SOLUTION 1

a)

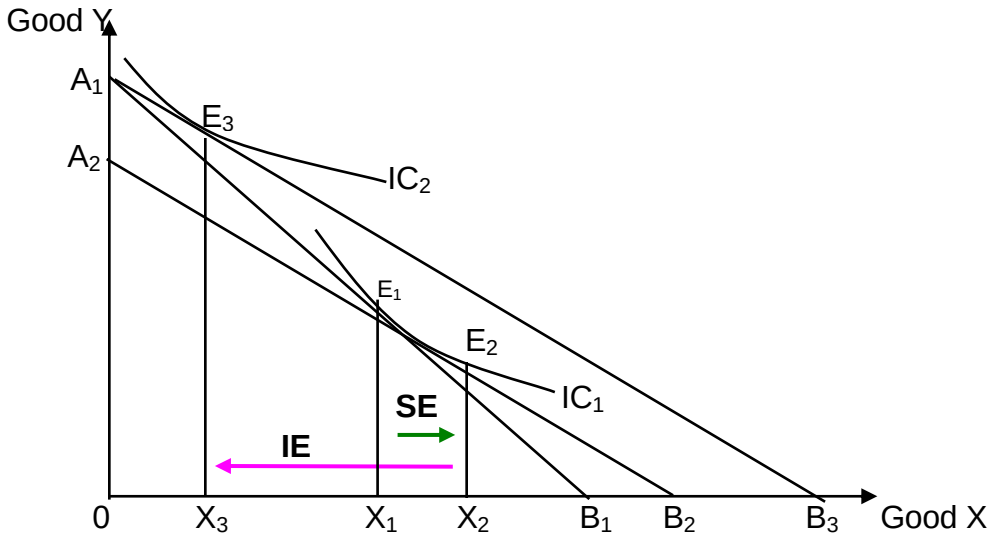
- A Giffen good is a type of inferior good and therefore demand decreases as consumer's real income increases.

- Unlike other inferior good whose quantity demanded falls as own price increases, the quantity demanded for the Giffen good actually increases as its price increases. It has an upward sloping demand curve because the real income effect outweighs the substitution effect.

- The class of goods for which Giffen's Paradox holds constitutes the only exception to the law of demand.

b)

Figure B: A Diagrammatic Illustration of the Two Effects for a Giffen Good.



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A Giffen Good is a special class of inferior goods. As the price of a Giffen good falls the quantity demanded falls.

In Figure B the original equilibrium position is point E_1 where the Budget Line A_1B_1 is tangent to IC_1. The price of X falls giving rise to the new BL A_1B_3, and ultimately a new equilibrium is attained at E_3 on IC_2.

The substitution effect is shown by the movement from E_1 to E_2 along IC_1. The real income effect is represented by the movement from E_2 to E_3 (between two budget lines) or by the decrease in quantity of X from OX_2 to OX_3. Here, the real income effect outweighs the negative substitution effect.

In this case, as price falls quantity demanded of good X falls as well. The law of demand fails to hold in the case of Giffen goods.

SOLUTION 2

(a) i. A single firm supplies the entire market.

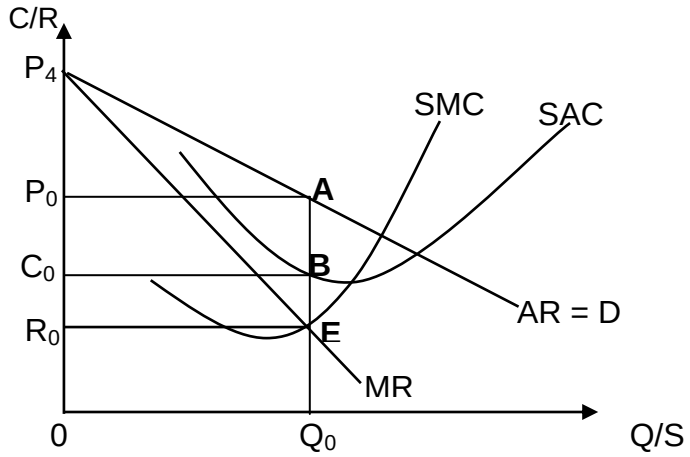
ii. There are no close substitute goods or suppliers.

iii. Entry barriers exist to prevent the entry of rival firms into the industry.

iv. Ownership of patent and copy right etc.

(b)

Figure 2: Short-run Equilibrium of the Monopolist with an Economic Profit



- In Figure 2 above, the monopolist faces the entire (linear) industry demand curve (D) and hence has a (linear) marginal revenue curve (MR).
- The monopolist maximizes profit at Q_0, the point where marginal revenue (MR) is equal to short run marginal cost (SMC).
-
- Beyond Q_0, SMC is greater than MR.
- The equilibrium price at this point is P_0.

(c)

(i) Total cost = SAC x Output = OC_0 x $0Q_0$ = the area of the rectangle C_0BQ_0.

(ii) Total revenue = price x output = $0P_0$ x $0Q_0$. = the area of the rectangle OP_0AQ_0

(iii) Profit = Total revenue – Total cost = the area of the rectangle C_0P_0AB.

SOLUTION 3

a)

- A method of production is technically efficient if by reducing the quantity of one or more inputs other inputs must be increased to maintain the same level of production.
- Technical efficiency has nothing to do with input prices. It is concerned with minimizing the amount of inputs to reach an output target, whatever the price may be.
- Economic efficiency seeks the lowest cost combination of inputs for the production of a certain output level.
- To be economically efficient, a producer seeks the maximization of output under a cost constraint, or the minimization of cost, given an output target.
- Producers as well as managers aim at maximizing profit.
- Not all methods of production that are technically efficient will be economically efficient that is producing the given output at least cost or given cost, producing the highest possible output.
- The manager has to determine which of the technically efficient methods gives the least cost of production. This is in line with the objective of maximizing profit.

b)

i) The Law of Diminishing Returns to Variable Proportion states that all other things being equal - e.g. given technology and a fixed quantity of some inputs

- as the employment of an input increases (variable input), initially MP increases but eventually it diminishes.

ii).

- The law helps the producer to determine the best proportion in which to employ the fixed and variable inputs.
- If the MP is increasing there is too much of the fixed input.
- If the MP falls to zero, there is too little of the fixed input.

SOLUTION 4

a)

Variable Input (V)	Shirts (Q)	**Marginal Product**	**TC**	**TVC**	**MC**
1	1	**-**	**115**	**15**	**15**
2	3	**2**	**130**	**30**	**7.5**
3	6	**3**	**145**	**45**	**5**
4	11	**5**	**160**	**60**	**3**
5	18	**7**	**175**	**75**	**2.1**
6	24	**6**	**190**	**90**	**2.5**
7	28	**4**	**205**	**105**	**3.8**
8	31	**3**	**220**	**120**	**5**
9	33	**2**	**235**	**135**	**7.5**
10	34	**1**	**250**	**150**	**15**

b) The profit maximizing level of output occurs at an output level where MC = MR (P) and if output should be increased beyond that level MC should be greater than MR.

At output level 31, MC = ¢5 and MR (P) = 5. Beyond output level 31 MC is greater MR. The profit maximizing level of output is 31 shirts.

c) Profit (π) equals total revenue (TR) minus total cost (TC). This π = TR – TC. But TR = Price (¢5) x quantity sold (31shirts) = ¢155. From the answer for (a) TC for 31 shirts is ¢220.

π = TR – TC.
= 155 – 220
= - ¢65 (loss)

d) From the question Modern Styles is operating in the short run because of the fixed cost element.

Its TR of 155 is greater than the TVC of 120. Or the Modern Style is covering the TVC fully and making a contribution of ¢35 to the recovery of the fixed cost of ¢100.

Modern Styles should not shut down though making a loss.

SOLUTION 5

a. i) Cash reserves is 12.5% of GH¢75,000 = **GH¢ 9375**

ii) Excess reserves (ER) is Deposit minus Cash Reserves

ER = GH¢75000 – GH¢9375 = **GH¢65,625**

iii) Reserve Multiplier (RM) = $\frac{1}{CR} = \frac{1}{12.5\%} = 8$

where CR = cash ratio

iv) Total credit the GCB can create = RM x ER = 8 x GH¢65,625 = **GH¢525,000**

v) Change in demand deposit of GCB (ΔD) = EM x Deposit
= 8 x 75000
= **600,000**

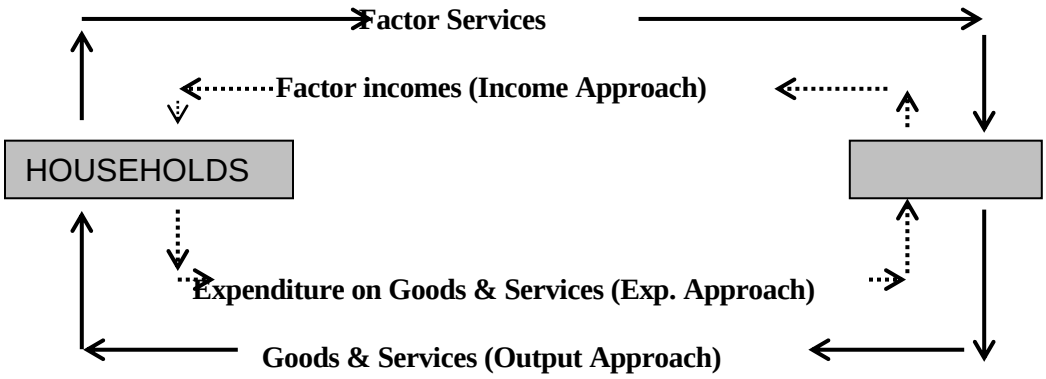
b. i) Cash Ratio: The reserve multiplier relates inversely with the cash ratio. If the cash ratio increases it reduces the reserve multiplier which will limit the ability of CB to create credit. Otherwise, it increases the reserve multiplier and enhances the ability of CB to create credit.

ii) The prime rate also known as bank rate or the discount rate is the rate at which the central bank is prepared to lend to commercial banks. Alternatively, the prime rate is the interest charged by the central bank on loans it makes to the commercial banks. The discount rate is also the basic short-term interest rate in an economy. Changes in the discount rate will lead to changes in all other short-term interest rates e.g. bank deposit rates, interest charged by banks on advances, etc. This will invariably influence bank lending rate and the loans they can create.

SOLUTION 6

a) The identity can be explained with the circular flow of income diagram. We assumed a two sector model.

Diagram 1: The Circular Flow of Income



The top pair of arrows represent the factor market in which the firms exchange money for the services provided by the households, that is, wages - payments for labour services, interest for capital, rent for land and profit for enterprise. This look at national income represents the incomes earned by factors of production for producing the economy's goods and services. The summation of these incomes gives national income

The bottom pair of arrows represents the product market in which the households exchange money for the goods and services produced by the firms. The value of these goods and services represents the product/output side. The summation of these values gives national product or output.

The other arrow shows the expenditure approach. The summation of these expenditures gives national expenditure.

The identity shows that gross domestic product may be measured by final output or product (National Product or Output Approach), final incomes (National Income Approach) and final expenditure (National Expenditure Approach). Therefore NP ≡ NE ≡ NY.

b) The identity allows Ghanaian national income statisticians to decide on the best method to use for the estimation of a country's national income.

Having taken into account the strengths and the weaknesses of the three approaches as well as the conditions prevailing in and specific to the country the statistician decides on which method(s) to use.

This explains why Ghana uses the product and and/or the expenditure approaches.

SOLUTION 7

a. Karen's expectation is false.

If the rate of inflation falls it does not mean prices of goods and services will fall. It indicates that the rate of increase in the price level has fallen. Meaning prices are still increasing but at a reduced rate than before.

b. Kwame's statement is false.

The prime rate is one of the tools of monetary policy the Bank of Ghana has. The reduction in the prime rate is expansionary monetary policy stance by the Bank of Ghana not expansionary fiscal policy.

c. Monica's statement is true.

All other things being equal the reduction of the prime rate is expected to cause the commercial banks to reduce their base rates. This may increase the demand for loans by the public which will invariably enhance the ability of Monica's bank to expand credit to its clients.

d. Semenyo's statement is false.

Increased spending by households on building their own residential houses is included in investment expenditure not in consumption spending. It will rather show as a higher investment spending.