of production (resources) include
   a. land, capital, and interest
   b. land, interest, and rent
   *c. labor, land, and capital
   d. labor, capital, and profits
   e. wages, rent, and interest
2. If Seymour can paint 1 room for every 200 cakes he bakes, the opportunity cost of a cake for Seymour is painting
   *a. 1/200 of a room
   b. 1/2 of a room
   c. 1 room
   d. 1/100 of a room
3. Unemployment and technological inefficiency can:
   a. exist at any point on a production possibilities frontier
   b. cause the production possibilities frontier to shift inward
   *c. both be illustrated by a point inside the production possibilities frontier
   d. both be illustrated by a point outside the production possibilities frontier

Use the following graph to answer question 4



Forms of Market

4. Assume that an economy is producing only two goods: apples and butter. Suppose that a new fertilizer is invented which greatly increases the productivity of apple trees. From the figures above, choose the one which best illustrates the change in the production possibilities caused by this increased productivity, all other things unchanged.

   *a. (C)

   b. (D)

   c. (A)

   d. (B)

   e. (E)

5. Which one of the following will cause the demand curve for gasoline to shift to the right?

   *a. a fall in the price of cars

   b. an increase in the supply of gasoline

   c. a fall in the price of gasoline

   d. a rise in the price of cars

6. An improvement in a competitive seller's technology is likely to result in:

   a. an increase in the quantity offered for sale at each price

   b. an increase in his supply

   c. a shift of his supply curve to the right

   *d. all of the above

7. Suppose the price of good 'X' has decreased; which in turn, leads to an increase in the demand for good 'Y'. Economic analysis states that the goods (X and Y) must be:

   a. substitute goods

   *b. complementary goods

   c. normal goods

   d. inferior goods

   e. durable goods

8. This month, the Fritter Firm finds that it can sell 200 fritters at a price of `1 per fritter. The previous month, the firm was able to sell only 150 fritters at `1 per fritter. What most likely happened over the month?

   a. supply decreased

   b. quantity supplied decreased

   *c. demand increased

   d. demand decreased

9. Price ceilings and price floors are usually intended to benefit:

   a. government by increasing government revenue

   *b. buyers (ceilings) and sellers (floors)

c. buyers

d. sellers

10. If a price decrease from `50 to `40 results in a decrease in quantity supplied from 14 units to 10 units, the price elasticity of supply is

a. 1.00

*b. 1.50

c. .40

d. .67

e. 2.50

11. The price elasticity of demand, for a given product, indicates:

a. the extent to which a demand curve shifts as incomes change

*b. consumer responsiveness to price changes

c. how far businessmen can stretch their fixed costs

d. the degree of competition in a market

12. Assume that Mr. Consumer spent all of his budget to purchase 8 units of good S and 3 units of good T when the price of good S was `2 per unit and the price of good T was `3 per unit. Assume also that the marginal utility of the eighth unit of S was 16 and the marginal utility of the third unit of T was 18. If S and T are the only goods available and Dr. Consumer is rational, one can conclude that Dr. Consumer

a. should have purchased more of good T and less of good S

b. should have purchased less of both goods

c. maximized utility

*d. should have purchased more of good S and less of good T

13. Marginal utility is

a. the utility per unit associated with the last unit of a good consumed

b. the total utility associated with consuming a good

c. equal to the price of the good

d. the usefulness of the last or next unit of a good consumed

*e. the change in total utility associated with consuming an additional unit of a good

14. When U.S. residents demand German marks:

a. they plan to spend those marks on American produced goods

b. they can only use those marks to purchase gold from the German Central Bank

*c. U.S. residents at the same time supply dollars to German residents

d. U.S. residents at the same time demand U.S. dollars from German residents

15. Tariffs tend to reduce the volume of imports by:

a. reducing the price of domestically produced goods

b. placing quality requirements on imported goods

c. limiting the quantity of a good which can be imported during a specified time period

*d. increasing the price of the item to domestic consumers

16. The long-run is a
    a. period long enough to allow firms to make economic decisions
    b. period which affects larger rather than smaller firms
    c. period of 3 years or longer
    *d. period long enough to allow firms to vary all resources
17. A young chef is considering opening his own restaurant. To do so, he would have to quit his current job at `20,000 a year and take over a store building he owns that currently rents for `6,000 a year. His expenses at the restaurant would be `50,000 for food and `2,000 for gas and electricity. What are his implicit costs?
    a. `78,000
    b. `52,000
    *c. `26,000
    d. `60,000
    e. `72,000
18. Economic goods and services produced by business firms are called
    a. innovations
    b. productivity
    c. inputs
    *d. outputs
    e. technological progress
19. When production is subject to the influence of the law of diminishing marginal productivity (but it is still possible to increase total output) then, in order to obtain successive increases in output of 1 extra unit
    *a. greater and greater amounts of the variable input will be needed
    b. the marginal contribution must be negative
    c. smaller and smaller amounts of the variable input will be needed
    d. adding more of the variable input will do more harm than good, because it must diminish total output instead of increasing it
20. A U-shaped long-run average cost curve represents
    *a. economies and diseconomies of scale
    b. average fixed costs and average variable costs
    c. increasing and decreasing marginal product
    d. fixed costs and variable costs
21. The model of perfect competition is more useful for analyzing situations in which firms
    a. engage in price wars in order to secure a position in the market

b. differentiate their products

*c. are price takers

d. engage in advertising and other forms of nonprice competition

22. A perfectly competitive firm can exert no control over price because

*a. the firm's production is insignificant relative to production in the industry

b. the firm's marginal revenue curve is downward sloping

c. the firm's demand curve is downward sloping

d. of a lack of substitutes for the product

23. For the perfectly competitive firm, the profit maximizing level of output is where

a. marginal revenue equals price

*b. marginal revenue equals marginal cost

c. price equals average total cost

d. price equals average variable cost

24. The short-run supply curve for a perfectly competitive industry is equal to the horizontal summation of the individual firms'

a. marginal cost curves

*b. marginal cost curves above their respective average variable cost curves

c. average total cost curves

d. average variable cost curves

25. If firms in a perfectly competitive industry are incurring average total costs that are less than the prices they are charging, the firms:

a. will enjoy long-run economic profit

b. must be colluding

c. will enjoy short-run economic profits that will be offset by long-run economic losses

*d. will face new competition in the long-run which will drive price down to the average cost of production

26. In the long run, if a firm is incurring an economic loss, then the firm

a. has some long-run fixed costs

*b. is likely to leave the industry

c. is earning greater than normal profit but not an economic profit

d. will maximize opportunity costs by staying in business

e. will produce as long as total revenue exceeds total fixed cost

27. A firm might become a monopolist because:

a. it has exclusive legal rights to make a certain product or to use a particular process

b. significant economies of scale exist in the industry

c. it uses business practices, such as price cutting, to drive competitors from the market

*d. all of the above are true

28. Given the same cost curves, a monopoly will charge

*a. a higher price and produce a smaller output than a perfectly competitive firm

b. a higher price and produce a larger output than a perfectly competitive firm

c. a lower price and produce a larger output than a perfectly competitive firm

d. a lower price and produce a smaller output than a perfectly competitive firm

e. the same price and produce the same output as a perfectly competitive firm

29. If a monopolistically competitive firm is in long-run equilibrium, then

a. demand equals average revenue and average revenue equals marginal revenue

b. average total cost equals marginal revenue

c. price equals average total costs and marginal cost

*d. price equals average total costs but is greater than marginal cost

30. In monopolistic competition there are

a. many firms each producing a homogeneous product

b. a few firms each producing a differentiated product

*c. many firms each producing a differentiated product

d. a few firms each producing a homogeneous product

31. The kinked demand curve model

*a. assumes that oligopolistic rivals will ignore a price increase on the part of a rival and match a price decrease

b. assumes that oligopolistic rivals will match both a price decrease and a price increase

c. requires a collusive oligopoly

d. assumes that oligopoly pricing is flexible upward and downward

e. assumes product differentiation

32. When firms make pricing and output decisions jointly they are said to be

a. arbitrating

b. arbitraging

c. dumping

*d. colluding

33. For imperfectly competitive firms (monopoly, monopolistic competition, and oligopoly firms)

a. price is the same as marginal revenue at all output levels

b. price is either less than marginal revenue at particular output levels or the same as marginal revenue

c. price is less than marginal revenue at all or most output levels

*d. price is greater than marginal revenue at all or most output levels

34. For price discrimination to be possible between different buyers, the seller must, among other things,

*a. prevent resale of the commodity

b. rely on the ignorance of one consumer about what other consumers are paying

c. produce at decreasing cost

d. face an inelastic demand

35. An increase in the market demand for labor will cause:

a. the supply of labor to rise

*b. the wage rate to rise and the quantity of labor employed to rise

c. the level of employment to fall

d. the wage rate to fall

36. In which of the following cases should a firm use less labor in order to increase profits?

*a. marginal revenue product is less than marginal factor cost

b. marginal physical product is less than marginal factor cost

c. marginal revenue product exceeds marginal factor cost

d. marginal revenue product equals marginal factor cost

37. A firm which is perfectly competitive in both its output and labor market should hire an additional worker if

a. marginal product would be decreased

b. marginal product would be increased

c. total revenue is less than total cost

d. marginal revenue product is less than the wage rate

*e. marginal revenue product is more than the wage rate

38. An increase in a perfectly competitive firm's demand for labor could be caused by

a. a fall in the market price of the product that the firm produces

*b. an increase in the market price of the product that the firm produces

c. a fall in the wage rate

d. a decrease in the marginal product of labor

39. Compared to a perfectly competitive labor market, the monopsonist would hire

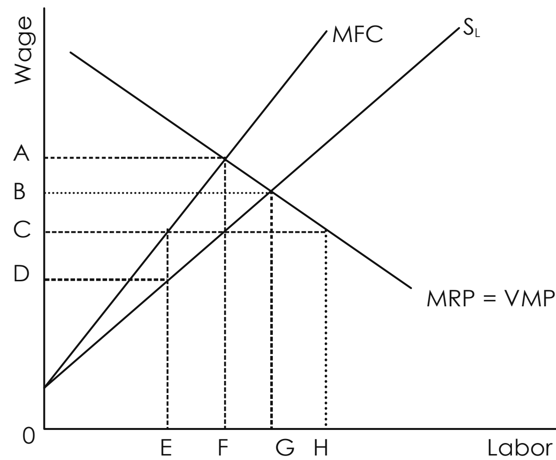
a. more labor and pay a higher wage

b. more labor and pay a lower wage

c. less labor and pay a higher wage

*d. less labor and pay a lower wage

Use the graph below to answer question number 40



40. The firm in the diagram above is:

*a. perfectly competitive in the product market and a monopsonist in the labor market

b. a monopolist in the product market and perfectly competitive in the labor market

c. perfectly competitive in the product market and the labor market

d. a monopolist in the product market and a monopsonist in the labor market

MICRO-ECONOMICS-VI (*DENOTES ANSWERS)

1. Opportunity cost can be defined as
   *a. the highest-valued alternative that had to be sacrificed for the option that was chosen
   b. the lowest-valued alternative that had to be sacrificed for the option that was chosen
   c. the time involved in the production of an economic good
   d. the money cost of an economic good
2. Economic models or theories
   a. are limited to variables that are directly (positively) related
   *b. are simplifications of the real world they represent
   c. cannot be tested empirically
   d. are limited to variables that are inversely related
3. On a production possibilities frontier, the optimum or best combination of output is
   a. at the precise midpoint of the frontier
   b. at a point near the bottom of the frontier
   c. at a point near the top of the frontier
   d. at a point near the middle of the frontier
   *e. impossible to determine since this is a value judgment to be made by society
4. Assuming an economy to be operating at a point inside the production possibilities frontier, one may conclude that:
   *a. unemployment of resources or technological inefficiency exists
   b. the economy is a free market economy
   c. the economy is at full employment
   d. maximum output is now achieved
5. Suppose that a demand curve for a product is negatively sloped and that the price of the product increases from `4.50 to `5.00. Which of the following will result?
   a. the supply of the product will decrease
   b. quantity demanded of the product will increase
   c. consumer tastes for this product will increase
   d. the demand for the product will increase
   *e. quantity demanded of the product will decrease
6. The market system rations goods/services to those who 'value it most highly', that is, those who
   *a. are willing and able to give up the most other goods to acquire it
   b. need it the most
   c. can afford it
   d. are willing and able to give up the least other goods to acquire it

Forms of Market

7. Which of the following will not cause a change in demand for good X?
   a. a change in the price of substitute good Y
   b. a change in the price of complementary good Z
   *c. a change in the price of X
   d. a change in consumer incomes
8. Last year a firm made 1000 units of its good available at a price of `5 per unit. This year the firm would still be willing to make 1000 units available but only if the price is `7 per unit. What has happened?
   a. quantity supplied has decreased
   b. quantity supplied has increased
   c. supply has increased
   *d. supply has decreased
9. At the equilibrium price in a market,
   *a. there is no tendency for prices to rise or fall
   b. quantity supplied exceeds quantity demanded
   c. there is a tendency for prices to rise
   d. there is a tendency for prices to fall
   e. quantity demanded exceeds quantity supplied
10. Suppose the price of a certain good fell from `1 to `.50 and the quantity demanded increased from 250 to 750 units. Over this range of the demand curve, the elasticity of demand is:
   a. 1
   b. .75
   *c. 1.5
   d. 1.2
11. If the percentage change in quantity demanded for a product is smaller than the percentage change in price, then demand for the good is
   a. infinitely elastic
   b. of unitary elasticity
   c. perfectly inelastic
   *d. inelastic
   e. elastic
12. The law of diminishing marginal utility states that
   *a. eventually additional units of a given product will yield less and less extra satisfaction to a consumer
   b. total utility is maximized when consumers obtain the same amount of utility per unit of each product consumed
   c. it will take larger and larger amounts of resources beyond some point to produce successive units of a product
   d. price must be lowered in order to induce firms to supply more of a product

13. If George gets 100 units of utility from watching the show "Family Ties" one time and 150 units of utility from watching the same show twice, his marginal utility from watching the second time is
    a. 250
    b. -50
    *c. 50
    d. 150
14. The exchange rate is:
    *a. the price of one country's currency expressed in terms of another country's currency
    b. the ratio of the value of total imports to the value of total exports
    c. the dollar price of an ounce of gold
    d. total exports divided by total imports
15. If a nation limits the quantity of a foreign produced good that can be imported into that nation during a specified period of time, the nation has imposed:
    *a. a quota
    b. an ad valorem tariff
    c. a selective tariff
    d. a specific tariff
16. Which of the following is most likely to be an implicit cost for Ace Manufacturers?
    a. the cost of Ace's advertising on local TV stations
    *b. the interest payments that Ace could have earned on the money it just paid to redecorate its corporate offices
    c. interest payments on Ace's outstanding debt
    d. salaries paid to Ace's vice presidents
17. A production function describes the relationship between the
    a. rate of output and costs of production
    b. rate of output and technology
    *c. maximum rate of output and given quantities of inputs
    d. actual rate of output and given quantities of inputs
18. The addition to total output resulting from the employment of one more worker, other things equal, is the
    a. total product of labor
    *b. marginal product of labor
    c. average product of labor
    d. input ratio
19. A firm's short-run average total cost curve is affected by all of the following except:
    *a. the demand for the product
    b. the prices of all the factors of production

c. the production technology

d. the price(s) of the variable factor(s) of production

20. When economies of scale exist, a firm's long-run average cost

*a. decreases as output increases

b. slopes upward

c. increases as output increases

d. remains constant as output increases

21. The model of perfect competition is more useful for analyzing situations in which firms

a. engage in price wars in order to secure a position in the market

b. differentiate their products

*c. are price takers

d. engage in advertising and other forms of nonprice competition

22. Assume that the market price faced by a perfectly competitive firm increases. This means that:

a. the average total cost for the firm will shift to the right

*b. the firm's marginal revenue curve will shift up

c. the marginal cost curve will shift up

d. the demand curve faced by the firm will shift down

23. At any level of output greater than the most profitable one, a reduction in output by one unit decreases total

a. revenue but not total cost

b. revenue by the same amount as total cost

*c. cost more than total revenue

d. revenue more than total cost

24. For the perfectly competitive firm, the profit maximizing level of output is where

a. marginal revenue equals price

*b. marginal revenue equals marginal cost

c. price equals average total cost

d. price equals average variable cost

25. If firms in a perfectly competitive industry are incurring average total costs that are less than the prices they are charging, the firms:

a. will enjoy long-run economic profit

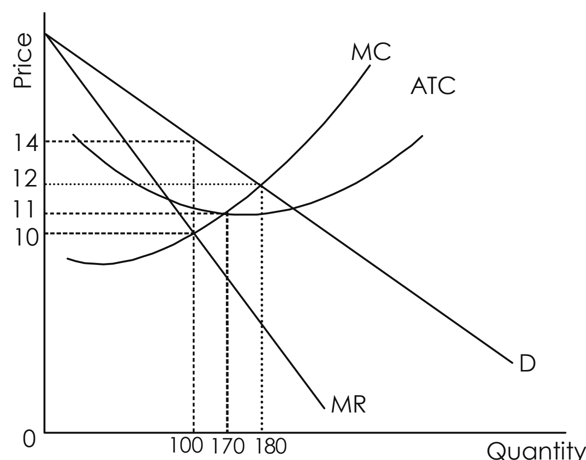
b. must be colluding

c. will enjoy short-run economic profits that will be offset by long-run economic losses

*d. will face new competition in the long-run which will drive price down to the average cost of production

26. Consider a perfectly competitive, constant-cost industry which is in long run equilibrium. Which of the following statements is correct?
    a. changes in the market demand may, in the long run, cause the market price to rise, fall, or remain constant
    *b. changes in the market demand will, in the long run, have no impact on the market price
    c. the market demand for this industry must be perfectly elastic
    d. if the market demand increases then, in the long run, the market price will also increase
27. There are several reasons that monopoly may arise. Which of these is not one of them?
    a. there may be extensive economies of scale in the industry
    b. a firm may be awarded a government franchise of some type
    c. a firm may have a patent on the product
    *d. economies of scale are not significant relative to market demand
28. To maximize profits or minimize losses, a monopolist should equate
    a. price to average cost
    b. total revenue to total cost
    *c. marginal revenue with marginal cost
    d. price to marginal cost
    e. average revenue to average cost.
29. Which of the following does not characterize a market structure that is defined as monopolistic competition?
    a. entry to the industry is relatively easy
    *b. each firm is only a price taker
    c. there are a large number of firms
    d. each firm's product is differentiated from that of the other firms

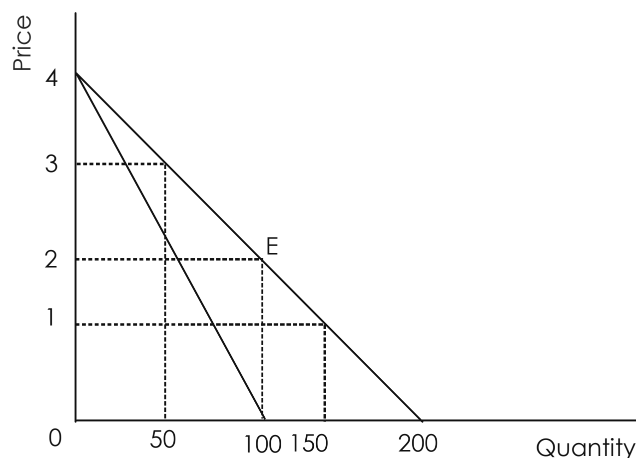
Use the graph below to answer question number 30



Forms of Market

30. Use the graph to the right to answer this question. If this monopolistically competitive firm is a profit maximizer it will realize a short-run:
    a. loss of `250
    b. loss of `320
    c. economic profit of `160
    *d. economic profit of `320
    e. economic profit of `600
31. A kinked demand curve is most often associated with the market structure of:
    *a. oligopoly
    b. monopoly
    c. perfect competition
    d. monopolistic competition
    e. a quasi-public corporation
32. A profit-maximizing oligopolist
    a. will shut down when it cannot cover its fixed cost
    b. will always earn positive economic profit in the long run
    c. equates marginal revenue with demand
    *d. charges a price in excess of marginal cost
    e. produces the output for which price equals average cost
33. Output for a price discriminating monopolist, in comparison to a single-price monopoly, will be
    a. lower and profits will be lower
    b. lower and profits will be higher
    c. higher and profits will be lower
    *d. higher and profits will be higher

Use the graph below to answer question number 34



34. Suppose that you own and operate a movie theater: the demand (and marginal revenue) for theater tickets is drawn in the above graph. The unique feature of this business is that all costs are fixed. (If you must pay `50 to rent a film that can be shown only once, your costs are `50 whether you have 1 or 100 customers).

    What price should you charge? ` (Hint: draw the appropriate MC curve in the diagram above) : What are the number of tickets you should sell in order to maximize

    a. 150, `1

    b. 200, `.50

    c. 50, `3

    *d. 100, `2

35. When economists say that the demand for labor is a derived demand, they mean that the demand for labor is

    *a. related to the demand for the product labor is producing

    b. dependent upon government expenditures for social goods and services

    c. based on the assumption that workers are trying to maximize their money incomes

    d. based upon the desire of businessmen to exploit labor by paying below equilibrium wage rates

36. An increase in the market demand for labor will cause:

    a. the supply of labor to rise

    *b. the wage rate to rise and the quantity of labor employed to rise

    c. the level of employment to fall

    d. the wage rate to fall

37. A firm which is perfectly competitive in the output market will continue to hire labor as long as:

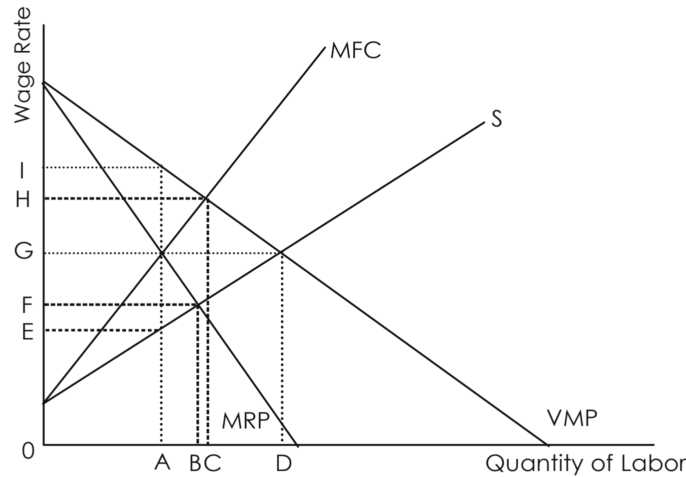
    a. the value of the marginal product is less than marginal factor cost

    b. marginal cost is greater than marginal revenue

    c. marginal revenue product is less than marginal factor cost

    *d. marginal revenue product is greater than marginal factor cost

Use the graph below to answer question number 38



38. The firm in the above graph will hire_____workers.
    - a. 0-C
    - b. 0-D
    - *c. 0-A
    - d. 0-B
39. If a firm hires an insignificant fraction of unskilled labor in its community, then the wage rate that it probably must offer in order to employ workers
    - *a. does not change as the firm hires more workers
    - b. is very high
    - c. rises as the firm hires more workers
    - d. falls as the firm hires more workers
40. The wage rate a monopsonist would pay
    - *a. is less than the marginal revenue product
    - b. is equal to the marginal factor cost
    - c. is equal to the marginal revenue product
    - d. is greater than the marginal revenue product
    - e. is greater than the marginal factor cost

MICRO-ECONOMICS-VII (*DENOTES ANSWERS)

1. The question of HOW production will be organized in a market economy is most directly determined by:

   *a. suppliers or entrepreneurs

   b. the National Economic Planning Commission

   c. consumers

   d. economic forecasters

2. The difference between a scarce (economic) good and a free good is that

   *a. for free goods at a price of zero enough of the good is available to completely satisfy consumers' demand for the good

   b. free goods no longer exist — there are only scarce goods

   c. free goods are made with natural resources

   d. free goods are provided by the government

3. A reduction in the amount of unemployment

   a. moves the economy along the production possibilities frontier

   b. moves the economy further away from the production possibilities frontier

   c. shifts the production-possibilities frontier

   *d. moves the economy closer to the production possibilities frontier

4. A production possibilities frontier will shift out when:

   a. the production of investment goods decreases

   *b. the quantity and/or productivity of resources (factors of production) increases

   c. unemployment is decreased

   d. the labor force decreases

5. The typical demand curve is

   a. vertical

   b. horizontal

   c. positively sloped

   *d. negatively sloped

6. Suppose the law prohibiting possession of marijuana in quantities of less than one ounce were abolished and at the same time penalties for the production or sale of marijuana were increased. As a result of these two changes, the demand for marijuana would (increase/decrease) and the supply of marijuana would (increase/decrease), the price of marijuana then should (rise/fall/neither rise nor fall).

   a. decrease, decrease, neither

   b. decrease, increase, fall

   *c. increase, decrease, rise

   d. increase, decrease, neither

Forms of Market

7. If the demand for product J shifts to the left as the price of product K increases, then

   *a. J and K are complementary goods

   b. J and K are not related goods

   c. the number of consumers of product K has increased

   d. J and K are substitute goods

8. Suppose that as the price of gasoline rises from `1.00 per gallon to `1.50 per gallon, the quantity of gasoline sold increases from 100 trillion gallons to 150 trillion gallons. Which of the following is a possible explanation for this?

   a. There were fewer users of automobiles

   *b. The price of public transportation increased over the same time period

   c. The demand curve for gasoline is perfectly inelastic

   d. All of the above are possible explanations

9. Price elasticity of supply is the

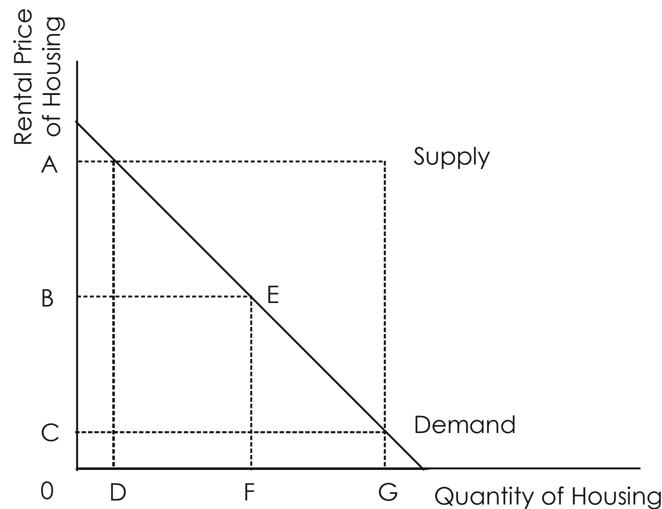
   a. change in quantity supplied due to a change in quantity demanded

   *b. percentage change in quantity supplied divided by the percentage change in price

   c. responsiveness of supply to changes in costs

   d. responsiveness of the price to changes in supply

Use the graph below to answer question number 10



10. If a price ceiling is imposed on the rental price of housing (assume the government can enforce the price ceiling) then:

    *a. a ceiling price of OC will result in a shortage of DG units of housing

    b. a ceiling price of OA will result in a shortage of DG units of housing

    c. a ceiling price of OC will result in a surplus of DG units of housing

    d. a ceiling price of OA will result in a surplus of DG units of housing

11. Suppose the price of a certain good fell from `1 to `.50 and the quantity demanded increased from 250 to 750 units. Over this range of the demand curve, the elasticity of demand is:

    a. 1

    b. .75

    *c. 1.5

    d. 1.2

12. The price that one is willing to pay for a unit of a good depends on its

    *a. marginal utility

    b. cost of production

    c. total utility

    d. supply

13. Utility refers to the

    *a. satisfaction derived from consuming a good or service

    b. net social benefit of a good or service

    c. market value of a good or service

    d. scarcity price of a good or service

14. When U.S. residents demand German marks:

    a. they plan to spend those marks on American produced goods

    b. they can only use those marks to purchase gold from the German Central Bank

    *c. U.S. residents at the same time supply dollars to German residents

    d. U.S. residents at the same time demand U.S. dollars from German residents

15. Which of the following could NOT result from a tariff?

    *a. consumers to be better off because there are more goods available

    b. consumers to be worse off because there are fewer imports

    c. domestic producers to be better off because they sell more goods

    d. domestic producers to be better off because they sell at a higher price

Use the Table below to answer question number 16

Output	Total Cost (`)
0	24
1	33
2	41
3	48
4	54
5	61
6	69

16. In the table above, the total variable cost of producing 5 units is:

*a. `37

b. `24

c. `61

d. `48

17. Explicit costs differ from implicit costs in that explicit costs are:

*a. paid to others whereas implicit costs do not represent a payment to others

b. true costs; implicit costs are not part of total economic costs

c. not deductible for tax purposes

d. not necessarily paid whereas implicit costs are always directly paid

Use the table below to answer question number 18

Units of Labor per Day	Total Units of Output per Day	Total Fixed Costs per Day (`)
0	0	120
1	10	120
2	30	120
3	60	120
4	100	120
5	120	120
6	126	120
7	119	120

18. In the table above, the average fixed cost associated with an output of 100 units per day is_________?

a. `30.01

*b. `1.20

c. `120

d. `0

19. If marginal cost lies below average total cost, then

a. average fixed cost must be rising

b. average total cost must be rising

*c. average total cost must be falling

d. marginal cost must be falling

e. marginal cost must be rising

20. The marginal product of capital divided by its price is half as large as the marginal product of labor divided by its price. For production costs to be minimized:

a. more capital should be used and less labor

*b. more labor should be used and less capital

c. the price of capital must fall

d. the firm must increase production to reach the minimum point of the short-run average cost curve

21. The demand curve of a perfectly competitive firm

a. is the same as the market demand curve for the entire industry

*b. is perfectly elastic

c. has a price elasticity coefficient of less than 1

d. is perfectly inelastic

22. A perfectly competitive firm

a. is likely to earn positive economic profit in the long run

b. will always exit the industry if it is incurring losses in the short run

*c. is a price taker

d. always produces at the minimum average total cost

23. At the output where a firm's average total cost equals its price, the firm is

a. incurring an economic loss

b. earning more than a break-even return

c. earning an economic or pure profit

*d. earning zero economic profits

e. earning less than a break-even return

24. Where marginal cost is rising and exceeds marginal revenue, a profit-maximizing firm would

a. continue producing the same level of output in the short run

b. shut down in the long run

c. produce more

*d. produce less

25. A decrease in demand that results in economic losses in a perfectly competitive industry will:
    a. encourage entry into the industry
    *b. encourage exit from the industry
    c. induce new, more efficient, firms to enter the industry
    d. cause existing firms in the industry to expand the scale of their operation
26. If entry of new firms into a perfectly competitive market results in higher resource costs, the long-run market-supply curve will be
    a. negatively sloped
    b. perfectly inelastic
    c. perfectly elastic
    *d. positively sloped

27. Monopolists
    a. are guaranteed at least a zero economic profit
    b. are guaranteed more than a normal profit
    c. are guaranteed an economic profit
    *d. none of the above are correct
28. For the monopolist, at the profit maximizing level of output in the short run, all of the following necessarily hold except
    a. Price is greater than MC
    b. ATC is greater than Average Variable Cost (AVC)
    *c. Marginal Cost (MC) equals Average Total Cost (ATC)
    d. Marginal Revenue (MR) equals MC
29. In monopolistic competition there are
    a. many firms each producing a homogeneous product
    b. a few firms each producing a differentiated product
    *c. many firms each producing a differentiated product
    d. a few firms each producing a homogeneous product
30. If additional firms enter a monopolistically competitive industry
    a. the price would most likely increase
    *b. the demand facing an existing firm would decrease
    c. the demand facing an existing firm would increase
    d. the profits of an existing firm would increase

31. In oligopoly markets there
    a. is a single source of supply
    b. is a single source of demand
    c. are a large number of firms each selling a homogeneous product
    d. are a large number of firms each selling a highly differentiated product
    *e. is a small number of firms each selling either a differentiated or a homogenous product
32. “Mutual Interdependence” means that
    a. each firm in the market makes homogeneous products
    *b. a single firm will consider reactions of rivals to any action the single firm takes
    c. pricing actions of rivals in the market are of no consequence to a single firm
    d. each firm in the market makes differentiated products
    e. the demand curves of the firm and the market are identical

33. All markets that are not perfectly competitive have which of the following characteristics?
    a. each firm’s demand curve is the industry demand curve
    b. products that the various firms sell are always differentiated to some extent
    *c. firms in the market have some control over price (face a downward sloping demand curve)
    d. there are only a few firms in the industry
    e. all the firms make substantial profits
34. If a firm which is unable to price discriminate is faced with a downward sloping demand curve:
    a. its supply curve is its marginal cost curve above its average variable cost curve
    *b. its marginal revenue curve is less than its price
    c. its marginal revenue curve equals its price
    d. its most profitable output is where marginal cost equals price
35. The price elasticity of demand for labor will be greater
    a. the more difficulty it is to substitute capital for labor
    b. the smaller is the proportion of total costs accounted for by labor
    *c. the greater is the price elasticity of demand for the output
    d. the shorter is the time period for adjustment
36. An increase in the market demand for labor will cause:
    a. the supply of labor to rise
    *b. the wage rate to rise and the quantity of labor employed to rise
    c. the level of employment to fall
    d. the wage rate to fall
37. A firm which is perfectly competitive in both its output and labor market should hire an additional

worker if

a. marginal product would be decreased

b. marginal product would be increased

c. total revenue is less than total cost

d. marginal revenue product is less than the wage rate

*e. marginal revenue product is more than the wage rate

38. If both the output and the labor market are perfectly competitive, the wage will be

*a. about equal to the value of the additional output produced by the last worker hired

b. mainly determined by the bargaining power of unions

c. driven down to the subsistence level

d. about equal to the value of the average product of labor

39. A monopsonist, as compared to a perfect competitor in the labor market, would

a. pay the same wage and employ more labor

b. pay the same wage and employ less labor

c. pay a higher wage and employ more labor

d. pay a higher wage and employ less labor

*e. pay a lower wage and employ less labor

40. A monopsonistic firm will pay a wage that is

a. greater than the marginal factor cost

b. equal to the opportunity cost of the employer

*c. less than the marginal factor cost

d. equal to the marginal factor cost

e. equal to the cost of capital