ICSE Board
Class X Economics Applications
Sample Paper – 1 Solution

PART I

*Attempt **all** questions from this part.*

Answer 1

a) The Cash Reserve Ratio (CRR) is the minimum percentage of a bank's total deposits, which are necessarily to be kept with the Central Bank. According to the RBI Act, 1934, "Every commercial bank needs to maintain with the Central Bank a certain percentage of their deposits in the form of cash reserves". By an amendment to the Act in 1962, the Central Bank can vary the CRR between 3 and 15 percent of the total deposits of the commercial banks.

b) Monopsony refers to a market where there is a single seller of a commodity or service but there are many buyers; whereas monopolistic competition is a form of market in which there are many buyers and sellers in the market.

c) Food adulteration is the mixing of extraneous material of an inferior quality with a superior quality material. We can define food adulteration as the presence of adulterants in food items which should not be contained for legal or other reasons.

d) Commercial banks do create money even though they cannot print money. Money is created by providing credit to the public. Cheques issued against a bank deposit are used as money in the market. The bank creates an imaginary deposit in the borrower's name when a person approaches a bank for a loan. It enables the borrower to draw cheques on this deposit. Thus, commercial banks create money.

e) Market demand is the horizontal summation of the individual demand in the market. It indicates various quantities of a good which all consumers in the market are willing to buy at different possible prices of a good at a point of time.

Answer 2

a) Normal goods are those goods for which the demand increases as the income of the consumer rises. There is a positive relationship between income and demand.

b) Differences between Fiscal and monetary policy:

Fiscal policy	Monetary policy
The fiscal policy affects the revenue and expenditure of the government and its instruments are government expenditure, imposition of taxes, subsidy provision, public debt, etc.	The monetary policy affects the aggregate supply of money in an economy and its instruments are bank rate, statutory liquidity ratio, cash reserve ratio, differential interest rates, etc.

a) Every human consumes food to survive in this world. Foods prepared outside may contain sawdust, dangerous dyes, soap stone, aluminium foil etc. Contaminated food items and drinks are common sources of infectious diseases. Adulterated food is hazardous to our health. It may cause viral diseases, skin diseases, and serious health problems such as cancer, paralysis, or sometimes even death.

b) Credit facilities provided by commercial banks are:
   i. Cash credit: Commercial banks allow the borrower to withdraw up to a certain amount on a given security which constitutes stocks of goods and bills receivable from others. Interest is paid by the borrower only on the actual amount withdrawn from the bank.
   ii. Overdraft facilities: Under the overdraft facilities, an account holder can withdraw money in excess of the amount deposited with the bank. But the borrower needs to pay an interest on the excess amount withdrawn from the bank.

c) Cash Reserve Ratio (CRR) is the minimum percentage of a bank's total deposits, which are necessarily to be kept with the Central Bank. The Central Bank can vary the CRR between 3 to 15 percent.
   i. Every bank needs to maintain a fixed percentage of its assets in the form of cash in hand or in other banks, gold and approved securities with the Central Bank. This is called the Statutory Liquidity Ratio (SLR). The Central Bank can vary the SLR between 20 to 40 percent.

Answer 3

a) Two determinants of demand are:
   i. Price of the commodity: The money income of the consumer and the increase in the price of the commodity reduces the purchasing power of the consumer and *vice versa*. Thus, the consumer purchases less of a commodity with an increase in its price.
   ii. Income of the consumer: An increase in the individual income, other things remaining constant, would mean an increase in the purchasing power of the consumer. Thus, the consumer can purchase commodities with increased income.

b) Direct taxes: The tax burden cannot be shifted to any other individual or firm by the taxpayer. It is progressive because the tax rate increases with an increase in the income slab. The impact and incidence of tax falls on the same person.

   Indirect taxes: The tax burden can be shifted by the taxpayer. It is regressive because common people bear this tax burden. The producer bears the impact and incidence of tax onto the consumer.

c) Arguments in favour of privatisation of commercial banks:

i. A commercial bank has the freedom to take decisions regarding loan advancement and the ability to choose the sector with higher returns and recoverability.
ii. They are free to design various innovative deposit schemes to attract depositors.

d) Productive mechanism is the mechanism or the system which determines the production of various goods and services in the economy.

e) Demand deposit holders can avail the overdraft facilities provided by a bank. When a customer receives an overdraft facility from a bank, then he/she can draw cheques in excess of the balance standing in his/her credit to the extent of the amount of the overdraft.

Answer 4

a) Change in quantity demanded: Change in quantity demanded refers to the movements along the demand curve, i.e. the extension of demand caused by a decrease in the price of the same good and contraction of demand caused by an increase in price of the same good.
Change in demand: Change in demand refers to the shifts in the demand curve, i.e. a decrease in the demand or a backward shift in the demand curve caused by a change in factors other than the price of the good and an increase in the demand or a forward shift in the demand curve caused by a change in factors other than the price of the good.

b) The rate of proportional tax is constant irrespective of an increase in income. All tax payers pay an equal proportion of income in the form of taxes.
In progressive tax, the tax rate increases with an increase in the income. There is a different rate of tax for every income slab.

c) The total amount of deposit created by the banking system as a whole is a multiple of the initial increase in the primary deposit, called the credit multiplier. For example, when the increase in the primary deposit is Rs. 400 and the total deposit created by all the commercial banks is Rs. 2000, then the credit multiplier is 2000/400 = 5.

d) The productivity of land is the capacity of a piece of land to produce a crop.
The average productivity of a land is the output obtained from the land divided by the area of the land, say output per acre or per hectare of land.
The marginal productivity of land means the increase in the output obtained from a land when the area of the land used increases by one unit, say by one acre.

e) Elasticity of demand for sugar:

Price per kg (Rs)	Quantity Demanded per day
40	6
48	3

E_p = (-) % Change in quantity demanded/ % Change in its price

E_p = (-)P/Q * ΔQ/ΔP

P1 = 40 P2 =48 ΔP = 48 - 40 = 8

$Q1 = 6$ $Q2 = 3$ $\Delta Q = 3 - 6 = -3$

$E_p = (-)\ 40/6 * -3/8$

$= 120/48$

$= 2.5$

Here, the elasticity of demand is greater than unity.

PART II

*Attempt **any four** questions from this part.*

Answer 5

a) Effects of inflation on various groups in society:

i. Effects of inflation on investors:
Different kinds of investors are affected differently by inflation. An investor may invest in bonds and debentures which yield a fixed rate of interest or in real estate or equities (shares) whose returns (dividends) rise and fall with profits earned by the companies concerned. When the prices rise, the returns on equities go up on account of the rise in profits, while the bond and debenture holders gain nothing as their income remains fixed. By the same logic, holders will lose during depression, while the debenture and bond holders gain.

ii. Effects of inflation on fixed income groups and borrowers:
Fixed income groups: People who receive a fixed income are hit the hardest. People who live on past savings, fixed interest or rent, pensions, salaries etc., suffer during periods of rising prices as their incomes remain fixed.
Borrowers: Debtors repay creditors with interest at some future date. Changes in the price levels affect them differently at different time periods. During inflation when the prices rise and the real value of money goes down, the debtors pay back less in real terms than what they had borrowed and thus to that extent they are gainers.

iii. Effects of inflation on production:
When hyperinflation occurs in an economy, due to uncertainty, there is a negative effect in production. Therefore, hyperinflation is harmful to the economy. It disrupts the price system, reduces saving and capital accumulation, discourages foreign capital, encourages hoarding, reduces volume of production and causes a decrease in quality.

b) The supply of a commodity is defined as the quantity of the commodity which producers desire to sell to consumers. Thus, supply is a desired flow. It indicates how much firms are willing to sell per period of time and not how much they actually sell.

Factors determining the supply:

i. Price of the product: When there is an increase in the price of the product and if it is more than the marginal cost of production, it enables the firm to earn more profit by selling at a higher price. Hence, there is an increase in the supply of the product.

ii. The prices of the factors of production: Given the other factors, if the prices of the factors of production increase, there is decline in the profit of the firm. Hence, the firm would reduce the quantity of supply at the current price level.

iii. Technological condition: Technological improvement in production techniques enables the firm to increase the supply at the current price level.

Answer 6

a) Inflation is defined as a sustained increase in the aggregate price level. It refers to a state of rising prices and not a state of high prices.

Differences between demand-pull and cost-push inflation:

Demand-pull inflation	Cost-push inflation
Demand-pull inflation is the inflation generated by the pressure of excess demand in an economy. If there is an excess of aggregate demand over aggregate supply, the general price level will tend to increase which leads to inflation in the economy.	An increase in the general price level in an economy due to an increase in the average cost of production is called cost-push inflation.
Increase in population, income etc. are the factors of demand-pull inflation.	Increase in the cost of wage rate and increase in the prices of raw materials are the factors of cost-push inflation.

Effects of inflation on investors:

Different kinds of investors are affected differently by inflation. An investor may invest in bonds and debentures which yield a fixed rate of interest or in real estate or equities (shares) whose returns (dividends) rise and fall with profits earned by the companies concerned. When prices rise, the returns on equities go up on account of the rise in profits, while the bond and debenture holders gain nothing as their income remains fixed. By the same logic, holders will lose during depression, while the debenture and bond holders gain.

b) If the price elasticity of demand for a good is unitary, then the total expenditure on that good remains unchanged with a change in the price of that good.

When the price of a good is Rs. 5,

Total expenditure = Rs. 5 * 200 units = Rs. 1000

When the price decreases to Rs. 2, the total expenditure remains unchanged.

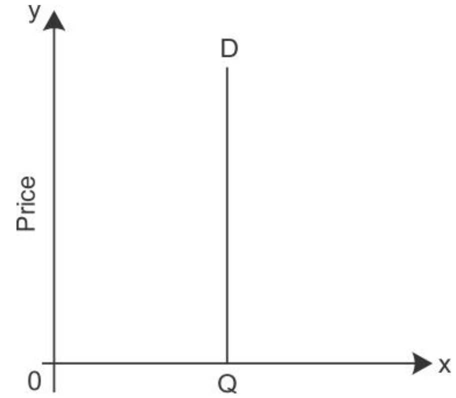
Therefore, Rs. 1000 = 2 * Y, where Y is the changed quantity

Y = 1000/2 = 500 units

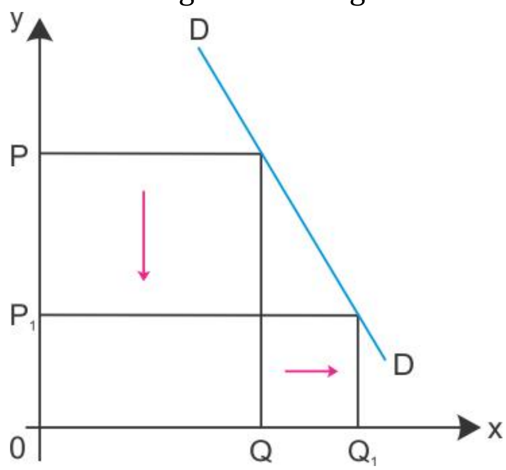
Answer 7

a) Degrees of elasticity of demand:

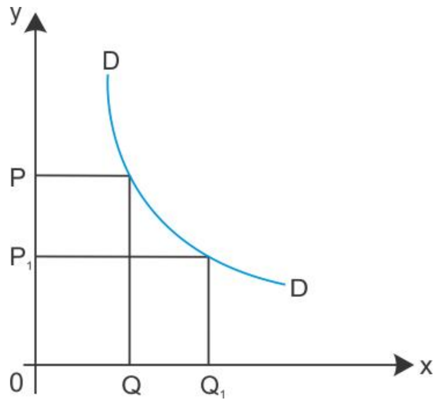
i. Perfectly inelastic demand: The demand curve is parallel to the y-axis. If the price increases or decreases, the quantity demanded is fixed.



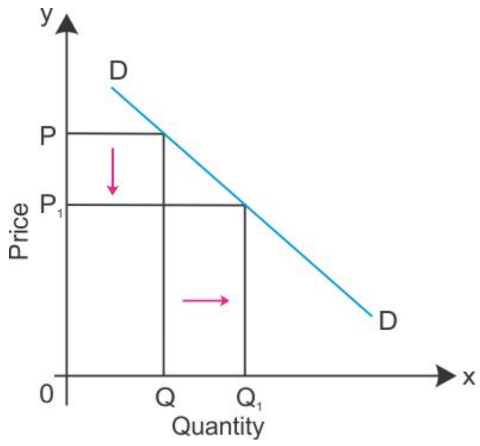
ii. Inelastic demand: The slope of an inelastic demand curve is steep when a large change in price does not bring much change in the demand.



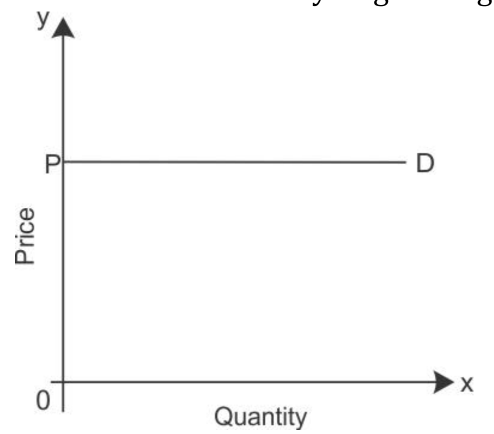
iii. Unit elastic demand: The demand curve is a rectangular hyperbola as it extends to both the axes. Percentage change in demand is equal to the percentage change in price.



iv. Elastic demand: The demand curve is a flatter curve when percentage change in demand is much greater than percentage change in price.



v. Perfectly elastic demand curve: The demand curve is parallel to the x-axis. A small change in price causes an infinitely large change in the amount demanded.



b) Due to an increase in the population growth rate and per capita consumption of resources, the ecosystem is changing and getting destroyed. Hence, there is a change in the land use. This has led to the destruction of the ecosystem in the following ways:

i. Deforestation is undertaken to accommodate more agricultural activity, human settlements, construction of dams, etc.
ii. Changes in land use have destroyed the natural habitats of organisms, resulting in many being on the verge of extinction.
iii. Requirement of fuel for cooking, lighting and heating purposes has also led to deforestation thereby destroying the ecosystem.
iv. Mining activities require removal of plant cover.

Answer 8

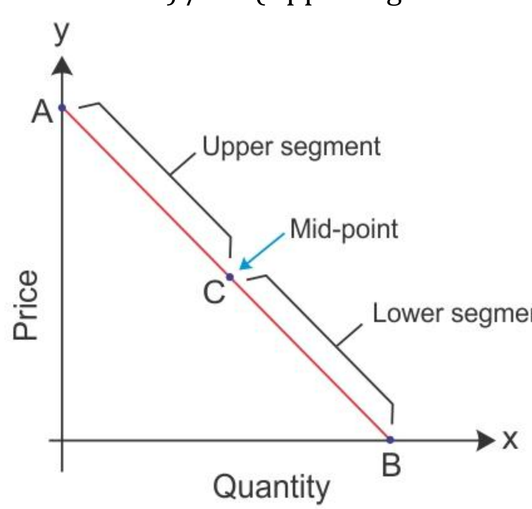
a) Differences between movement along the supply curve and shift of the supply curve:

Movement along the supply curve	Shift of the supply curve
It means a change in the quantity of a commodity supplied due to a change in the price of the commodity.	It means either an increase or decrease in the supply of a commodity at a given price.
Due to an increase in the price level, there is a movement from left to right along any supply curve. It indicates an increase, i.e. extension in the quantity supplied.	When there is a leftward shift of the supply curve, it indicates a decrease in the supply of a commodity at a given price.
Due to a decrease in the price level, there is a movement from right to left along any supply curve. It indicates a decrease, i.e. contraction in the quantity supplied, assuming that all other factors, except the price of the commodity, remain constant.	Similarly, when there is a rightward shift of the supply curve, it means an increase in the supply of a commodity at a given price. Assume that all other factors such as input prices, technologies etc. are flexible.

b) The geometric method measures the price elasticity of demand at different points on the demand curve. This is also known as the point method of measuring the price elasticity of demand.

Let us consider a figure given below, where AB is a demand curve. C is the specific point on the demand curve. It divides the demand curve into two segments as upper segment CA and lower segment CB. Elasticity of demand at point C is the ratio of the lower segment to the upper segment.

e_d = CB (lower segment from C) / CA (Upper segment from C)



The price elasticity of demand at different points on a straight line demand curve can be derived by this method.

i. Elasticity is zero at point B of the demand curve, where the demand curve touches the x-axis.
$e_d = 0/BA$
$e_d = 0$

ii. Elasticity is infinity at point A of the demand curve, where the demand curve touches the y-axis.
$e_d = BA/0$
$e_d = 0$

iii. Elasticity is unity at the mid-point C of the demand curve, where the lower segment is equal to the upper segment of the demand curve.
$e_d = CB/CA$
$e_d = 1$

iv. Elasticity is greater than unity at any point (L) to the left of the mid-point of the demand curve.
$e_d = LB/LA$
$e_d > 1$

v. Elasticity is less than unity at any point (M) to the right of the mid-point of the demand curve.
$e_d = MB/MA$
$e_d < 1$

Answer 9

a) The law of demand states that other things remaining constant, the quantity demanded for a good increases with a fall in its price and diminishes when the price increases.
Two applications of the concept of elasticity of demand are:
Price setting in the business sector: Generally, producers regulate the price setting policies for the commodity produced on the basis of elasticity of demand. When the elasticity is low, they set the price at a high level and *vice versa*. As the elasticity of demand is low, consumers will not be able to reduce the demand even with a price increase.
Wage bargaining: Trade unions demand high wage rates if the elasticity of demand for labour is low, especially for skilled labour.

b) Three characteristics of land:
  i. Land is limited in supply: Supply of land is fixed as it is given by nature.
  ii. Gifts of nature: Land is a gift of nature and does not have any cost of production. Land is readily available for any use. However, other agents of production are available at a cost.
  iii. Land has alternative uses: Land can be used for alternative uses such as cultivation, dairy or poultry-farming, rearing of livestock, building of houses, playgrounds etc.

Two functions of land as a factor of production are:
  i. Determines agricultural production:

The supply of land resources determines the level of agricultural production in an economy. Nearly 43 percent of the land area of India is plain and suitable for crop cultivation.

ii. Industrial development:
Land resources of an economy help in the process of industrialisation. Raw materials for an industry are obtained from land. Power is supplied by land to run industries.

Answer 10

a)

i. Bank rate is the rate at which the Central Bank provides credit to commercial banks. In the case of India, it generally indicates the interest rate at which the commercial banks borrow credit money from the Reserve Bank of India.

ii. An increase or decrease in the bank rate leads to an increase or decrease in the market rate of interest. Thereby the cost of credit changes in the market. During inflation, an increase in the bank rate increases the cost of capital, which reduces the flow of credit. When the Central Bank increases the bank rate, the cost of borrowing credit money becomes higher for commercial banks. So, the commercial banks are then permitted to increase their lending rates. This discourages the investors to take loans from the commercial banks, resulting in a fall in investment in an economy. In a similar situation, when the bank rate is decreased, it leads to an increase in the total money supply in an economy. Thus, it influences the total supply of money in an economy.

b) Four ways of increasing investment in India:

i. Savings are transformed into capital. If an individual does not save money, then there cannot be any capital formation, even if other conditions are favourable for capital formation.

ii. Despite a high income, if a person holds savings in the form of cash instead of depositing them in the bank, then the savings cannot be mobilised for investment. Hence, savings must be mobilised from the savers. These functions are performed by financial and other institutions as well as the capital markets.

iii. The mobilised savings must be actually used by producers for investment. Money kept by the people in the banks must be lent out by the banks to producers for business investments such as the purchase of machinery, raw materials etc. The rate of interest on money capital should not be high. It is only then, entrepreneurs will get motivated for investments.

iv. Good market prospects encourage both savings and investment.