TOPIC 2.1

Efficient Resource Allocation, Externalities and Market Failure, Social Costs and Benefits; Cost-benefit Analysis, Policies to Achieve Efficient Resource Allocation and Correct Market Failure, Government Failure in Microeconomic Intervention.

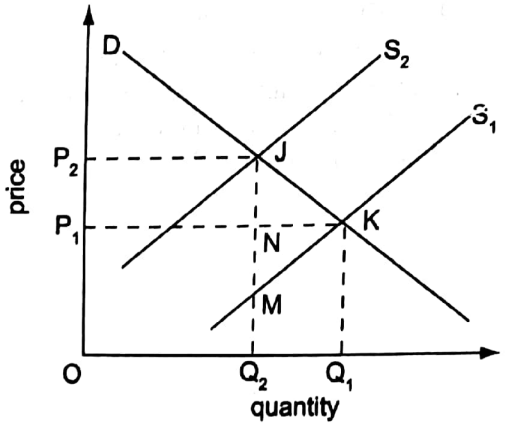
MCQ Section

1. What will happen if a firm is subsidised by an amount equal to the external benefits that it confers on the rest of society?

   A Resource allocation will be improved.
   B The firm will produce less.
   C There will be a misallocation of resources.
   D There will be no effect upon production.

   [J08/P3/Q1]

2. In the diagram the imposition of a tax on a commodity causes its supply curve to shift from S_1 to S_2.



   Which area measures the resulting deadweight loss?

   A P_1P_2JK **B** JKQ_1Q_2
   C JKM **D** JKN

   [J08/P3/Q12]

3. A good gives rise to external costs and is produced under conditions of monopolistic competition.
   Which statement must be true?

   A Output of the good is at the socially optimum level.
   B Output of the good is below the socially optimum level.
   C Private costs of production exceed social costs.
   D Social costs of production exceed private costs.

   [J08/P3/Q13]

4. A government decides to privatise a state monopoly.
   What should the government do to try to ensure that this will result in an improvement in efficiency?

   A allocate vouchers to all citizens entitling them to a share in the ownership of the monopoly
   B encourage competition
   C impose a maximum profit margin
   D privatise the monopoly as a going concern

   [J08/P3/Q15]

5. Which condition must be met for economic efficiency to be achieved?

   A Marginal social costs are zero in the production of all goods.
   B Marginal social costs equal marginal social benefits in the production of all goods.

HELPS to MCQ

1. **A** A subsidy increases output to efficient level, hence, resource allocation would improve.

2. **C** Imposition of tax reduces equilibrium quantity from Q_1 to Q_2. The loss of both consumer and producer surplus on this quantity is labeled as deadweight loss resulting from the tax.

3. **D** Excess of social costs on private costs is external costs.

4. **B** Competition improves efficiency.

5. **B** Economic efficiency exists where MSC = MSB in the production of all goods. Option **A** is not possible, whereas options **C** and **D** do not consider the other side of the equation.

C Marginal social benefits are at a maximum in the production of all goods.

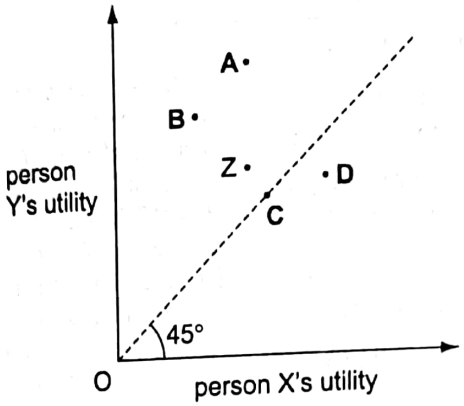
D Marginal social costs are at a minimum in the production of all goods.

[N08/P3/Q1]

6. The diagram shows the levels of utility corresponding to different allocations of resources between two people.

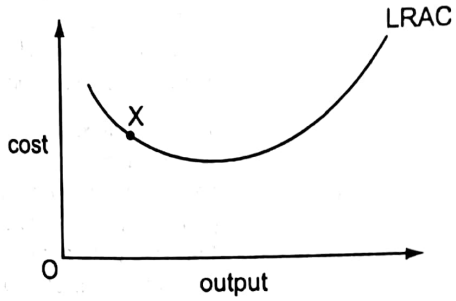
The initial allocation is Z.

Which reallocation of resources would definitely be more Pareto efficient?



[N08/P3/Q2]

7. In the diagram, the firm is operating at point X on its long-run average cost curve.



Which statement about the firm is correct?

A It is operating at its optimal level of output.

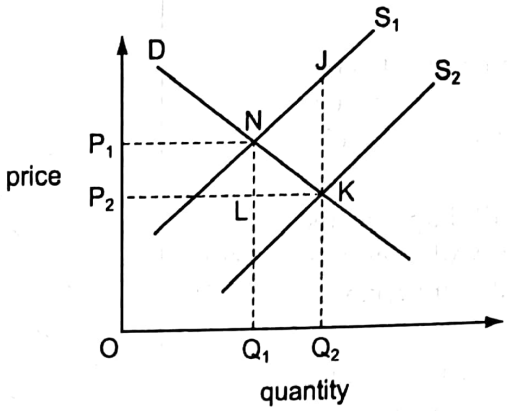
B It is operating below its cost-minimising level of output.

C It is productively inefficient.

D It could produce its current level of output at a lower cost.

[J09/P3/Q1]

8. In the diagram the introduction of a government subsidy causes an industry's supply curve to shift from S_1 to S_2.



Which area measures the resulting deadweight loss to society?

A P_1NKP_2 B JKN

C NLK D Q_1Q_2JN

[J09/P3/Q14]

9. What could prevent a market economy achieving allocative efficiency?

A disagreement among consumers over resource allocation

B inequalities in the distribution of income and wealth

C an inability to produce free goods

D an inability to produce public goods

[N09/P3/Q14]

10. An economy is operating at a point on its production possibility curve.

What is true about the way the economy's resources are being used at this point?

	allocatively efficient	productively efficient	socially desirable
A	possibly	yes	yes
B	yes	possibly	possibly
C	possibly	yes	possibly
D	yes	possibly	yes

[N09/P3/Q30]

HELPS to MCQ

6. A Pareto efficiency exists where it is impossible to make any one better off without making someone else worse off. Only point A is definitely pareto efficient because movement from point A to any other point will increase utility for person X by only reducing utility of person Y.

7. B Optimal level of output is the lowest point of the lowest LRAC hence option **A** is incorrect. Option **C** and **D** are incorrect because in diagrammatic terms, productive efficiency is when the firm produces at a point (any point) on its LRAC curve – not just at the lowest point on the curve.

8. B Net cost of subsidy to society.

9. D Market forces fail to allocate resources for public goods due to the free rider problem. Option **A** is irrelevant and option **B** is not related to the issue of efficiency. Option **C** is clearly incorrect.

10. C All points on PPC are productively efficient while efficient allocation of resources depends on the preferences of society.

HELPS to MCQ

11. Which is a correct statement about efficiency?

A Allocative efficiency occurs when marginal revenue equals marginal cost.

B An economy is productively efficient when it is producing at a point on its production possibility curve.

C An economy will improve its allocative efficiency when its production possibility curve moves outward.

D Productive efficiency occurs when the prices of goods equal their marginal cost of production.

[J10/P3/Q30]

12. In an economy no one can be made better off without making others worse off.

What can be concluded from this?

A All markets are perfectly competitive.

B There are no externalities.

C The economy is operating on its production possibility curve.

D The distribution of income reflects what each individual deserves.

[N10/P3/Q1]

13. Which is **not** a policy designed to correct market failure?

A competition policy

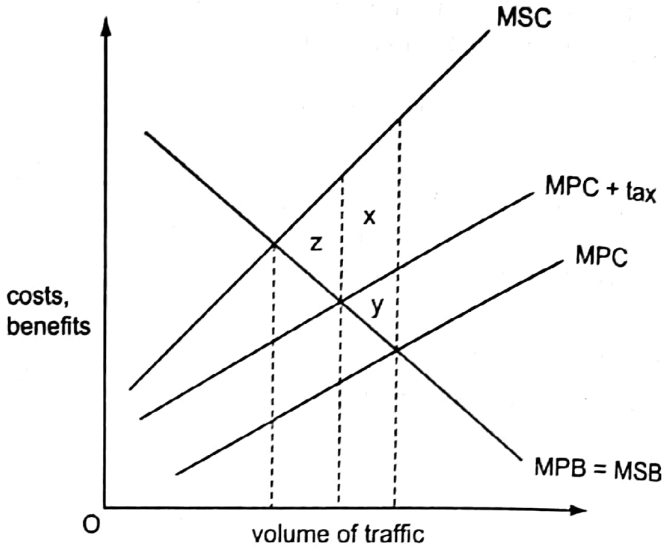
B free inoculation against infectious diseases

C minimum wage policy

D regulations to limit river pollution

[N10/P3/Q14]

14. The diagram shows the private and social marginal costs and benefits at different volumes of traffic.



The imposition of a congestion tax raises the MPC curve to MPC + tax.

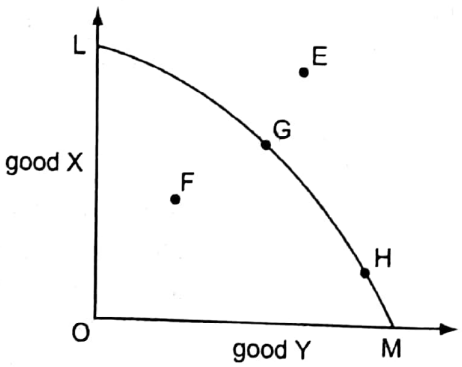
Which area measures the resulting reduction in the deadweight loss?

A x + y only **B** x + y + z

C y only **D** z only

[J11/P3/Q10]

15. In the diagram, LM is an economy's production possibility curve.



Which statement is correct?

A E only is attainable.

B F is economically efficient.

C G may be economically efficient but is not productively efficient.

D H is productively efficient but may not be economically efficient.

[J11/P3/Q30]

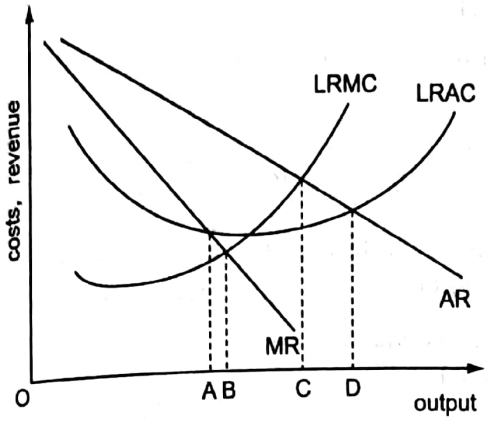
11. B All points on a PPC are necessarily productively efficient. Allocative efficiency is where P = MC hence **A** & **D** are incorrect. Option **C** is incorrect because improvement in allocative efficiency does not always follow an outward shift in PPC.

12. C Pareto efficiency is attained only on the PPC, where it is only possible to increase the output of one product by reducing the output of another, hence someone can be made better off by making others worse off.

13. C Competition policy is formed to reduce concentration of market power; a market failure. Free inoculation and regulations to limit river pollution would increase consumption of a merit good and reduce negative externality again examples of market failure.

14. A Without tax the dead weight loss = X + Y + Z. A congestion tax raises the MPC curve to MPC + tax, and thus reduces the volume of traffic and dead weight loss by the area X + Y.

16. The diagram shows a firm's long-run cost and revenue curves.



At which level of output is the firm both allocatively and productively efficient?

A OA **B** OB
C OC **D** OD

[N11/P3/Q2]

17. What would economists agree should be the aim of any health care system?

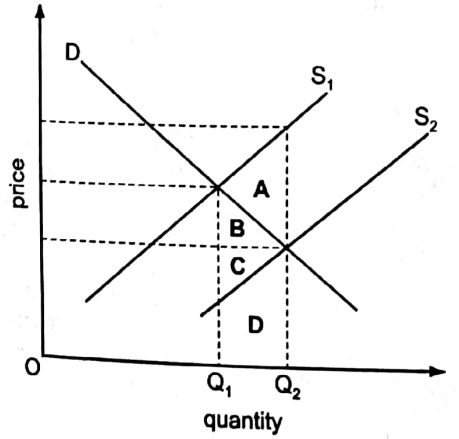
A to meet all the health care demands of the population
B to provide every patient with the latest and best available treatment
C to provide free medical treatment
D to secure the maximum health gain from the resources available

[N11/P3/Q13]

18. The diagram shows the supply and demand curves of a commodity.

A government subsidy causes the supply curve to shift from S_1 to S_2.

Which area measures the difference between the cost to the economy of producing the resulting increase in output ($Q_1 - Q_2$) and the value consumers place on this increase in output?



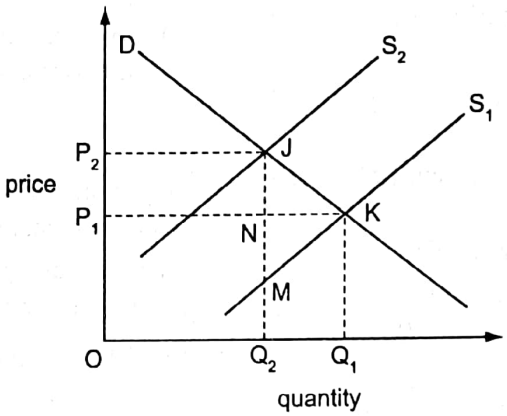
[N11/P3/Q15]

19. When is economic efficiency achieved in an economy?

A when nobody can become better off without somebody else becoming worse off
B when the economy is operating at its natural rate of unemployment
C when the level of social costs is minimised
D when the rate of economic growth is maximised

[J12/P3/Q1]

20. In the diagram the imposition of a tax on a commodity causes its supply curve to shift from S_1 to S_2.



Which area measures the resulting deadweight loss?

A P_1P_2JK **B** JKQ_1Q_2
C JKM **D** JKN

[J12/P3/Q14]

21. A good gives rise to external benefits and is produced under conditions of imperfect competition.

Which statement must be true?

A Benefits to consumers exceed the benefits to society.
B Firms producing the good will make a loss.
C Output of the good is below the socially optimum level.
D Social costs of production exceed private costs.

[J12/P3/Q15]

HELPS to MCQ

15. D Economic efficiency is achieved when both productive efficiency and allocative efficiency exist. All the points on a PPC are productively efficient but a given point on the PPC may or may not be economically efficient. Options **A** & **B** are clearly incorrect while **C** is contrary to the theory.

16. C MC = AR(P) suggests allocative efficiency, whereas output at the lowest LRAC refers to productive efficiency.

17. D Economists aim at efficient use of scarce resources i.e. maximum gain from the available resources.

18. A Cost to the economy = **A** + **B** + **C** + **D**.
Consumer valuation = **B** + **C** + **D**. Thus triangular area **A** is the difference.

19. A By definition.

20. C Waste of both consumer and producer surplus resulting from a fall in output is called dead weight loss.

21. C Market system of demand & supply fails to take account of external benefits; therefore the resulting output is loss than the socially optimum level. Options **A** & **D** refer to external costs while **B** is irrelevant.

22. What will happen if a firm is subsidised by an amount equal to the external benefits that it confers on the rest of society?

A There will be no effect upon production.

B The firm will produce less.

C There will be a misallocation of resources.

D Resource allocation will be improved.

[N12/P3/Q1]

23. All firms in an economy produce at levels of output where price and marginal private cost are equal.
Why might this **not** be sufficient to ensure that allocative efficiency is achieved?

A a small number of buyers and sellers

B differences in consumers' preferences

C product differentiation

D the presence of externalities

[N12/P3/Q14]

24. A firm operates in a perfectly competitive market.
Which relationship between the firm's cost and revenue describes a position where allocative efficiency would be improved if the firm reduces its present level of output?

A P = MR > MC

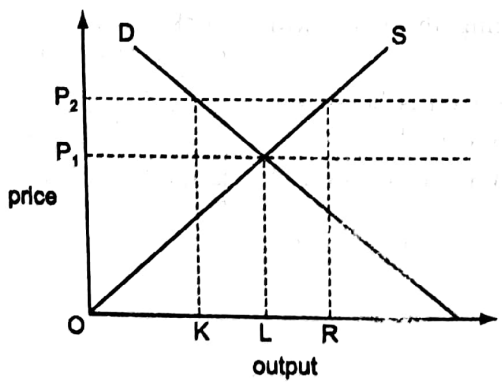
B P = MR < MC

C P > MR = MC

D P > MR > MC

[J13/P3/Q12]

25. The diagram shows the market supply and demand curves for corn.



What should a government do if it is to maintain a minimum price of OP_2?

A buy quantity KR

B buy quantity LR

C sell quantity KL

D sell quantity OL

[J13/P3/Q16]

26. What is the purpose of trying to achieve economic efficiency?

A to ensure that economic decisions are made equitably

B to ensure that firms are internationally competitive

C to ensure that firms maximise their profit levels

D to ensure that the economy does not waste scarce resources

[N13/P3/Q1]

27. The firms in a perfectly competitive industry combine to form a monopoly.
What would prevent a deadweight welfare loss resulting?

A The government imposes an indirect tax on the monopolist's product.

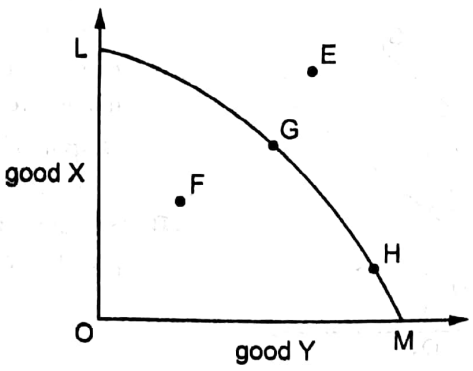
B The government requires the monopolist to charge a price equal to average cost.

C The monopolist adopts marginal cost pricing.

D The monopolist charges the same price to all consumers.

[N13/P3/Q16]

28. In the diagram, LM is an economy's production possibility curve.



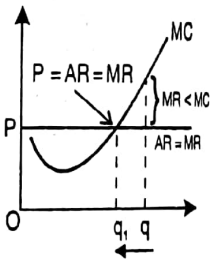
Which statement must be correct?

HELPS to MCQ

22. D Good with external benefits is under produced by market forces. A subsidy will increase its output, therefore improves allocation of resources.

23. D The condition P = MC indicates allocative efficiency only in the absence of externalities.

24. B Allocative efficiency is where, P = MR = MC. MC > MR implies that the firm must reduce its output up to the level where its MC = MR.



25. A In order to maintain price at OP_2 government must buy surplus (K — R) at OP_2.

26. D Scarcity of resources necessitates efficient use of resources.

27. C Marginal cost pricing results in P = MC, i.e the same price as in a perfectly competitive industry.

28. A Any point on a PPC indicates productive efficiency, therefore, a point inside PPC suggests productive inefficiency. However, a given point on the PPC may or may not be allocatively and hence economically efficient.

A F is productively inefficient.
B G and H are productively efficient but economically inefficient.
C Only E is economically efficient.
D Only G is productively efficient.

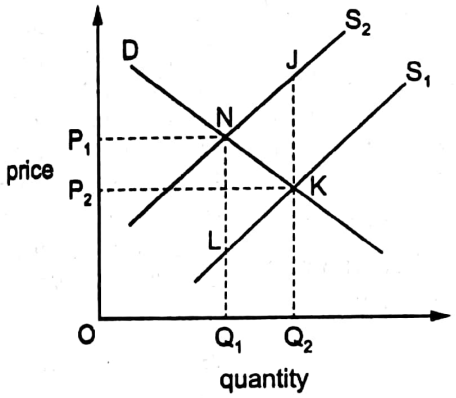
[J14/P3/Q1]

29. Which is **not** a policy designed to correct market failure?

A competition policy
B free inoculation against infectious diseases
C minimum wage policy
D regulations to limit river pollution

[J14/P3/Q14]

30. In the diagram the imposition of a specific tax causes an industry's supply curve to shift from S_1 to S_2.



Which area measures the resulting deadweight loss to society given that there was no market failure initially?

A NLK B JKN
C P_1NKP_2 D Q_1Q_2JN

[J14/P3/Q15]

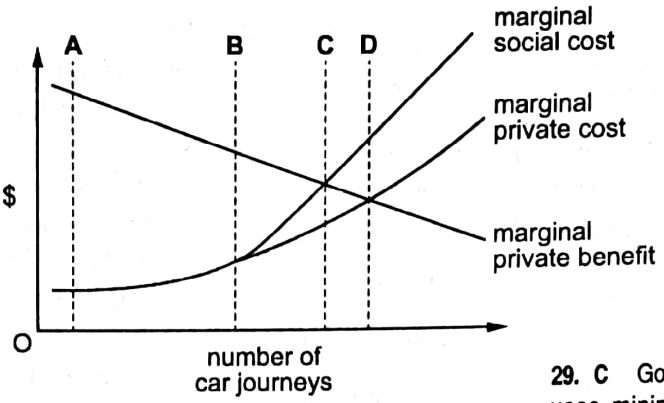
31. Which condition defines productive efficiency?

A All factors of production are fully employed.
B All firms are producing at their profit-maximising levels of output.
C There are no further opportunities for substituting capital for labour.
D The output of all goods is produced at the lowest possible cost.

[N14/P3/Q1]

32. The diagram shows the private and social costs and the private benefits that arise as the number of car journeys into a city centre increases.

In the absence of any external benefits, which volume of traffic would maximise the community's welfare if entry could be restricted through the issue of permits?



[N14/P3/Q18]

33. At present, a country's government has set its central bank a target rate of inflation of 2%.

What is likely to happen to interest rates and the exchange rate if the target inflation rate is raised to 3%?

	interest rates	exchange rate
A	fall	fall
B	fall	rise
C	rise	fall
D	rise	rise

[N14/P3/Q30]

34. What need **not** pose a potential threat to allocative efficiency in a market economy?

A externalities
B differentiated products
C monopolistic elements
D perfect knowledge

[J15/P3/Q1]

HELPS to MCQ

29. C Government uses minimum wage to address the problem of poverty and equity, therefore, not related to market failure.

30. A Triangular area representing waste of both consumer and producer surplus that results from a fall in quantity is called deadweight loss to society.

31. D By definition.

32. C Since there are no external benefits, therefore MPB = MSB and the community's welfare will be maximized where MSB = MSC.

33. A A higher target rate of inflation will allow the central bank to reduce the rate of interest that should lead to a fall in exchange rate.

34. D Perfect knowledge results in right choices and correct demand, therefore, results in allocative efficiency. Other options suggest market failure i.e. allocative inefficiency.

35. A country's steel producers are members of a cartel. Each member is allocated a production quota and initially produces the maximum allowed under its quota.
What will be the effect on productive efficiency and on the industry's profits if the producers are allowed to trade the quotas amongst themselves?

	effect on productive efficiency	effect on profits
A	improvement	increase
B	improvement	no change
C	no change	increase
D	no change	no change

[J15/P3/Q16]

36. Which government policy would **not** be classified as regulation?

A bans on heroin and cocaine consumption

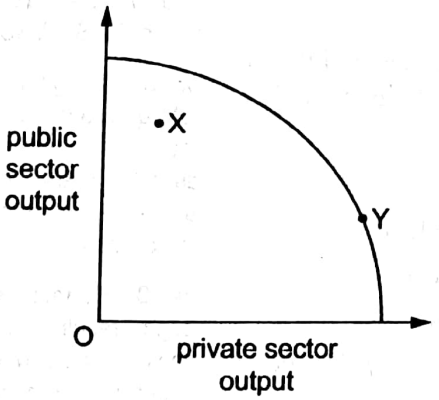
B compulsory wearing of seatbelts in cars and coaches

C licences for the extraction of water from lakes and rivers

D taxation of cigarettes and tobacco products

[J15/P3/Q17]

37. The diagram shows the production possibility curve for a successful transition economy that moves from point X to point Y over time.



During the transition process the population of the country expressed a strong preference for increased privatisation.
What happens to economic efficiency as a result of the transition from point X to point Y?

	productive efficiency	allocative efficiency
A	increases	decreases
B	increases	increases
C	unchanged	decreases
D	unchanged	unchanged

[N15/P3/Q1]

38. Which government microeconomic policy is **not** usually aimed at correcting allocative inefficiency in an economy?

A anti-monopoly legislation

B congestion charges for the use of roads in cities

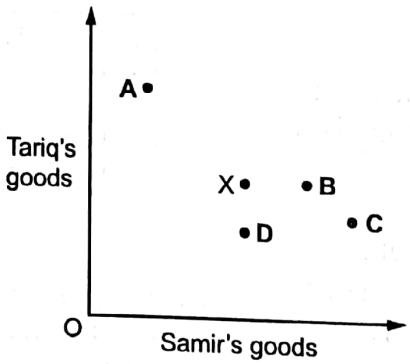
C pollution taxes imposed on various firms

D subsidies for agricultural producers

[N15/P3/Q16]

39. The current distribution of goods between two individuals in a two-person economy with given technology and resources is at point X.

According to the Pareto criterion, which point would definitely indicate increased allocative efficiency?



[J16/P3/Q2]

40. The concept of allocative efficiency assumes that each individual in society is the best judge of their own economic welfare.
Which example of government intervention is based on an argument which rejects this assumption?

A pollution controls

B subsidies for merit goods

C the provision of public goods

D the regulation of monopolies

[J16/P3/Q3]

HELPS to MCQ

35. A Firms selling their quota will do so when their profits are higher rather than using the quota by themselves. Similarly buyers will buy quota only if it increases their profits, therefore, trading quota should increase industry's profits. In this case less efficient firms will benefit if they sell their quota to more efficient firms, therefore, productive efficiency improves.

36. D An indirect tax is an example of financial intervention in market.

37. B Point X is below PPC while Y is on the PPC, therefore movement from X to Y represents improvement in productive efficiency. Also Point X does not represent people's preference as closely as point Y does, therefore allocative efficiency also improves.

38. D The objective of subsidy in this case is to reduce the prices of agricultural products and not necessarily to improve allocation of resources. All other options represent market failure.

39. B Movement from point X to point B will make Sameer better off without making Tariq worse off, therefore it will improve allocative efficiency. However a movement from X to any other point except B will make one person better off by only making the other worse off.

40. B On their own people's judgment about economic welfare of merit goods is usually considered incorrect.

41. A government regulates the price charged by a monopolist.
In which circumstance will such intervention improve economic efficiency?

A The government sets the price where average revenue equals marginal cost.

B The government sets the price where marginal cost is below average cost.

C The intervention results in an increase in producer surplus.

D The intervention results in predatory pricing.

[J16/P3/Q18]

42. What is the purpose of trying to achieve economic efficiency?

A to achieve full employment

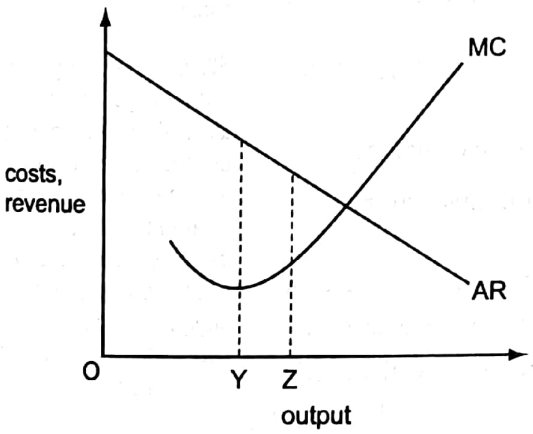
B to achieve the cheapest possible price for products

C to ensure resources are not wasted

D to use as many resources as possible

[N16/P3/Q1]

43. In the diagram, a firm increases its output from OY to OZ.



Which statement about the effect on economic efficiency is correct?

A It will increase because a greater quantity will be produced and higher total revenue will be earned.

B It will increase because the value that consumers place on the product comes closer to the cost of producing the last unit.

C It will decline because both average and marginal revenue will fall.

D It will decline because both total and marginal cost will rise.

[N16/P3/Q2]

44. A proposal for a new power station was rejected by the government because it was not socially beneficial.

The government calculated that the private costs would be $800 m, private benefits $900 m and external benefits $300 m.

What must have been true about the external costs of the power station?

A External costs were equal to external benefits.

B External costs were greater than $400 m.

C External costs were less than external benefits.

D There were no external costs.

[N16/P3/Q3]

45. When will an economic activity create a net social benefit?

A when (private benefit + external benefit) – (private cost + external cost) is negative

B when (private benefit + external benefit) – (private cost + external cost) is positive

C when (private benefit + private cost) – (external benefit + external cost) is negative

D when (private benefit + private cost) – (external benefit + external cost) is positive

[J17/P3/Q1]

46. The diagram shows the private and social costs and benefits of production in a free market that result in market failure.

HELPS to MCQ

41. A Since AR = P, therefore AR = MC in effect means P = MC, a necessary condition for allocative efficiency.

42. C Scarcity of resources implies that they must be used most efficiently.

43 B Economic efficiency is achieved when P = MC. Since the gap between P and MC is reduced, therefore efficiency improves.

44. B Rejection of proposal refers to SB < SC.

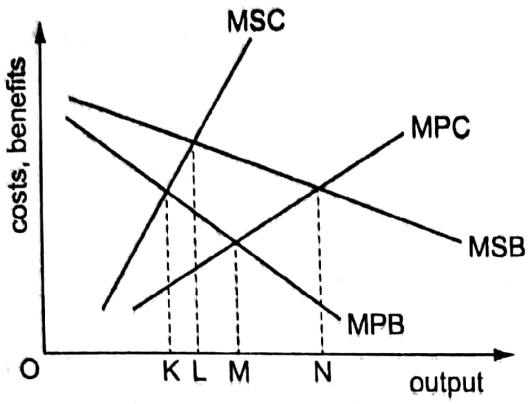
SB = PB + EB, and
SC = PC + EC

Since SB = $1100 m and PC = $800 m therefore EC must be greater than $400 m for SC to exceed SB.

45. B PB + EB = SB
PC + EC = SC

A positive outcome of SB minus SC indicates net social benefit.

46. C Production in free market is OM where MPC = MPB
Socially optimum production is OL where MSB = MSC.
Hence market overproduced this good by M – L.



Which change in output would be necessary to overcome this market failure?

A from K to M
B from M to N
C from M to L
D from N to L

[J17/P3/Q2]

47. In an economy no one can be made better off without making someone else worse off.

What can be deduced from this?

A Individuals are the best judges of their own well-being.
B Individuals can be relied upon to behave rationally.
C The distribution of income is socially optimal.
D The economy's resources are allocated efficiently.

[N17/P3/Q1]

48. The production of a firm which operates in an imperfectly competitive market gives rise to external production costs.

Which statement about this firm must be correct?

A External costs exceed external benefits.
B Private costs exceed social costs.
C Social costs exceed private costs.
D Social costs exceed social benefits.

[N17/P3/Q3]

49. In the UK in 2015 there were two methods of charging for water supply.

1 a fixed charge giving the consumer the right to consume water at zero price per litre
2 a price per litre of water used

It has been observed that the amount of water consumed is markedly lower when method 2 is used.

What is implied by this observation?

A Water in the UK is not a scarce good.
B Water is a free good of nature and no charge should be levied.
C Water is a necessity, the use of which should not be restricted by unit prices.
D Water is subject to the law of diminishing marginal utility.

[N17/P3/Q4]

50. Which policy is **not** designed to correct a market failure?

A government provision of health care
B removing import quotas
C price controls on large firms
D regulations to limit smoke pollution

[N17/P3/Q14]

51. How is social cost calculated?

A external cost minus external benefit
B external cost minus private cost
C external cost plus private cost
D social cost minus social benefit

[J18/P3/Q1]

52. Which government policy is **not** aimed at correcting inefficiency in resource allocation?

A marginal cost pricing in state owned industries
B permits restricting the pollution of rivers by private firms

HELPS to MCQ

47. D By definition. Options **A** & **B** suggest inefficiencies while **C** is not related to efficiency.

48. C SC = PC + EC, so if SC > PC it must be due to EC. Option **B** suggests external benefits while the outcome of **A** & **D** is uncertain.

49. D Since MU of water diminishes therefore people do not consume water beyond the point where MU of the money that they pay for it equals MU of an additional unit of water.

50. B Options **A**, **C** & **D** aim at correcting market failure while **B** aims at correcting BOP.

51. C Social cost = private cost + external cost. Option **A** measures net external benefits and **D** suggests net social benefits while **B** is irrelevant.

52. C Requiring minimum wage to be paid aims at correcting inequitable distribution of income hence it is not related to efficient allocation of resources. All other options clearly suggest policies to correct inefficient allocation of resources.

C requiring firms to pay a minimum wage

D the provision of public goods at zero price

[J18/P3/Q2]

53. The table shows some of the costs and benefits, in $ millions, associated with a road building project. Both a government department and a profit-maximising private firm are considering building the road.

private costs	external costs	external benefits	social benefits
450	75	50	550

Who would be willing to build the road?

A Both would be willing to build it.

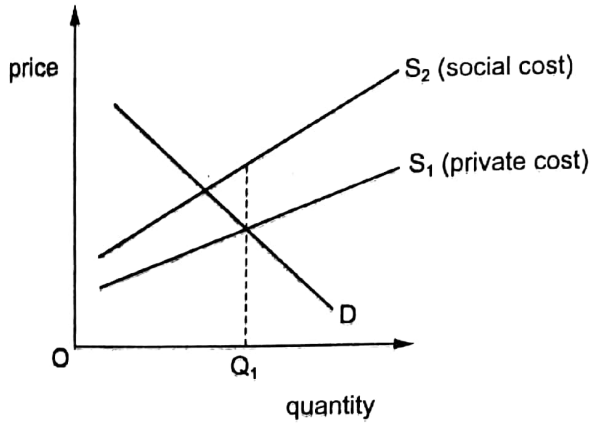
B Neither would be willing to build it.

C Only the government department would be willing to build it.

D Only the private firm would be willing to build it.

[J18/P3/Q3]

54. In the diagram, Q_1 is the quantity produced of a good as the result of market forces.



Which concept is present at output Q_1?

A a government subsidy

B a negative externality

C a positive externality

D a specific tax

[J18/P3/Q4]

55. Under which circumstances will a subsidy from the government be most beneficial if there are externalities from producing good X?

	externality caused by good X	price elasticity of demand of good X
A	negative	<1
B	negative	>1
C	positive	<1
D	positive	>1

[J18/P3/Q17]

56. In which situation are there definitely positive externalities?

A Private benefits exceed private costs.

B Private benefits exceed social benefits.

C Social benefits exceed private benefits.

D Social benefits exceed private costs.

[N18/P3/Q1]

57. A cost-benefit analysis is carried out on the construction of a hydroelectric power station.

Which combination of circumstances would be most likely to lead to the scheme being approved?

A Private benefits are greater than private costs.

B Social benefits are greater than social costs.

C Social benefits are greater than total costs.

D Total costs are greater than total revenue.

[N18/P3/Q2]

58. What does **not** pose a threat to the achievement of allocative efficiency?

A imperfect information on the part of consumers

B income inequalities

C the existence of externalities

D the presence of monopolistic elements

[N18/P3/Q3]

HELPS to MCQ

53. A PB = SB – EB (500 = 550 – 50) and PC = 450, therefore it is profitable for a private firm to build the road. Government would be willing to take up this project because PC + EC = SC < SB. (450 + 75 = 525 < 550).

54. B A higher SC than PC suggests presence of negative externality.

55. D Government uses subsidy in order to increase provision of goods that generate positive externalities. Thus options **A** & **B** are ruled out. A subsidy benefits the most when PED > 1 because it causes price to fall and a proportionately larger increase in consumption.

56. C Positive externalities refer to external benefits that exist when SB > PB, Option **A** measures net private benefits/cost while **B** suggests negative externalities (PB > SB) while option **C** is irrelevant.

57. B A project is approved when it generates net social benefits (SB > SC). Thus **C** & **D** are cancelled. Option **A** is more likely to be applied by private firms.

58. B Income inequalities refer to the issue of income distribution hence it is not related to efficient allocation of resources as are all other options.

59. Transport economists estimate the price elasticity of demand for private car use is very low.

What would be the most effective way of reducing road traffic congestion?

A banning private cars and lorries from town centres

B introducing a subsidy to lower the price of using bicycles

C introducing road pricing on all main roads

D subsidising public transport such as trains and buses

[N18/P3/Q13]

HELPS to MCQ

59. A A lower PED of using private transport means a tax or subsidy would bring a proportionately smaller fall in number of private cars on roads and hence they will fail to reduce road congestion. In that case a direct control such as putting a ban would help reduce road congestion.

TOPIC 2.1

Efficient Resource Allocation
Externalities and Market Failure
Social Costs and Benefits; Cost-benefit Analysis
Policies to Achieve Efficient Resource Allocation and Correct Market Failure
Government Failure in Microeconomic Intervention

ESSAY Section

LIST OF QUESTIONS

Q1 (J08/P4/Q2)

The government in Namibia stated that electricity prices should cover cost and should also be based on the principle of allocative efficiency.

Discuss whether this approach to pricing can be supported in theory. [25]

Q2 (J08/P4/Q4)

Large firms necessarily become monopolistic. Monopolies adopt practices that are undesirable. Therefore, large firms should be regulated by governments.

Discuss whether there is any truth in this argument. [25]

Q3 (N08/P2/Q3)

(a) Explain the market failure which arises from the characteristics of public goods. [8]

(b) Discuss whether the use of cost-benefit analysis helps to improve economic decision making. [12]

Q4 (N08/P4/Q4)

In India the post is delivered partly by private courier firms and partly by the government-owned India Post. The government is keen to increase its share of the market.

(a) Explain why a government might wish to increase its control over private firms. [10]

(b) Discuss whether an increase in government control necessarily improves efficiency in an organisation. [15]

Q5 (J09/P4/Q7)

A World Bank report in 2007 commented on the continuing need for major spending worldwide on infrastructure on everything from roads and railways to water and electricity generation.

(b) Discuss whether an efficient allocation of resources can be obtained only if large-scale investment is undertaken by the public sector rather than the private sector. [15]

Q6 (J10/P4/Q2)

In 2007 the UK Competition Commission indicated that failure in the market mechanism would result in both winners and losers.

(a) Explain why producers are usually the winners and consumers are usually the losers when the market fails. [12]

(b) Discuss what the government might do when there are losers because the market mechanism has failed. [13]

Q7 (N10/P4/Q2)

In 2009 there were huge fires in Australia which destroyed much property and countryside. The government promised to allocate a large amount of money and resources to help with the restoration of the area.

(a) With the help of diagrams explain what is meant by efficiency in the use of resources. [12]

(b) Discuss the economic implications of the government's approach to the situation. [13]

Q8 (N10/P4/Q7)

Economic analysis states that the aims of the government include economic growth and economic efficiency.

(b) Is economic efficiency better achieved by the market mechanism rather than by government microeconomic policy? [13]

Q9 (J11/P4/Q2)

The use of cars causes market failure. To achieve an efficient use of resources it would be better if governments intervened to affect both the production and the use of cars.

Explain the meaning of the terms 'market failure' and 'the efficient use of resources' and analyse whether economic theory can be used to support this argument. [25]

Q10 (N11/P4/Q2)

(b) Analyse what is meant by economic efficiency and assess whether efficiency is always achieved in a market. [13]

Q11 (J12/P4/Q7)

It is important to achieve economic efficiency in the use of resources. This can only be done if the private sector is increased in size. Government intervention in the economy should, therefore, be minimised.

To what extent do you support this argument? [25]

Q12 (J13/P4/Q7)

The market system is not able to allocate resources efficiently.

Discuss this opinion. [25]

Q13 (N13/P4/Q4)

In the economic recession of 2011 many private sector firms were still able to announce that they were successful and had made substantial profits. Large bonuses were paid to directors and shareholders received large dividends.

Discuss whether it is better for an economy if the allocation of resources is left entirely to the private sector operating through the market system. [25]

Q14 (J14/P4/Q3)

'The profitability of firms is a measure of their efficiency. The higher the profit, the greater the efficiency. High profits should, therefore, be encouraged.'

Do you support this argument? [25]

Q15 (J15/P4/Q7)

'The free market is not the way to achieve a sustainable, efficient use of economic resources. Even the famous economist Adam Smith recognised that there was a need for some government involvement.'

Discuss whether government involvement in the economy might overcome the weaknesses of the free market system. [25]

Q16 (J16/P4/Q2)

'Government economic policy is based on the idea that people cannot be trusted to choose what is good for them but instead sometimes choose things that are harmful to themselves or detrimental to the environment (or both). Therefore a free market cannot allocate resources efficiently.'

Do you support this argument? [25]

Q17 (N16/P4/Q2)

It has been said that the aim in the allocation of resources should be to achieve the greatest happiness for the greatest number of people.

Discuss whether economics has anything to say about the best way to maximise welfare from the use of resources. [25]

Q18 (J17/P4/Q7)

The driving force of some governments is to bring the benefits of competition to formerly monopolised markets.

(b) Discuss why competitive markets in the private sector are not always the most efficient means of deciding how to employ a country's resources. [13]

Q19 (N17/P4/Q2)

(a) A country moved from a point within its production possibility curve to a point on its production possibility curve.

Explain what is meant by economic efficiency. Analyse what happened to economic efficiency in that country as a result of this movement. [12]

(b) Discuss whether government intervention in the economy is a necessary and sufficient condition for overcoming inefficiency in resource allocation. [13]

Q20 (J18/P4/Q7)

A free market economy operates to the benefit of both consumer and producer to achieve the most efficient outcome, and therefore there is no role for a government to play in controlling the market.

Consider the extent to which this statement is correct. [25]

Q21 (N18/P4/Q2)

Discuss whether economic efficiency is always achievable in a market economy. [25]

Question 1

The government in Namibia stated that electricity prices should cover cost and should also be based on the principle of allocative efficiency.

Discuss whether this approach to pricing can be supported in theory. [25]

[MB P4 QC]

Essay

The traditional theory of the firm is based on the assumption of profit maximization. Many actions of firms may seem to conflict with this aim and yet could be consistent with economic explanation. At the outset, we deal with the first part of the statement of charging a price that covers costs.

When considering costs it is important to distinguish between the short run and long run. In the short run some costs, namely fixed costs, also called overheads or unavoidable costs, include rent, interest payments and hire purchase repayments. These costs have to be paid even if there is no output produced. Variable costs include payment for raw materials and wages for example. At zero output, variable costs are zero and they rise as output increases. However, in the long run all costs become variable costs.

According to economic theory, in the short run, the firm may continue production if price charged does not cover its average fixed costs. This is because the firm will have to pay its fixed costs even if it produces nothing. It is only when price does not cover average variable costs that the firm stops production. However, in the long run the firm quits if the price charged is below its per unit costs (AC). Hence, pricing to cover costs depends on the time period in consideration.

Also, policies to increase the size of the firm or the firm's share of the market may involve heavy advertising or low prices to the detriment of equating price with the costs. Nevertheless, if this results in the firm becoming larger, with the growing share of the market, the resulting economic power may enable the firm to charge a price consistent with its costs.

Furthermore, not all firms operate with this objective; there is provision in economic theory for alternative aims. For instance, firms in difficult time price their product with the objective of survival and may be prepared to bear loss for the time being. Some other firms may not pursue the objective of profit maximization at all and aim to achieve some alternative objectives such as social welfare. In some cases, government deliberately provides subsidies to the producers of certain products with the aim of improving allocation of resources. In that case, firms may be charging the price below their costs and this is allowed in theory.

Thus, it can be concluded that economic theory is flexible and does provide explanation for a number of alternative pricing policies including the policy of charging a price where firm covers its costs.

Now we address the second part of the statement related to allocative efficiency. According to the principle, the economy is efficient when it allocates right amount of scarce resources to produce right products. Allocative efficiency deemed to exist when the price of the product is equal to its marginal cost of production i.e.

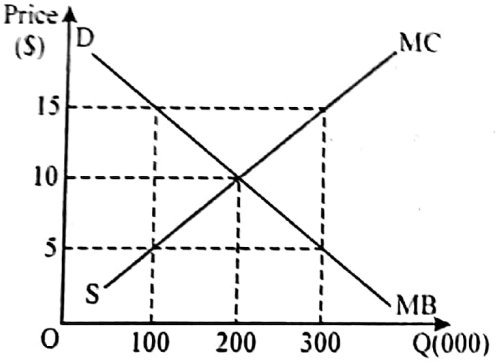
$$P = MC$$

Or

$$MB(MU) = MC$$

According to economic theory any economic activity, for example, production or consumption, should be expanded as long as marginal benefits exceed marginal costs and should be reduced if marginal costs are greater than marginal benefits. The optimal amount of the activity occurs where MB = MC.

Consider an example of compact discs (CD's). As we know that the opportunity costs (MC) of additional units of CD's will rise as more units are produced. This can be shown with an upward sloping MC curve, as given in the figure below. We are also aware of the fact that we obtain diminishing marginal benefits (MB) from additional units of CD's. Therefore, the second unit of a CD yields less additional utility (MU) or benefit (MB) than the first. And a third will provide even less MB than the second. Therefore, we can portray the marginal benefits from CD's with a downward sloping MB curve, as shown in the following figure.



The optimal quantity of CD's production is indicated by the intersection of the MB and MC curves: 200,000 units in the figure above. To prove

this consider, If only 100,000 CD's were produced, the marginal benefit of CD's would exceed its marginal cost (MB>MC). In money terms, MB might be $15, while MC is only $5. This suggests that society would be under-allocating resources to CD production; more of it should be produced.

Since society values an additional CD as being worth $15, while the alternative products which the required resources could produce are worth only $5. Society benefits - it is better off in the sense that it can enjoy, something worth $15 by forgoing something worth only $5. Net gains can be realized until CD production increased to 200,000. A reallocation of resources from other products to CD would mean society is using its resources more efficiently. Each additional CD up to 200,000 would improve allocative efficiency. But when MB = MC, the benefit of producing CD or alternative products with the available resources are equal, i.e. allocative efficiency is achieved.

The production of 300,000 CD's would represent an overallocation of resources. Here the MC of CD is $15 and MB is $5 (MB<MC). At this level a CD is worth only $5 for society whereas the alternative product to which the resources could produce are valued at $15. Therefore, society gains something worth $15 by forgoing something worth $5. Net gains can be realized until CD production can be reduced to 200,000.

Hence resources are being efficiently allocated to any product when its output is such that its marginal benefit equals its marginal cost (MB = MC).

The pricing policy suggested by Namabian government would ensure allocative efficiency but does not guarantee social efficiency. In order to achieve social efficiency resource allocation must take place where marginal social benefits are equal to marginal social costs (MSB = MSC) In other words, in the absence of market failure MB = MC results in general pareto optimality. But in certain cases, the most obvious of them are merit and demerit goods and externalities, MB = MC fails to achieve optimum use of scarce resources. For instance, in the presence of externalities MSB exceed MPB or MSC are higher than MPC.
Hence, MB = MC results in overallocation of resources when negative externalities exceed positive externalities and underallocates resources when positive externalities exceed negative externalities.

In conclusion, charging a price that covers costs results in allocative efficiency but does not necessarily ensure socially optimal level of output.

Question 2

Large firms necessarily become monopolistic. Monopolies adopt practices that are undesirable. Therefore, large firms should be regulated by governments.

Discuss whether there is any truth in this argument.

[25]

[J08/P4/Q4]

Essay

Economists use the term market structure to suggest all the features that affect the behaviour and performance of firms in a market. Whether a large firm adopts competitive or monopolistic behavior depends on the extent to which the individual firm has power to influence market price and the terms on which it sells its product. The more power to influence the market an individual firm enjoys the more monopolistic behaviour it adopts. Alternatively, the higher degree of competition erodes market power of individual firms and makes them to opt for competitive behaviour. Hence, behaviour of a firm is mainly determined by the relative degree of actual and potential competition in an industry rather than the size of the firm alone.

The degree of competition depends on several factors such as number of existing and potential firms, ease of entry and exit and perfect or imperfect knowledge. For instance, there may be small as well as large firms operating in a perfectly competitive environment yet the huge number of sellers and enormity of the market suggest that none will have enough market power to influence the price through its own individual actions. Furthermore, in an imperfectly competitive market such as oligopoly where industry is dominated by a handful of big firms and each firm has enough market power to prevent its being a price taker, but each firm is subject to enough inter-firm rivalry to prevent it from opting monopoly behaviour. On the other hand, even a small sized firm operating as a sole producer of a certain product behaves as a monopolist.

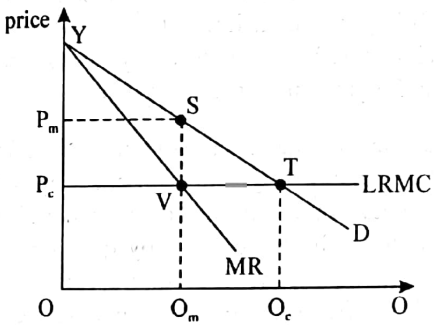
Finally, we can conclude that the behaviour of the firm depends on its size relative to the whole market and not the scale at which the firm operates.

The second part of the question that monopolies adopt practices that are undesirable is also subject to debate. According to economic theory a monopoly exists when there is one firm in the industry. It is characterized by selling a unique product and high entry barriers. Compared with other market structures, demand under monopoly will be

relatively inelastic at each price. This gives monopolist substantial powers to charge a high price. Nevertheless, it is still constrained by its demand curve i.e. a rise in price will lower the quantity demanded. In order for a firm to maintain its monopoly position there must be barriers to the entry of new firms. Barriers can be of various forms. Such as economies of scale, high capital cost, legal barriers and various marketing barriers.

As with firms in other market structure, a monopolist will maximize profit where MR = MC. In figure below profit is maximized at the price pm and output OQm.

As the degree of competition in an industry decreases, for example, a perfectly competitive industry changes into a monopoly the demand curve for the monopolist becomes steeper and less elastic at each price. Firm's power to set price for its product is strengthened unlike perfectly competitive market where the demand curve of an individual firm is perfectly elastic and all firms become price takers.



If there are constant long-run marginal costs the sole seller will face the entire downward-sloping demand curve. The monopolist therefore produces at Qm and charges a price Pm. (MC = MR). We see, then, that a monopolist charges a higher price and produces less than an industry in a competitive situation. Resources are misallocated in such a situation - too few resources are being used in the monopolist's industry and too many are used elsewhere.

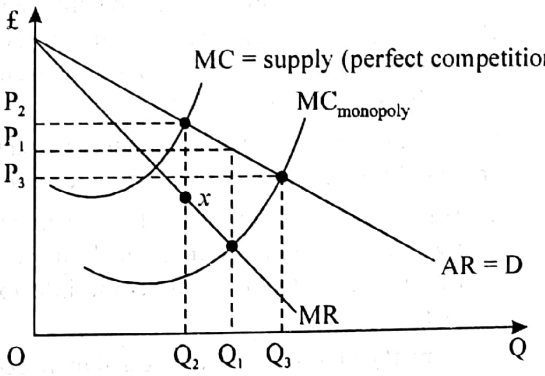
We can extend our analysis further to point out difference in consumer surplus and dead weight loss. In Figure above the area of consumer surplus is YTPc in the case of the perfectly competitive industry. Whereas consumer surplus in a monopoly situation is PmSVPc . The area under the demand curve shrinks to YSPm. The monopolist gains the area psVSpm at the expense of consumers: this area is defined as producer surplus. The triangular area STV is part of consumer surplus in a competitive market. But in monopoly neither consumers nor the monopolist obtain this as a surplus: it is lost to both parties. Thus, it is called the deadweight welfare loss arising from monopolies .

There are at least two additional costs associated with monopoly. One involves the resources used by individuals in order to obtain and maintain monopoly. society also ends up expending resources in preventing monopolies or trying to break them up. The other cost involves possible inefficiencies within the monopoly firm i.e. monopolist is necessarily X-inefficient. The notion that costs are not minimized by effective management is called X-inefficiency.

So far our analysis is based on constant returns to scale. But, of course, if monopolization results in higher marginal cost, then the cost to society is even greater. However, if monopoly results in cost savings, then the cost to society is less.

The monopoly may be able to achieve substantial economies of scale due to larger plant, centralised administration and the avoidance of unnecessary duplication (e.g. a monopoly gas company would eliminate the need for several sets of rival gas pipes under each street). If this results in an MC curve substantially below that of the same industry under competitive market, the monopoly will produce a higher output at a lower **price**. In Figure below the monopoly produces Q_1 at a price of P_1.

Compare this with price p_2 and output Q_2 when market is perfectly competitive (QD=QS). Price will be even higher than this and out put lower than what monopoly produces (MC=MR).



This is possible only when the monopolists' MC curve is below point x. It would benefit the society even more if the monopolist is forced by the government to follow marginal cost pricing (P = MC). The monopolist would charge the price P_3, even lower than P_1 and produce higher output i.e. Q_3 .

Moreover, the monopolist can use part of its supernormal profits for research and development and investment. It thus has a greater ability to become dynamically efficient than has the small firm

with limited funds. Also, a perfectly contestable monopoly earns only normal profits and is as efficient as any other firm operating in a competitive environment.

Finally, society benefits from increasing competition if it leads to cost saving but when competition results in increasing costs then regulated monopoly is preferred.

In general, the arguments against monopolies seem to outweigh any points in favour of monopolies, therefore, it seems pertinent to conclude that monopolies must be regulated to protect consumers and more so for achieving efficiency.

Question 3

(a) Explain the market failure which arises from the characteristics of public goods. [8]

(b) Discuss whether the use of cost-benefit analysis helps to improve economic decision making. [12]

[N08/P2/Q3]

Suggested Answer:

(a) Market failure exists any and every time that a free market left to its own devices and free from any form of government intervention, fails to lead to the best, or optimum use of scarce resources.

One such example is public goods. These are goods or services, which are indivisible, and to which the exclusion principle does not apply and many individuals can jointly consume them simultaneously, at no additional cost.

A good must possess two distinguishing characteristics if it is to be classified as public good:

1. **It must be non-excludible.** There is no effective way of excluding individuals from their benefits once those goods come into existence.
2. **It must be non-rival.** As more and more people consume the product, the benefit to those already consuming the product is not diminished.

Let's consider the example of a proposed project of installing road lights on a busy crossing. The installation would be economically justified if its benefits exceed its cost. But the benefits accruing to one user would not be good enough to justify the purchase of such an indivisible product. Moreover, once the lights are in operation they would be benefiting all users. There would be no practical way to exclude any user from using the lights.

These two features give rise to the free rider problem; people receiving benefits from a good without contributing to its cost. It entails a situation in which everyone believes that others will take on the burden of paying for public goods such as national defense and streetlights. People may wish for the provision of such goods, but the demand may never be registered in the market.

Since the exclusion principle does not apply to these goods, private enterprises have no economic incentive to supply them. Because these goods cannot be priced and sold, it would be unprofitable for a private enterprise to allocate resources to them. So, we have these goods which yield substantial benefits but to which the market would fail to allocate resources. If society requires such goods, they must be provided by the public sector and financed by compulsory charges in the form of taxes.

In conclusion, it can be stated that provision of public goods contributes to a nation's standard of living therefore, there is a very strong case for having the government finance them.

(b) Cost benefit analysis (CBA) provides a framework of appraising major investment proposals which generate important but controversial side effects. It is normally undertaken by government departments, since it involves adding the external costs and benefits to the conventional private costs and benefits.

Economists recommend CBA as a means of identifying the right choices particularly in situations where there is a divergence between private and social benefits and costs. As mentioned above, the CBA approach differs from conventional private sector investment appraisal in two ways. Firstly, CBA is an extended approach as it includes all related costs and benefits to the proposed project, not just private ones. Secondly, CBA involves estimated monetary values where market prices are not available.

We can identify four distinct phases in the development of a cost-benefit analysis. As a first step we need to identify all the related costs and benefits of a proposed project. This includes both private costs and benefits and external costs and benefits. In the second phase, we need to assign monetary value. Where these are not available shadow prices of costs and benefits are used. In the third phase we estimate future costs and benefits and to do so we use statistical forecasting techniques. In

the final phase we arrange all information to reflect the outcome of the whole procedure. The important principle is that if the value of benefits exceeds the value of the costs, then the particular project is desirable since it involves an overall net benefit to the community.

Economists argue that the decision taken on the basis of a complete cost-benefit approach are more comprehensive and therefore more accurate representation of society's welfare.

However, in practice, Cost-benefit analysis has proved to be more difficult to work out. At the first stage there can be a potential disagreement among people as to which costs and benefits should be included. There are particular problems when it comes to determining external costs and benefits. These are often controversial and not easy to explain in clear manners and have the added difficulty that it is not always possible to draw the line in terms of a physical or geographical cut-off. For example, construction of a particular motorway also used by nationals of other countries as a transit facility would have costs and benefits reaching across the borders.

Secondly, a potential disagreement may arise when estimating spillover costs and benefits which are not priced in the market such as noise and human life. Errors in such estimates could affect the viability of a project.

There is also a problem of deciding the cut-off point for externalities and the time horizon. There is always the temptation for interested parties to extend the cut-off point or the time horizon in order to justify particular preferences. Also, CBA is of little importance where political decisions dominate.

Finally, in order to compare the competing projects, we have to reduce them to present values by discounting future costs and benefits. But, there are many different rates of interest.

The theoretical and practical difficulties outlined above weaken CBA's effectiveness as a tool for decision- making.

Nevertheless, CBA provides a rational technique for appraising projects where market information is either non-existent or deficient. But, it must not make false claims for objectivity by dealing in precise sums. While it is an aid to decision-making, it is not a substitute for it. Its role is to present systematically all the information relevant to a decision, indicating the weight which can be placed on the accuracy of the calculations submitted

Question 4

In India the post is delivered partly by private courier firms and partly by the government-owned India Post. The government is keen to increase its share of the market.

(a) Explain why a government might wish to increase its control over private firms. [10]

(b) Discuss whether an increase in government control necessarily improves efficiency in an organisation. [15]

[N08/P4/Q4]

Essay:

(a) In a free market economic system, scarce resources are allocated through the price mechanism where the preferences and spending decisions of consumers and the supply decisions of businesses come together to determine equilibrium prices. The free market works through price signals. Day to day, the free market mechanism remains a tremendously powerful device for determining how resources are allocated among competing ends.

However the government may choose to increase its control over private firms largely on the grounds of wanting to change the allocation of resources and achieve what they perceive to be an improvement in economic and social welfare.

The main reasons for increasing control by the government are:

- To correct for market failure.
- To achieve a more equitable distribution of income and wealth.
- To improve the performance of the economy.

Market failure is when free market forces fail to allocate scarce resources efficiently. It often results from consumers suffering from a lack of information about the costs and benefits of the products available in the market place. Government action can have a role in improving information to help consumers and producers value the 'true' cost and/or benefit of a good or service. For instance, compulsory labelling on cigarette packages with health warnings to reduce smoking or improved nutritional information on foods to counter the risks of growing obesity.

These controls are designed to change the "perceived" costs and benefits of consumption for the consumer. They don't have any direct effect on market prices, but they seek to influence "demand" and therefore output and consumption in the long run.

Some industries may require a more direct control because these industries may create substantial external benefits and costs. For instance, an unprofitable railway line may ease congestion on roads or a coal-fired power stations may pollute the atmosphere and cause acid rain. If these industries are controlled by government, the decision making will take account of externalities and hence improve social efficiency. Also some industries require extensive planning and coordination to avoid wasteful usage of scares resources. For instance decisions in the coal, electricity, gas and oil require coordination in order to optimize the use of these exhaustible resources. Government control of these industries will ensure that effective coordination is maintained and the decisions are made in public interest.

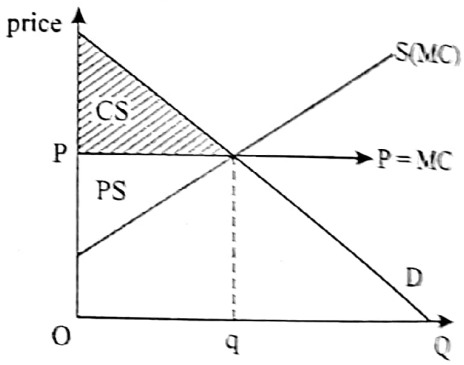
Government control is desirable when market power is concentrated in a small number of firms. In these situations markets are not operating efficiently because firms abuse their market power. For instance, the dominant firm or group of firms, well aware of their market power, might charge prices that are considerably higher than the marginal cost of production. This leads to an allocatively inefficient use of resources. Price is also unlikely to equal minimum average cost, which leads to productive inefficiency. Furthermore, dominant firm may also exploit consumers by offering poor quality product or alternatively may use bundling in which case consumers must buy other products that are associated with their main product. Government can use standards and regulation or financial intervention in the form of price controls. In some cases government may decide that market efficiency is best achieved if the product is produced by state-owned firms.

For reason of equity certain loss making services could be provided. For instance it could be argued that rural bus services should be kept operating at cross-subsidised prices and that certain needy people should be charged lower prices. This is easier to achieve when the industry is controlled by government. Also at times government may wish to control ailing industries not only to protect jobs in those industries but also in other related industries and in the local community. Certain other industries such as weapons manufacturing are controlled by governments to ensure that they operate in the interest of the country.

Lastly, government may wish to hold certain key industries under control in order to make it easier to manage the economy. For instance, governments could attempt to restrain wages and keep the price increase small as a way of controlling inflation.

(b) Economic efficiency generally relates to how well an economy allocates scarce resources to satisfy maximum wants of consumers. It occurs when society is using its scarce resources to produce the highest possible amount of goods and services. Economic efficiency entails allocative and productive efficiency.

An economy is said to achieve allocative efficiency when right amount of scarce resources are allocated to produce right products. In other words allocative efficiency occurs when the value that consumers place on a good or service (price) equals the cost of the resources (marginal cost) used up in production. The technical condition required for allocative efficiency is that price = marginal cost. When this happens economic welfare measured in terms of consumer and producer surplus is maximized. The graph below illustrates allocative efficiency.



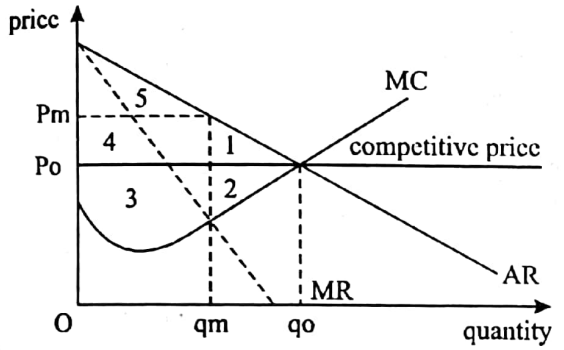
Situations where either P > MC or P < MC imply inefficient allocation of resources. P > MC indicates that fewer resources have been allocated than what are required to achieve perfect allocation whereas P < MC signifies that too many resources have been allocated for the production of particular products.

Productive efficiency refers to firms' costs of production and can be applied both to the short run and long run. Productive efficiency exists when producers minimize the wastage of resources in their production process and is achieved when the output is produced at minimum average total cost (ATC).

For an optimal allocation of resources productive efficiency is a necessary but insufficient condition. For instance, there is little point in producing items at lowest cost if they are not the products most valued by consumers. Thus allocative efficiency is also required. Finally it can be stated that any point lying on the PPC is productively efficient however any point on PPC is possibly efficient in terms of allocation of resources.

A failure of the free market and the price mechanism to deliver an allocatively efficient allocation of scarce resources is normally regarded as justification for some form of government involvement in the economy. This involvement is designed to correct market failure and achieve an improvement in economic and social welfare. Hence the quest for efficiency provides rationales for increasing government control of inefficient organizations. Government can intervene by introducing competition policy or alternatively public ownership or economic regulation of privately owned firms can be used.

A simple efficiency analysis of a perfectly competitive market and a monopoly is useful in determining the role of government. This is illustrated in the graph below:



A perfectly competitive firm produces qo output and would sell this at op. The resulting consumer surplus would be the sum of areas 1,4 and 5. When the industry is monopolized, price rises to pm and consumer surplus falls to area 5. Area 4 is surplus that is transferred from consumers to monopolist due to rise in price whereas area 1 and 2 are lost altogether and represent deadweight loss resulting from monopoly and account for its allocative inefficiency.

In addition survival of a firm in the long run under perfect competition requires that it uses the most efficient combination of inputs and techniques. The monopolist, however, sheltered by barriers to entry, can still make large profits even if it is not using the least cost combination of inputs.

The analysis above clearly illustrates that perfect competition is efficient and that monopoly, in general, is not. However it is important to emphasize that perfect competition is a theoretical ideal and is not even closely resembled in most real world markets. Hence there are many circumstances in which there is room for government intervention in order to increase the efficiency of market outcomes.

The clearest case is of natural monopoly-an industry in which scale effects are so dominant that there is room for at most one firm to operate at the minimum efficient scale. They are found mainly in public utilities, such as electricity transmission, cable television and local telephone services. It is argued that such industries must be controlled or regulated by government to reduce inefficiencies.

Whether the government owns or merely regulates such organizations, the pricing policy is determined by the government. The firms are typically required to follow a pricing policy that conflicts with their goal of profit maximization. When government dictates that the dominant organizations set prices equal to marginal cost. In principle atleast marginal cost pricing induces the allocatively efficient level of output. However, it is difficult to regulate the firms as marginal cost cannot be measured with precision. Also a natural monopoly, when producing the allocatively efficient level of output, may be operating on the downward sloping portion of its ATC curve. Consequently price will be less than average total cost leading to productive inefficiency. Similarly if the firm operates where firms ATC curve is below its MC curve marginal cost pricing will lead to productive inefficiency as price is higher than per unit cost.

Alternatively, as part of competition policy, government can prevent the merger of companies that would potentially lead to one large organization that is likely to dominate the market or else government can remove any artificial barriers that have allowed certain firms to dominate the market.

However the critics argue that government intervention does not always improve efficiency. They believe that the pursuit of self interest, limited information and tendency to look for quick fixes among politicians can result in a further loss of allocative and productive efficiency. Even with good intentions governments seldom get their policy application correct. They can tax, control and regulate but the eventual outcome may be a deepening of the market failure or even worse a new failure may arise.

In conclusion a well thought-out government involvement may improve allocative efficiency in certain industries but it is difficult to calculate with precision. But government involvement is less likely to improve productive efficiency, particularly in industries where unprofitable services are provided.

Question 5

A World Bank report in 2007 commented on the continuing need for major spending worldwide on infrastructure on everything from roads and railways to water and electricity generation.

(b) Discuss whether an efficient allocation of resources can be obtained only if large-scale investment is undertaken by the public sector rather than the private sector. [15]

[J09/P4/Q7(b)]

Essay

(b) The term efficiency in economics is to do with using scarce resources in the most effective way possible to meet the highest possible level of infinite wants. The best possible use of resources implies that two different types of efficiency are being achieved, namely productive and allocative efficiency. Productive efficiency is to do with using least possible scarce resources to produce any particular product hence it entails that production takes place at the lowest possible cost. Whereas allocative efficiency refers to the apportionment of scarce resources among firms and industries to obtain the production of the products most wanted by society.

Productive efficiency does not ensure efficient allocation of resources however productive efficiency must be used to provide society with the "right goods", the goods consumers most want. There would be little merit in an economy that produced many products at very low cost that nobody particularly wanted and yielded little satisfaction.

In order to locate the efficient point on an economy's production possibility curve economists recommend marginal analysis i.e. marginal benefit and marginal cost of producing each product. At the outset we need to understand that the price of a product reflects marginal benefit derived from the good whereas society's sacrifice of goods that could have been produced instead represents marginal cost. Hence it follows that in an economy efficient allocation of resources takes place when, for each good produced, its marginal cost of production is equal to the value that people place (p) on the last unit of the same product i.e. P = MC.

A large-scale investment on infrastructure building programme, proposed by the World Bank, will have dynamic and far reaching effects on the level of economic activities in an economy. Usually these types of programmes are designed to consolidate the basis with which the economic activities can be integrated in future. For instance, with the availability of roads and railway network, speedy and timely transportation is made possible, therefore, shortages and surpluses in commodities and labour markets are quickly removed. Thus a well developed infrastructure is essential for efficient working of markets.

Whether large scale investment by the private sector on infrastructure can prove to be allocatively efficient depends on the level of competition in industries. If industries operate in a perfectly competitive environment where profit motivated firms produce each good or service to the point where price (marginal benefit) and marginal cost are equal, society's resources are allocated efficiently. The competitive system not only maximizes profits for individual producers but simultaneously results in a pattern of resource allocation which maximizes consumer satisfaction. The invisible hand thus organizes the private interests of producers in a way that is fully in accord with society's interest in allocating scarce resources efficiently.

However there are industries in which the degree of competition may be low. The clearest case is of natural monopoly — an industry in which scale effects are so dominant that there is room for at most one firm to operate at the minimum efficient scale. They are found mainly in public utilities, such as electricity transmission, cable television and local telephone services. One response to such industries is for government to assume ownership of the single firm and invest. In these cases government appoints managers and directors who are supposed to set prices where efficient allocation of resources is achieved. Another response to this is to allow private ownership but to regulate the behaviour of monopolist.

But the opponents of government involvement in large scale infrastructural building programme argue that even with good intentions governments seldom get their policy application correct. The pursuit of self-interest amongst politicians and civil servants can often lead to a misallocation of resources. For example decisions about where to build new road and railway network may be decided with at least one eye to the political consequences. The pressures of a looming election or the influence exerted by special interest groups can foster an environment in which inappropriate spending decisions are made. - e.g. boosting welfare spending in the run up to an election, or bringing forward major items of capital spending on infrastructural projects without the projects being

subjected to a full and proper cost-benefit analysis. Often a government will choose to go ahead with a project or policy without having the full amount of information required for a proper cost-benefit analysis. The result can be inefficient allocation of resources and damaging long-term consequences.

Whether the government owns or merely regulates such organizations, the pricing policy is determined by the government. The firms are typically required to follow a pricing policy that conflicts with their goal of profit maximization. When government dictates that the dominant organizations set prices equal to marginal cost. In principle at least marginal cost pricing induces the allocatively efficient level of output. However, it is difficult to regulate the firms as marginal cost cannot be measured with precision.

Question 6

In 2007 the UK Competition Commission indicated that failure in the market mechanism would result in both winners and losers.

(a) Explain why producers are usually the winners and consumers are usually the losers when the market fails. [12]

(b) Discuss what the government might do when there are losers because the market mechanism has failed. [13]

[J10/P4/Q2]

Essay

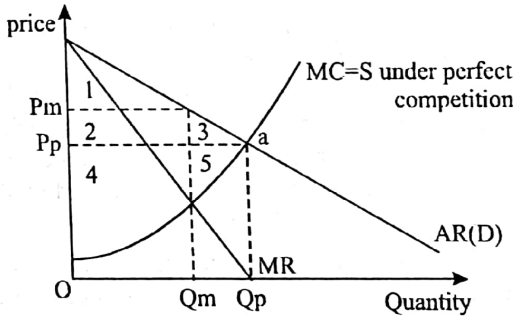
(a) Market mechanism is the means by which decisions of consumers and businesses interact to determine the allocation of scarce resources between different goods and services. It is based on the theme that market forces of demand and supply are a very effective mechanism for coordinating decisions of millions of consumers and produces. The essence of market forces is that the price is determined where demand equals supply and thus resources are allocated in the optimal manner, That is, prices would equal marginal cost for all products, a necessary condition for allocative efficiency. Also firms keep production costs as low as possible to obtain highest profit margin hence, productive efficiency will occur. Such results, however, can only be obtained with perfect markets and perfect information.

Market forces do all the good things that we have discussed; yet there are many situations in which these forces do not produce the best outcomes. In these cases we say that markets have failed.

Market failure exists when the competitive outcome of markets is not efficient from the point of view of society as a whole. The result is a loss of economic and social welfare. This is usually because the benefits that the free-market confers on individuals or businesses carrying out a particular activity diverge from the benefits to the society as a whole.

We now examine the situations in which the market forces fail to achieve optimum allocation of scarce resources.

The first of these situations occurs when firms facing downward sloping demand curves-whether a monopoly or firms in an imperfect market - will maximize profits at an output where price exceeds marginal cost, hence leading to an inefficient allocation of scarce resources. This is shown in the graph below:



Under perfect competition the price is determined by market demand and supply forces, hence Pp is the market price and the industry will sell Qp output. The industry is said to achieve allocative efficiency because P = MC. On the other hand a monopolist, for instance, will produce where MC=MR. Thus it produces Qm output and will sell this at Pm price. Clearly the monopolist produces where MC < P, hence inefficient allocation of resources. Thus the firm with market power uses fewer resources and produces less output than the perfectly competitive industry. Also this lack of competition reduces welfare of consumers because they have a little choice available. So, overall society will be worse off.

When it comes to find out who wins and who loses in this particular situation we need to analyse consumer and producer surplus. Consumer surplus is the area between the price and demand curve i.e. areas 1+2+3 when the market is perfectly competitive. Producer surplus is the area between the price and MC. i.e. areas 4+5 in perfect market. In a mo-

nopoly situation the consumer surplus is only area 1 i.e. loss of surplus by the areas 2+3. Thus consumers are the losers. Monopolist's producer surplus is areas 2+4. This is clearly a larger surplus than under perfect competition because area 2 is larger than area 5, thus monopolist gains.

Besides this, monopoly has resulted in a loss of total surplus of areas 3+5. This is known as deadweight loss of monopoly and reduces the welfare of the whole society.

Besides imperfect markets, the existence of externalities also causes market forces to fail to allocate resource at socially optimum level. An externality occurs whenever actions by firms or consumers impose costs or confer benefits on others that are not involved in the transaction. The essence of the problem created by externalities is that market forces will lead to either too little or too much production. With a positive externality, a competitive free market will produce too little of the good and with a negative externality it produces too much of the good. Thus the presence of externalities, even when all markets are perfectly competitive, leads to allocatively inefficient outcomes.

Firms win again because the market forces fail to take account of external costs imposed on society and therefore, the producers get away without paying external costs. People who get affected by the decisions of firms are losers.

Another important cause of market failure is imperfect information. The reason for this is that party to a transaction can often take an advantage by shifting costs onto the other party. The other party loses because they do not have the same information. More generally, whenever either party to a transaction lacks information that the other party has, or is deceived by false claims, the outcome of market forces changes and these changes may lead to inefficiency.

Merit and demerit goods are a clear case of imperfect information. Consumers don't perceive quite well how good or bad a particular product is for them: either they do not have the right information or they simply lack some relevant information. The problem is that their existence will cause market forces to lead to an inappropriate amount of the product being produced or consumed. In this case as well the producers usually have more information of the effects than consumers therefore consumer are usually seen to make inappropriate consumption, thus they lose.

(b) The role of the government is to intervene in markets that are not seen to be allocating resources in the most efficient manner. Government policy and methods of intervention can be summarized under four broad headings: regulation, financial intervention, direct provision and improving information. The method chosen will depend to a large extent on its effectiveness under the given circumstances.

The government uses a large number of methods of regulation as a means of controlling a market. Legal and other methods are used to control the quality and quantity of goods and services that are under and over produced by the market forces. For example, the government may regulate the sale of certain drugs by making them only available on prescription from a qualified doctor. Hygiene laws set standards for the production of foods. There may be controls on shop opening hours or the setting of a minimum age at which a person can buy certain products, such as alcohol, cigarettes and lottery tickets. Other forms of regulation may include the requirement for an individual to purchase an insurance policy before being legally permitted to drive a car, the age at which people are required to attend school and the payment of social insurance contributions.

Regulation may not only apply to the quantity and quality of goods and services sold but may also refer to prices. Examples of price controls include minimum wage legislation and rent controls.

Finally, the government has powers to control abuse of monopoly power through regulatory organisations such as the Competition Commission (CC) or bodies set up to investigate and regulate production and pricing policies by monopolies particularly in public utilities such as telecommunications, water, electricity and gas. The laws of competition policy act against examples of price-fixing cartels or other forms of anti-competitive behaviour by firms within markets. Regulation may be used to introduce fresh competition into a market – for example breaking up the existing monopoly power of a service provider. This is known as market liberalisation. Apart from being costly their effectiveness depends on administrative control of the authorities. Administratively weak governments will not be able to achieve the desired objectives.

Financial tools, such as taxes or subsidies, are also frequently used by governments to influence production, prices of commodities.

Financial intervention means the use of indirect tax and subsidy to achieve optimum allocation of resources. Indirect taxes such as changes in VAT and excise duties can be used to raise the price of

demerit goods and products with negative externalities. This is particularly designed to increase the opportunity cost of consumption and thereby reduce consumer demand towards a socially optimal level.

Subsidies to consumers will lower the price of merit goods such as grants to students to reduce the internal costs of staying on in full-time education. They are designed to boost consumption and output of products with positive externalities. While a subsidy to businesses causes an increase in market supply and leads to a lower equilibrium price and higher quantity. The effectiveness of taxes and subsidies depends on the price elasticity of demand and supply.

In addition to providing the finance it is also possible for a government to take over the production of a good or service, either in whole or in part. State-owned industries are often referred to as nationalized industries such as the electricity, coal mining and railway industries are entirely owned and managed by the state in many countries. It is also very common to find some goods and services being produced by both the state and the private sectors. Education and health care are particularly good examples of these types of service.

Often market failure results from consumers suffering from a lack of information about the costs and benefits of the products available in the market place. Government action can have a role in improving information to help consumers and producers value the 'true' cost and/or benefit of a good or service.

Examples might include compulsory labeling on cigarette packages with health warnings to reduce smoking or else improved nutritional information on high-fat foods to counter the risks of growing obesity.

These programmes are designed to change the "perceived" costs and benefits of consumption for the consumer. They don't have any direct effect on market prices, but they seek to influence demand and therefore the level of final output and consumption.

In conclusion government can use any and all of the measures discussed above in order to improve allocation of resources. The choice depends on the objective and the relative effectiveness of different measures in the given situation.

Question 7

In 2009 there were huge fires in Australia which destroyed much property and countryside. The government promised to allocate a large amount of money and resources to help with the restoration of the area.

(a) With the help of diagrams explain what is meant by efficiency in the use of resources. [12]

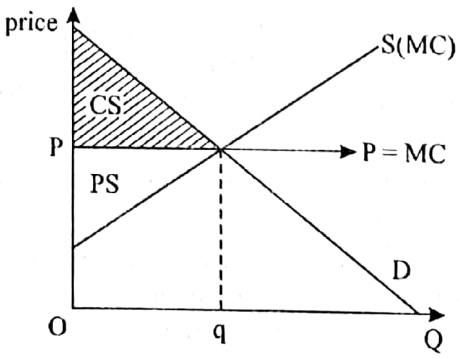
(b) Discuss the economic implications of the government's approach to the situation. [13]

[N10/P4/Q2]

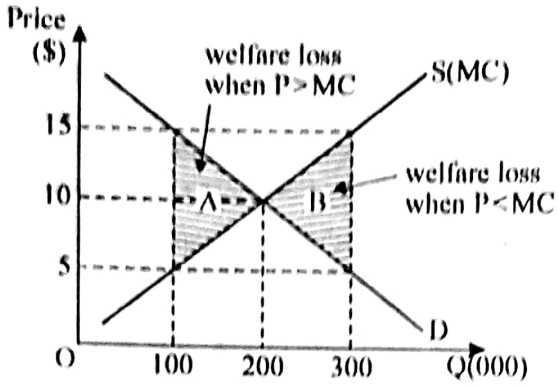
Essay

(a) Economic efficiency generally relates to how well an economy uses its scarce resources to satisfy maximum wants of consumers. It occurs when society is using its scarce resources to produce the highest possible amount of goods and services. When economists use the term efficiency they actually mean allocative and productive efficiency.

An economy is said to achieve allocative efficiency when right amount of scarce resources are allocated to produce right products. In other words allocative efficiency occurs when the value that consumers place on a good or service (price) equals the cost of the resources (marginal cost) used up in production. The technical condition required for allocative efficiency is that price = marginal cost. When this happens economic welfare measured in terms of consumer and producer surplus is maximized. The graph below illustrates allocative efficiency.



The optimum allocation of resources is where QD = QS, producing an output oq at price op. So the equilibrium in the market implies P = MC, hence, generating maximum possible amounts of consumer and producer surplus with the given supply and demand curves. Situations where either P > MC or P < MC imply inefficient allocation of resources as illustrated in the graph below.

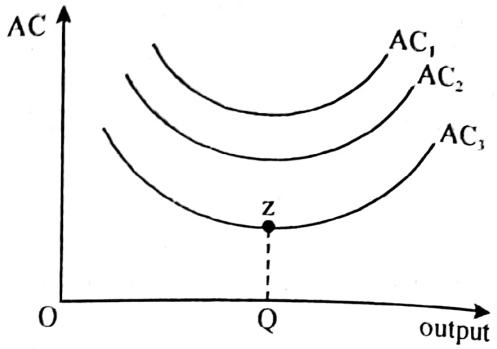


P > MC indicates that fewer resources have been allocated than what are required to achieve perfect allocation. To prove this, consider if only 100,000 units were produced, the price would exceed its marginal cost. In money terms, price might be $15, while MC is only $5. This suggests that society would be under-allocating resources to the production; more of it should be produced. Each additional unit up to 200,000 would increase both consumer and producer surplus indicated by triangle A, hence would improve allocative efficiency. But when P = MC, the benefit of producing this product and alternative products with the available resources are equal, i.e. allocative efficiency is achieved.

On the other hand P < MC signifies that too many resources have been allocated for the production of this product. In the graph above the production of 300,000 units would represent an over allocation of resources. Here the MC is $15 and price charged might be $5. At this level a unit is worth only $5 for society whereas the alternative product which the same resources could produce is valued at $15. Hence the shaded triangle B represents welfare loss in terms of consumer and producer surplus from the alternative product. Therefore net gains can be realized until production can be reduced to 200,000.

Hence resources are being efficiently allo-cated to any product when its output is such that its price equals marginal cost.

Productive efficiency refers to firms' costs of production and can be applied both to the short run and long run. Productive efficiency exists when producers minimize the wastage of resources i.e. when they produce a product using the least possible resources or generating the lowest possible per unit cost. The graph below shows this.



In the figure above AC_3 indicates productive efficiency. This means that the lowest possible cost techniques of production are being used to produce different level of output. All other curves above AC_3 indicate higher per unit cost hence represent productive inefficiency. The firm is said to be producing at the optimum level when production occurs at the lowest point indicated by point z on the lowest average cost curve. Economists use the term technical efficiency for this point.

For an optimal allocation of resources productive efficiency is a necessary but insufficient condition. For instance, there is little point in producing items at lowest cost if they are not the products most valued by consumers. Thus allocative efficiency is also required. Finally it can be stated that any point on the PPC is necessarily productively efficient however a point on PPC is possibly efficient in terms of allocation of resources.

(b) Restoration of fire-stricken areas would require considerable resources to be diverted from elsewhere. Its economic implications depend on the amount of resources required to restore these areas. However, whatever the amount of resources needed they have to come from somewhere and would definitely strain government's budget.

A budget is an estimation of how much revenue government expects to receive and how much money it expects lo pay out, and with the expected balance between the two. The government's current receipts are revenues from taxes, and from anything that it sells. Government's current outlays include the funds that it spends. A budget deficit in any one-year is where government's expenditure exceeds its revenue from taxation. A budget surplus is where tax revenues exceed central government expenditure.

Australian government will have to allocate a considerable amount of resources on restoration program and therefore will have to raise finances. The magnitude of the restoration work would certainly require the government to raise more money through increasing taxation. But if the tax rates are

already too high and the economy is going through a lean economic period then it might not be possible. Besides this higher tax rates discourage investment and can cause an increase in outflow of much needed capital for economic progress.

The other options include either a diversion of resources from elsewhere or funds generation through borrowing or both. Diversion of resources to the devastated areas means a cut back in spending on say other development projects, welfare payments or defense. There is thus an opportunity cost involved in terms of sacrificing say a construction of dams, new schools and hospitals, modernization of armed forces or anything that could have been produced from the same resources.

The other option for the Australian government is to borrow funds by making a deficit budget. If the government's budget is in deficit, the shortfall must be made up by borrowing funds. Thus the Australian government deficit has to be matched by an equivalent amount of government borrowing. This new borrowing would add to the country's national debt which is the total of outstanding government debt. The government may borrow funds from two main sources. First, it may borrow from the private sector. Both households and private-sector banks lend money to the government by buying Treasury bills and government stocks. Second, the government may borrow money from the central bank. Borrowing from general public is not inflationary but it increases interest rate and therefore discourages investment by crowding out the private sector. However borrowing from other sources would increase money supply and therefore would be inflationary.

A positive outcome of such a large scale restoration program is that it might create much needed jobs for the unemployed which will not only increase incomes of the newly employed but will have a multiple effect on Australian GDP.

So far as the impact on trade balance is concerned it depends on whether the restoration program uses domestic resources or the country imports resources such as capital, labour and raw material. It might worsen trade balance if Australia imports the required resources.

Finally the issue of efficiency will be of interest for many. This means how efficiently the restoration work is done. Public enterprises are usually criticized for inefficiencies whereas private sector is believed to use resources more efficiently. Therefore it can be argued that efficiency level will depend on whether the work is contracted out to the private sector or simply this task is assigned to the public enterprises.

Thus it can be concluded that a widespread restoration program will have important economic implications on the overall outlook of Australian economy.

Question 8

Economic analysis states that the aims of the government include economic growth and economic efficiency.

(b) Is economic efficiency better achieved by the market mechanism rather than by government microeconomic policy? [13]

[N10/P4/Q7(b)]

Essay

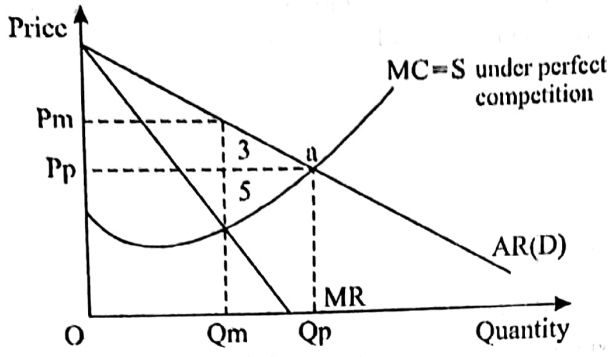
(b) Market mechanism is the means by which decisions of consumers and businesses interact to determine the allocation of scarce resources between different goods and services. It is based on the theme that market forces of demand and supply are a very effective mechanism for coordinating decisions of millions of consumers and produces. The essence of market forces is that the price is determined where demand equals supply and thus resources are allocated in the optimal manner, That is, prices would equal marginal cost for all products, a necessary condition for allocative efficiency. Also firms keep production costs as low as possible to obtain highest profit margin hence, productive efficiency will occur. Such results, however, can only be obtained with perfect markets and perfect information.

Market forces do all the good things that we have discussed; yet there are many situations in which these forces do not produce the best outcomes. In these cases we say that markets have failed.

Market failure exists when the competitive outcome of markets is not efficient from the point of view of society as a whole. The result is a loss of economic and social welfare. This is usually because the benefits that the free-market confers on individuals or businesses carrying out a particular activity diverge from the benefits to the society as a whole.

The first of these situations occurs when firms facing downward sloping demand curves attempts to maximize profits and produces an output where price exceeds marginal cost, hence leading to an

inefficient allocation of scarce resources. This is shown in the graph below:



Under perfect competition the price is determined by market demand and supply forces, hence Pp is the market price and the industry will sell Qp output. The industry is said to achieve allocative efficiency because P = MC. On the other hand a monopolist, for instance, will produce where MC=MR. Thus it produces Qm output and will sell this at Pm price. Clearly the monopolist produces where MC < P, hence inefficient allocation of resources. Thus the firm with market power uses fewer resources and produces less output than the perfectly competitive industry. Also this lack of competition reduces welfare of consumers because they have a little choice available. Besides this, monopoly has resulted in a loss of total surplus of areas 3+5. This is known as deadweight loss of monopoly and reduces the welfare of the whole society.

Apart from imperfect markets, the existence of externalities also causes market forces to fail to allocate resource at socially optimum level. An externality occurs whenever actions by firms or consumers impose costs or confer benefits on others that are not involved in the transaction. The essence of the problem created by externalities is that market forces will lead to either too little or too much production. With a positive externality, a competitive free market will produce too little of the good and with a negative externality it produces too much of the good. Thus the presence of externalities, even when all markets are perfectly competitive, leads to allocatively inefficient outcomes.

Another important cause of market failure is imperfect information. The reason for this is that party to a transaction can often take an advantage by shifting costs onto the other party. The other party loses because they do not have the same information. More generally, whenever either party to a transaction lacks information that the other party has, or is deceived by false claims, the outcome of market forces changes and these changes may lead to inefficiency.

Merit and demerit goods are a clear case of imperfect information. Consumers don't perceive quite well how good or bad a particular product is for them: either they do not have the right information or they simply lack some relevant information. The problem is that their existence will cause market forces to lead to an inappropriate amount of the product being produced or consumed. In this case as well the producers usually have more information of the effects than consumers therefore consumer are usually seen to make inappropriate consumption, thus they lose.

The role of the government is to intervene in markets that are not seen to be allocating resources in the most efficient manner. Government policy and methods of intervention can be summarized under four broad headings: regulation, financial intervention, direct provision and improving information. The method chosen will depend to a large extent on its effectiveness under the given circumstances. Legal and other methods are used to control the quality and quantity of goods and services that are under and over produced by the market forces.

Financial intervention means the use of indirect tax and subsidy to achieve optimum allocation of resources. Indirect taxes such as changes in VAT and excise duties can be used to raise the price of demerit goods and products with negative externalities. Subsidies to consumers will lower the price of merit goods such as grants to students to reduce the internal costs of staying on in full-time education. In addition to providing the finance it is also possible for a government to take over the production of a good or service, either in whole or in part. State-owned industries are often referred to as nationalized industries such as the electricity, coal mining and railway industries are entirely owned and managed by the state in many countries. It is also very common to find some goods and services being produced by both the state and the private sectors. Education and health care are particularly good examples of these types of service.

Government action can have a role in improving information to help consumers and producers value the 'true' cost and/or benefit of a good or service.

Thus a failure of the free market mechanism to deliver an allocatively efficient allocation of scarce resources is normally regarded as justification for some form of government intervention in the economy. This intervention is designed to correct for instances of market failure and achieve an improvement in economic and social welfare.

Question 9

The use of cars causes market failure. To achieve an efficient use of resources it would be better if governments intervened to affect both the production and the use of cars.

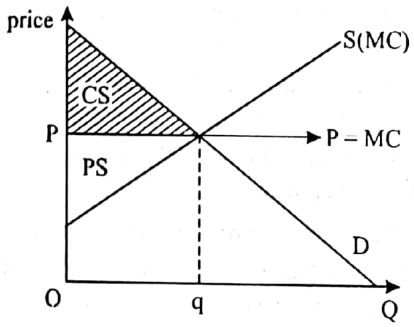
Explain the meaning of the terms 'market failure' and 'the efficient use of resources' and analyse whether economic theory can be used to support this argument. [25]

[J11/P4/Q2]

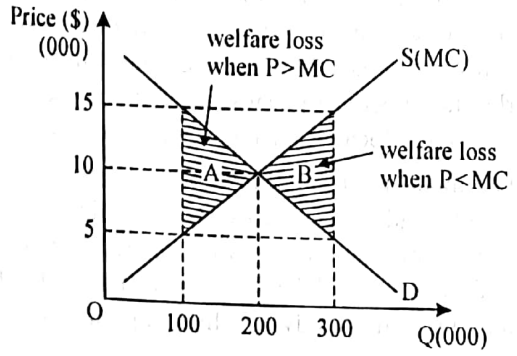
Essay

Efficiency generally relates to how well an economy uses its scarce resources to satisfy maximum wants of consumers. When economists use the term efficiency they actually mean allocative and productive efficiency.

An economy is said to achieve allocative efficiency when right amount of scarce resources are allocated to produce right products. In other words allocative efficiency occurs when the consumer valuation equals the cost of the resources (marginal cost) used up in production of a product. Thus the condition required for allocative efficiency is price = marginal cost. When this happens economic welfare measured in terms of consumer and producer surplus is maximized. The graph below illustrates allocative efficiency.



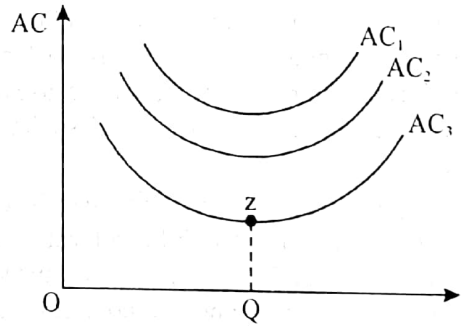
The optimum allocation of resources is where QD = QS, producing an output oq at price op. So the equilibrium in the market implies P = MC, hence, generating maximum possible amounts of consumer and producer surplus. Situations where either P > MC or P < MC imply inefficient allocation of resources as illustrated in the graph below.



At the level of output of 100,000 cars, P > MC. It indicates that fewer resources have been allocated than what are required to achieve perfect allocation i.e. P = MC. Thus each additional car up to 200,000 would increase both consumer and producer surplus indicated by triangle A, hence would improve allocative efficiency. On the other hand P < MC signifies that too many resources have been allocated for the production of cars. In the graph above the production of 300,000 cars would represent an over allocation of resources. Hence the shaded triangle B represents welfare loss in terms of consumer and producer surplus from the alternative product. Therefore net gains can be realized until production can be reduced to 200,000 cars.

Hence resources are being efficiently allocated to any product when its output is such that its price equals marginal cost.

Productive efficiency refers to firms' costs of production and can be applied both to the short run and long run. Productive efficiency exists when producers minimize the wastage of resources i.e., when they produce a product using the least possible resources or generating the lowest possible per unit cost. The graph below shows this.

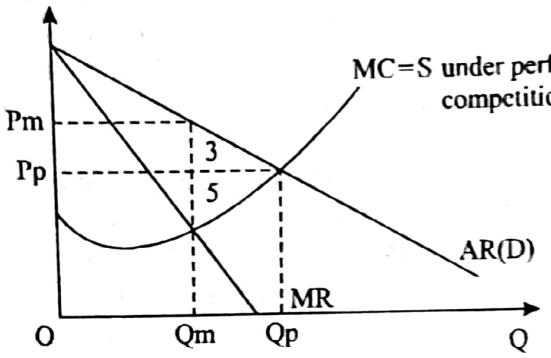


In the figure above AC_3 indicates productive efficiency. This means that the lowest possible cost techniques of production are being used to produce different level of output. All other curves above AC_3 indicate higher per unit cost hence represent productive inefficiency. The firm is said to be producing at the optimum level when production occurs at the lowest point indicated by point z on the lowest average cost curve. Economists use the term technical efficiency for this point.

Market forces do all the good things that we have discussed; yet there are many situations in which these forces do not produce the best outcomes. In the cases we say that markets have failed.

Market failure exists when the competitive outcome of markets is not efficient from the point of view of society as a whole. The result is a loss of economic and social welfare. This is usually because the benefits that the free-market confers on individuals or businesses carrying out a particular activity diverge from the benefits to the society as a whole.

The first of these situations occurs when firms facing downward sloping demand curves – whether a monopoly or firms in an imperfect market – will maximize profits at an output where price exceeds marginal cost, hence leading to an inefficient allocation of scarce resources. This is shown in the graph below:



Under perfect competition the price is determined by market demand and supply forces, hence Pp is the market price and the industry will sell Qp output. The industry is said to achieve allocative efficiency because P = MC. On the other hand a monopolist, for instance, will produce where MC = MR. Thus it produces QM output and will sell this at Pm price. Clearly the monopolist produces where MC < P, hence monopoly results in a loss of consumer and producer surplus shown by the triangular area 3 + 5. Also lack of competition reduces welfare of consumers because they have a little choice available. So, overall society will be worse off.

Besides imperfect markets, the existence of externalities also causes market forces to fail to allocate resource at socially optimum level. An externality occurs whenever actions by firms or consumers impose costs or confer benefits on others that are not involved in the transaction. The essence of the problem created by externalities is that market forces will lead to either too little or too much production. With a positive externality, a competitive free market will produce too little of the good and with a negative externality it produces too much of the good. Thus the presence of externalities, even when all markets are perfectly competitive, leads to allocatively inefficient outcomes.

Another important cause of market failure is imperfect information. The reason for this is that party to a transaction can often take an advantage by shifting costs onto the other party. The other party loses because they do not have the same information. More generally, whenever either party to a transaction lacks information that the other party has, or is deceived by false claims, the outcome of market forces changes and these changes may lead to inefficiency.

Merit and demerit goods are a clear case of imperfect information. Consumers don't perceive quite well how good or bad a particular product is for them: either they do not have the right information or they simply lack some relevant information. The problem is that their existence will cause market forces to lead to an inappropriate amount of the product being produced or consumed.

A distinct type of market failure exists in case of public goods. The issue here is not over and under allocation but weather resources are allocated at all. A good must possess three distinguishing characteristics to qualify as public goods. It must be non-excludible, non-rival and non-rejectable. These features give rise to the free rider problem; people receiving benefits from a good without contributing to its cost. Thus it develops a situation in which everyone believes that others will take on the burden of paying for goods such as national defense and streetlights. People may wish for the provision of such goods, but the demand may never be registered in the market. Since the exclusion principle does not apply to these goods, private enterprises have no economic incentive to supply them. Because these goods cannot be priced and sold, it would be unprofitable for a private enterprise to allocate resources to them. So we have these goods which yield substantial benefits but to which the market would fail to allocate resources.

The role of the government is to intervene in markets that are not seen to be allocating resources in the most efficient manner. Government policy and methods of intervention can be summarized under four broad headings: regulation, financial intervention, direct provision and improving information. The method chosen will depend to a large extent on its effectiveness under the given circumstances.

As explained above, production of cars results in market failure when prices of cars are lower than the opportunity cost of resources used in their production (MC). While the use of private cars can be treated as market failure in that they possibly generate both positive and negative externalities. Positive externalities include less crowded public transport with greater comfort for the users. In addition government generates revenue from taxing the car users which could be used to good effect for the whole society. Negative externalities include pollution from the smoke emission. Also too many cars on roads can cause road congestion and increase the possibility of accidents. In both cases market failures exist because too little or too many resources are allocated through market forces.

Governments are more likely to use financial intervention and regulations in case of over allocation of resources in production and externalities arising from the use of cars. Financial intervention means the use of indirect tax and subsidy to achieve optimum allocation

of resources while the use of regulations entails laws regulating the production and consumption of a good. In general the results of cost benefit analysis in many countries suggests that negative externalities arising from the use of cars heavily outweighs positive externalities therefore they are a case of over allocation. Thus, unlike other positive externalities where subsidies have been used, it has never been suggested that subsidies ought to be used to increase the positive externalities from private car use. Rather any subsidies given are used to make alternative public transport more attractive.

Therefore economic theory suggests that governments need to tax firstly to reduce the production of cars to achieve allocative efficiency; although taxing production might not result in productive efficiency, and secondly to decrease negative externalities in their use. In many economies indirect taxes such as VAT and excise duties are used to raise the prices of cars in order to achieve efficient allocation of resources and higher road tax coupled with stricter regulations are being increasingly introduced in order to achieve socially optimal usage level of cars. These measures are particularly designed to increase the opportunity cost of consumption and thereby reduce consumer demand towards a socially optimal level.

In conclusion it can be said that the economic theory supports the view that production and use of cars can result in market forces to fail in achieving efficient allocation of scarce resources and therefore governments have a role in affecting their production and use to socially optimum level.

Question 10

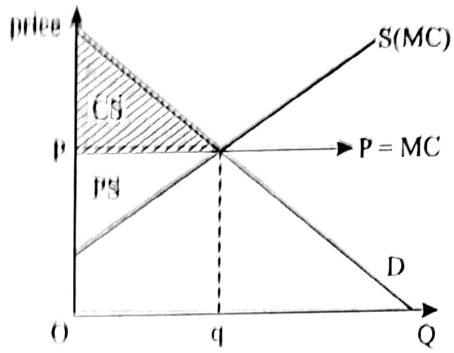
Analyse what is meant by economic efficiency and assess whether efficiency is always achieved in a market. [13]

[N11/P4/Q2(b)]

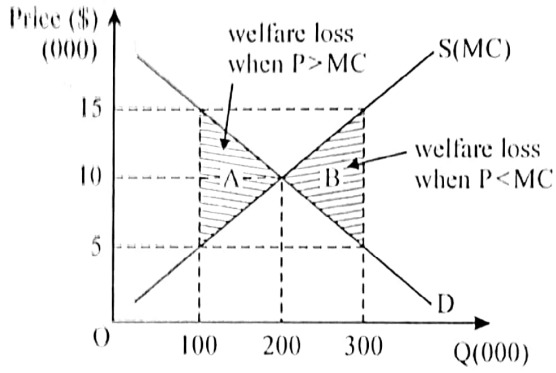
Essay

Efficiency generally relates to how well an economy uses its scarce resources to satisfy maximum wants of consumers. When economists use the term efficiency they actually mean allocative and productive efficiency.

An economy is said to achieve allocative efficiency when right amount of scarce resources are allocated to produce right products. In other words allocative efficiency occurs when the consumer valuation equals the cost of the resources (marginal cost) used up in production of a product. Thus the condition required for allocative efficiency is price = marginal cost. When this happens economic welfare measured in terms of consumer and producer surplus is maximized. The graph below illustrates allocative efficiency.



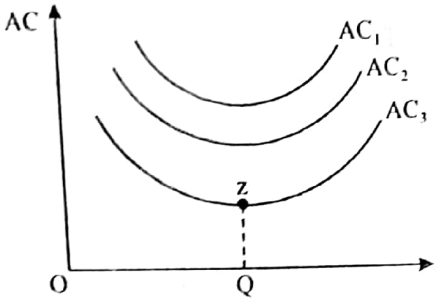
The optimum allocation of resources is where QD = QS, producing an output oq at price op. So the equilibrium in the market implies P = MC, hence, generating maximum possible amounts of consumer and producer surplus. Situations where either P > MC or P < MC imply inefficient allocation of resources as illustrated in the graph below.



At the level of output of 100,000 units, P > MC. It indicates that fewer resources have been allocated than what are required to achieve perfect allocation i.e. P = MC. Thus each additional unit up to 200,000 would increase both consumer and producer surplus indicated by triangle A, hence would improve allocative efficiency. On the other hand P < MC signifies that too many resources have been allocated for the production of this product. In the graph above the production of 300,000 units would represent an over allocation of resources. Hence th shaded triangle B represents welfare loss in terms of consumer and producer surplus from the alternative product. Therefore net gains can be realized until production can be reduced to 200,000 units.

Hence resources are being efficiently allocated to any product when its output is such that its price equals marginal cost.

Productive efficiency refers to firms' costs of production and can be applied both to the short run and long run. Productive efficiency exists when producers minimize the wastage of resources i.e. when they produce a product using the least possible resources or generating the lowest possible per unit cost. The graph below shows this.

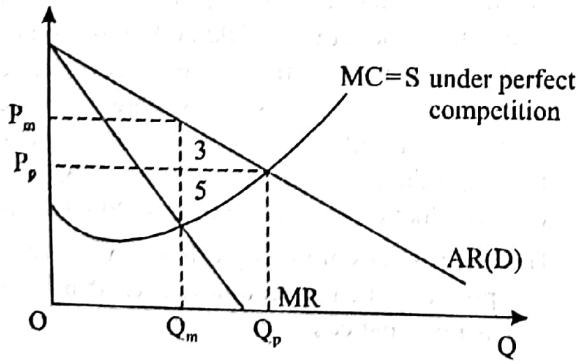


In the figure above AC_3 indicates productive efficiency. This means that the lowest possible cost techniques of production are being used to produce different level of output. All other curves above AC_3 indicate higher per unit cost hence represent productive inefficiency. The firm is said to be producing at the optimum level when production occurs at the lowest point indicated by point z on the lowest average cost curve. Economists use the term technical efficiency for this point.

Market forces do all the good things that we have discussed; yet there are many situations in which these forces do not produce the best outcomes. In these cases we say that markets have failed.

Market failure exists when the competitive outcome of markets is not efficient from the point of view of society as a whole. The result is a loss of economic and social welfare. This is usually because the benefits that the free-market confers on individuals or businesses carrying out a particular activity diverge from the benefits to the society as a whole.

The first of these situations occurs when firms facing downward sloping demand curves – whether a monopoly or firms in an imperfect market – will maximize profits at an output where price exceeds marginal cost, hence leading to an inefficient allocation of scarce resources. This is shown in the graph below:



Under perfect competition the price is determined by market demand and supply forces, hence P_p is the market price and the industry will sell Q_p output. The industry is said to achieve allocative efficiency because $P = MC$. On the other hand a monopolist, for instance, will produce where $MC = MR$. Thus it produces Q_M output and will sell this at P_m price. Clearly the monopolist produces where $MC < P$, hence monopoly results in a loss of consumer and producer surplus shown by the triangular area $3 + 5$. Also lack of competition reduces welfare of consumers because they have a little choice available. So, overall society will be worse off.

Besides imperfect markets, the existence of externalities also causes market forces to fail to allocate resource at socially optimum level. An externality occurs whenever actions by firms or consumers impose costs or confer benefits on others that are not involved in the transaction. The essence of the problem created by externalities is that market forces will lead to either too little or too much production. With a positive externality, a competitive free market will produce too little of the good and with a negative externality it produces too much of the good.

Thus the presence of externalities, even when all markets are perfectly competitive, leads to allocatively inefficient outcomes.

Another important cause of market failure is imperfect information. The reason for this is that party to a transaction can often take an advantage by shifting costs onto the other party. The other party loses because they do not have the same information. More generally, whenever either party to a transaction lacks information that the other party has, or is deceived by false claims, the outcome of market forces changes and these changes may lead to inefficiency.

Merit and demerit goods are a clear case of imperfect information. Consumers don't perceive quite well how good or bad a particular product is for them: either they do not have the right information or they simply lack some relevant information. The problem is that their existence will cause market forces to lead to an inappropriate amount of the product being produced or consumed.

In addition if markets are to work with full efficiency, then labour markets also must function well. Only if labour is fully mobile will labour markets function efficiently. The problem is that labour is often geographically and occupationally immobile. Therefore there persists a mismatch between demand and supply of labour in various occupa-

tions and in different regions. This results in further examples of market failures.

From the above we conclude that markets do not necessarily always achieve efficiency.

Question 11

It is important to achieve economic efficiency in the use of resources. This can only be done if the private sector is increased in size. Government intervention in the economy should, therefore, be minimised.

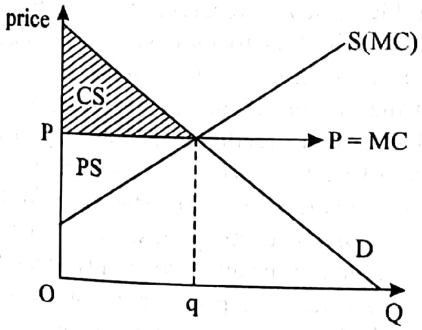
To what extent do you support this argument? [25]

[J12/P4/Q7]

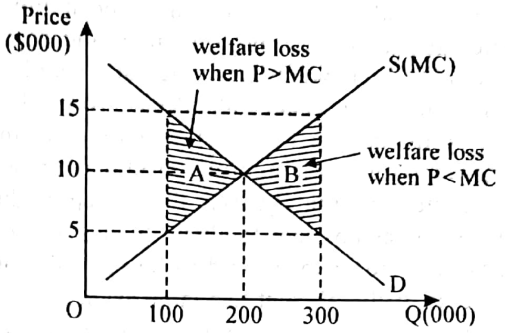
Essay

Efficiency generally relates to how well an economy uses its scarce resources to satisfy maximum wants of consumers. When economists use the term efficiency they actually mean allocative and productive efficiency.

An economy is said to achieve allocative efficiency when right amount of scarce resources are allocated to produce right products. In other words allocative efficiency occurs when the consumer valuation equals the cost of the resources (marginal cost) used up in production of a product. Thus the condition required for allocative efficiency is price = marginal cost. When this happens economic welfare measured in terms of consumer and producer surplus is maximized. The graph below illustrates allocative efficiency.



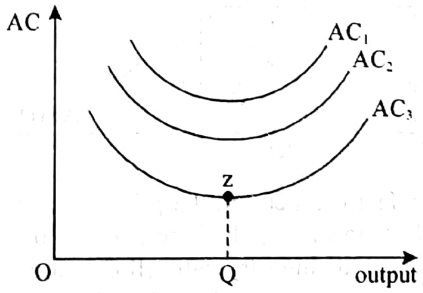
The optimum allocation of resources is where QD = QS, producing an output oq at price op. So the equilibrium in the market implies P = MC, hence, generating maximum possible amounts of consumer and producer surplus. Situations where either P > MC or P < MC imply inefficient allocation of resources as shown in the graph below.



At an output level of 100,000 units, P > MC. It indicates that fewer resources have been allocated than what are required to achieve perfect allocation i.e. P = MC. Thus each additional unit up to 200,000 would increase both consumer and producer surplus indicated by triangle A, hence would improve allocative efficiency. On the other hand P < MC signifies that too many resources have been allocated for the production of this product. In the graph above the production of 300,000 units would represent an over allocation of resources. Hence the shaded triangle B represents welfare loss in terms of consumer and producer surplus from the alternative product. Therefore net gains can be realized until production can be reduced to 200,000 units.

Hence resources are being efficiently allocated to any product when its output is such that its price equals marginal cost.

Productive efficiency refers to firms' costs of production and can be applied both to the short run and long run. Productive efficiency exists when producers minimize the wastage of resources i.e when they produce a product using the least possible resources or generating the lowest possible per unit cost. The graph below shows this.



AC_3 in the figure indicates productive efficiency. This means that the lowest possible cost techniques of production are being used to produce different level of output. All other curves above AC_3 indicate higher per unit cost hence represent productive inefficiency. The firm is said to be producing at the optimum level when production occurs at the lowest point indicated by point z on the lowest average cost curve. Economists use the term technical efficiency for this point.

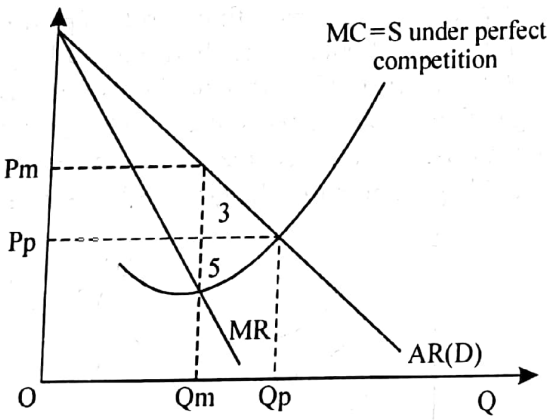
Private sector, without government intervention, operates through market forces of demand and supply.

Consumers indicate their willingness and ability to buy particular products through demand and firms, responding to their wishes, produce and supply those goods. Thus the decisions about what to produce are made by the people who will actually consume the goods, therefore, community's productive resources are allocated accordingly. Also firms keep production costs as low as possible to obtain highest profit margin. So, private sector is said to be both allocatively and productively efficient to a large extent.

Though market forces do all the good things yet there are many situations in which these forces do not produce the best outcomes. In these cases we say that markets have failed to operate efficiently.

Market failure exists when the competitive outcome of markets is not efficient from the point of view of society as a whole. The result is a loss of economic and social welfare. This is usually because the benefits that the free-market confers on individuals or businesses carrying out a particular activity diverge from the benefits to the society as a whole.

The first of these situations occurs when firms facing downward sloping demand curves - whether a monopoly or firms in an imperfect market - will maximize profits at an output where price exceeds marginal cost, hence leading to an inefficient allocation of scarce resources. This is shown in the graph below:



Under perfect competition the price is determined by market demand and supply forces, hence Pp is the market price and the industry will sell Qp output. The industry is said to achieve allocative efficiency because P = MC. On the other hand a monopolist, for instance, will produce where MC = MR. Thus it produces QM output and will sell this at Pm price. Clearly the monopolist produces where MC < P, hence monopoly results in a loss of consumer and producer surplus shown by the triangular area 3 + 5. Also lack of competition reduces welfare of consumers because they have a little choice available. So, overall society will be worse off.

Besides imperfect markets, the existence of externalities also causes market forces to fail to allocate resource at socially optimum level. An externality occurs whenever actions by firms or consumers impose costs or confer benefits on others who are not directly involved in the transaction. The essence of the problem created by externalities is that market forces will lead to either too little or too much production. With a positive externality, a competitive free market will produce too little of the good and with a negative externality it produces too much of the good. Thus the presence of externalities, even when all markets are perfectly competitive, leads to allocatively inefficient outcomes.

Another important cause of market failure is imperfect information. The reason for this is that party to a transaction can often take an advantage by shifting costs onto the other party. The other party loses because they do not have the same information. More generally, whenever either party to a transaction lacks information that the other party has, or is deceived by false claims, the outcome of market forces changes and these changes may lead to inefficiency.

Merit and demerit goods are a clear case of imperfect information. Consumers don't perceive quite well how good or bad a particular product is for them: either they do not have the right information or they simply lack some relevant information. The problem is that their existence will cause market forces to lead to an inappropriate amount of the product being produced or consumed.

A distinct type of market failure exists in case of public goods. The issue here is not over and under allocation but weather resources are allocated at all. A good must possess three distinguishing characteristics to qualify as public goods. It must be non-excludible, non-rival and non-rejectable. These features give rise to the free rider problem; people receiving benefits from a good without contributing to its cost. Thus it develops a situation in which everyone believes that others will take on the burden of paying for goods such as national defense and streetlights. People may wish for the provision of such goods, but the demand may never be registered in the market. Since the exclusion principle does not apply to these goods, private enterprises have no economic incentive to supply them. Because these goods cannot be priced and sold, it would be unprofitable for a private enterprise to allocate resources to them. So we have these goods which yield substantial benefits but to which the market would fail to allocate resources.

In conclusion it can be stated that private sector on its own cannot achieve economic efficiency in all different areas of an economy and therefore, market failures, in particular, provide a justified economic role for government. However, government intervention in excess of market failures could hamper the efficient role of markets and might create further inefficiencies.

Question 12

The market system is not able to allocate resources efficiently.

Discuss this opinion. [25]

[J13/P4/Q7]

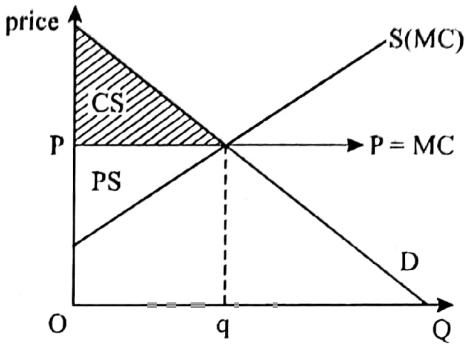
Essay

Owing to the basic economic problem of scarce resources and unlimited wants, all societies must make choices. These choices involve allocation of scarce resources among alternative uses to achieve given ends. Resources are typically called factors of production. They include land, labour, capital and enterprise. These are all inputs used in the production of all those goods and services that we want.

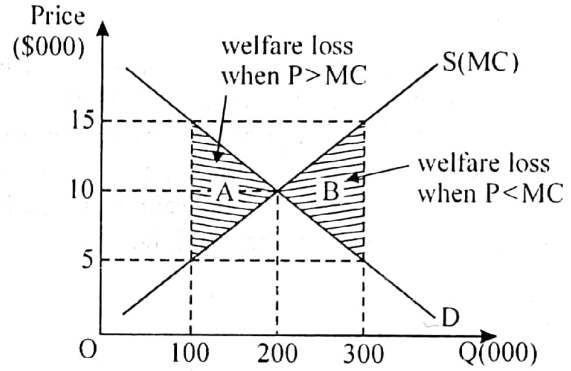
A market system is associated with the capitalist ideology where all resources are privately owned. Hence all economic decisions are made by individual households and firms who act in their own self interest. The essence of a market system is price mechanism, often quoted as "invisible hand". Operating on its own, without government intervention, price mechanism allocates resources through million of decisions taken each day by consumers and businesses. This system operates through signaling where a rise or fall in prices eliminates shortages and surpluses. This means that market prices will automatically adjust to where resources are required and where they are not required. Thus resources are allocated and reallocated according to the preferences of consumers and therefore consumers are said to be sovereign. So it is believed that apparently chaotic system of millions of transactions would not only allocate resources but it would do it efficiently.

Efficiency, on the other hand, generally relates to how well an economy uses its scarce resources to satisfy maximum wants of consumers. When economists use the term efficiency they actually mean allocative and productive efficiency.

An economy is said to achieve allocative efficiency when right amount of scarce resources are allocated to produce right products. In other words allocative efficiency occurs when the consumer valuation (P) of a product equals the cost of resources (marginal cost) used up in its production. Thus the condition required for allocative efficiency is p = MC. When this happens economic welfare measured in terms of consumer and producer surplus is maximized. The graph below illustrates allocative efficiency.

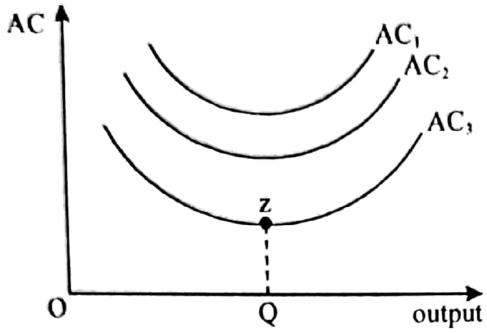


The optimum allocation of resources is where QD = QS, producing an output Oq at price Op. So the equilibrium in the market implies P = MC, hence generating maximum possible amounts of consumer and producer surplus. A situation where either P > MC or P < MC implies inefficient allocation of resources. Following graph illustrates these cases.



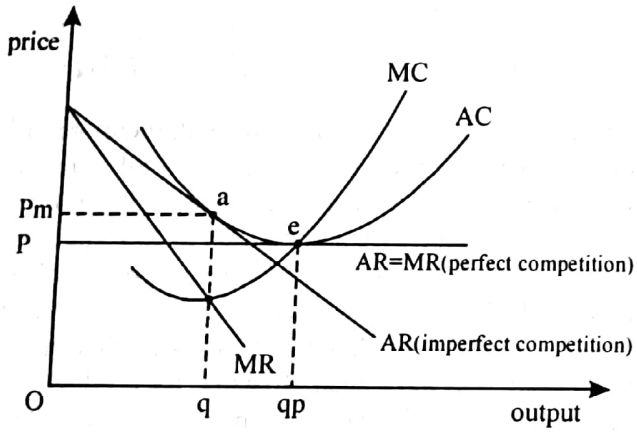
At an output of 100 units P > MC and, therefore, it indicates that fewer resources have been allocated than what are required to achieve perfect allocation i.e. P = MC. So an increase in output up to 200 units would increase both consumer and producer surplus indicated by triangle A and hence would improve allocative efficiency. On the other hand P < MC signifies that too many resources have been allocated for production. In the graph above the production of 300 units, for instance, suggests over allocation of resources. The shaded triangle B represents welfare loss in terms of consumer and producer surplus from the alternative product. Therefore net gains can be realized until production can be reduced to 200 units. Thus it follows that the resources are efficiently allocated to produce a product when its output is such that its price equals marginal cost.

Productive efficiency refers to firms' costs of production and can be applied both to the short run and long run. Productive efficiency exists when producers minimize the wastage of resources i.e. when they produce a product using the least possible resources or generating the lowest possible per unit cost. The graph below shows this.



In the figure above AC_3 indicates productive efficiency. This means that the lowest possible cost techniques of production are being used to produce different level of output. All other curves above AC_3 indicate higher per unit cost hence suggest productive inefficiency. Furthermore, the firm is said to be producing at the optimum level when production occurs at the lowest point indicated by point z on the lowest average cost curve. Economists use the term technical efficiency for this point.

The theory of firm predicts that each firm in a perfectly competitive market produces at the lowest point on its LRAC curve and it is not possible for any one firm to reduce its cost any further by altering its output. Every firm in perfect competition is therefore productively efficient. This is shown in the graph below.



It can be analyzed from the graph that perfectly competitive firms maximize profits by equating marginal cost to price. Thus, when perfect competition is the market structure for the whole economy, price is equal to marginal cost in each line of production resulting in allocative efficiency.

On the contrary, a profit maximizing firm operating under imperfect market conditions the firm will maximize profits at an output (q) where price exceeds marginal cost, hence leading to an inefficient allocation of scarce resources. Also the firm produces at the decreasing part of AC curve, it is, therefore, productively inefficient. The higher average cost in production means that the firm is not making optimum use of scarce resources. Thus under these conditions, market fails to achieve economic efficiency and therefore may be a case for government intervention through competition policy or market regulation.

In other cases market failure exists when even the competitive outcome of markets is not efficient from the point of view of society as a whole. The result is a loss of economic and social welfare generally known as social inefficiency. This is usually because the benefits that the free-market confers on individuals or businesses carrying out a particular activity diverge from the benefits to the society as a whole.

The existence of externalities, for instance, causes market forces to fail to allocate resource at socially optimum level. An externality occurs whenever actions by firms or consumers impose costs or confer benefits on others that are not involved in the transaction. The essence of the problem created by externalities is that market forces will lead to either too little or too much production. With a positive externality, a competitive free market will produce too little of the good and with a negative externality it produces too much of the good. Thus the presence of externalities, even when all markets are perfectly competitive, leads to allocatively inefficient outcomes.

Another important cause of market failure is imperfect information. The reason for this is that party to a transaction can often take an advantage by shifting costs onto the other party. The other party loses because they do not have the same information. More generally, whenever either party to a transaction lacks information that the other party has, or is deceived by false claims, the outcome of market forces changes and these changes may lead to inefficiency.

Merit and demerit goods are a clear case of imperfect information. Consumers do not perceive quite well how well or bad is a particular product for them: either they do not have the right information or they simply lack some relevant information. The problem is that imperfect information causes market forces to lead to an inappropriate amount of merit and demerit goods being produced or consumed.

A distinct type of market failure exists in case of public goods. The issue here is not over and under allocation but weather resources are allocated at all. A good must possess three distinguishing characteristics to qualify as public goods. It must be non-excludible, non-rival and non-rejectable. These features give rise to the free rider problem; people receiving benefits from a good without contributing to its cost. Thus it develops a situation in which everyone believes that others will take on the burden of paying for goods such as national defense and streetlights. Since the exclusion principle does not apply to these goods, private enterprises

have no economic incentive to supply them. So we have goods which yield substantial benefits but to which the market system fails to allocate resources.

In conclusion it can be stated that market system though allocates resources efficiently in most cases yet it fails to achieve socially desirable outcome in certain situations known as market failures. Thus there is a justified economic role for government. However, government intervention in excess of market failure could hamper the efficient role of markets and therefore create further inefficiencies.

Question 13

In the economic recession of 2011 many private sector firms were still able to announce that they were successful and had made substantial profits. Large bonuses were paid to directors and shareholders received large dividends.

Discuss whether it is better for an economy if the allocation of resources is left entirely to the private sector operating through the market system. [25]

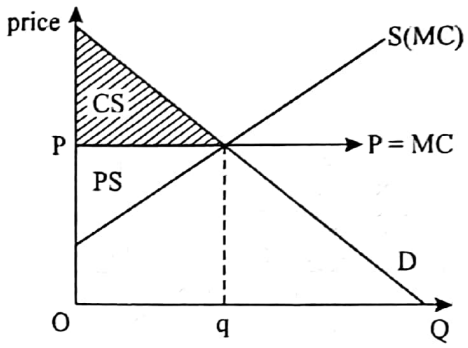
[N13/P4/Q4]

Essay

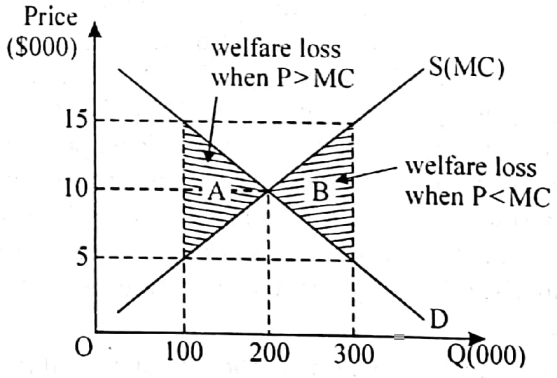
Owing to the basic economic problem of scarce resources and unlimited wants, all societies must make choices. These choices involve allocation of scarce resources among alternative uses to achieve given ends. Resources are typically called factors of production. They include land, labour, capital and enterprise. These are all inputs used in the production of all those goods and services that we want.

Private sector operates through market system that is associated with the capitalist ideology where all resources are privately owned. Hence economic decisions are made by individual households and firms who act in their own self interest. The essence of private sector is price mechanism, often quoted as "invisible hand". Operating on its own, without government intervention, price mechanism allocates resources through million of decisions taken each day by consumers and businesses. This system operates through signaling where a rise or fall in prices eliminates shortages and surpluses. This means that market prices will automatically adjust to where resources are required and where they are not required. Thus resources are allocated and reallocated according to the preferences of consumers and therefore consumers are said to be sovereign. So it is believed that apparently chaotic system of millions of transactions would not only allocate resources but it would do it efficiently.

Efficiency, on the other hand, generally relates to how well an economy uses its scarce resources to satisfy maximum wants of consumers. A market is said to achieve allocative efficiency when right amount of scarce resources are allocated to produce right products. In other words allocative efficiency occurs when the consumer valuation (P) of a product equals the cost of resources (marginal cost) used up in its production. Thus the condition required for allocative efficiency is p = MC. When this happens economic welfare measured in terms of consumer and producer surplus is maximized. The graph below illustrates allocative efficiency.



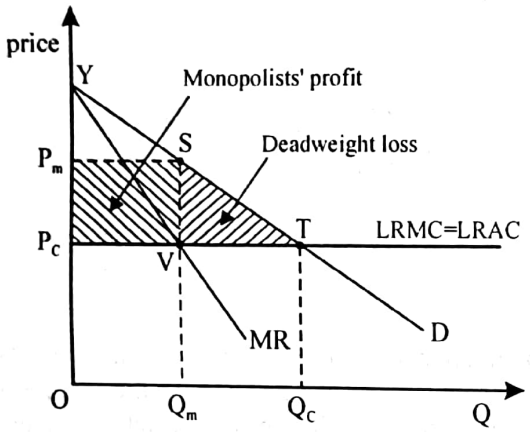
The optimum allocation of resources is where QD=QS, producing an output oq at price op. So the equilibrium in the market implies P=MC, hence generating maximum possible amounts of consumer and producer surplus. A situation where either P > MC or P < MC implies inefficient allocation of resources. Following graph illustrates these cases.



At an output of 100 units P > MC and, therefore, it indicates that fewer resources have been allocated than what are required to achieve perfect allocation i.e. P = MC. So an increase in output up to 200 units would increase both consumer and producer surplus indicated by triangle A and hence would improve allocative efficiency. On the other hand P < MC signifies that too many resources have been allocated for production. In the graph above the production of 300 units, for instance, suggests over allocation of resources. The

shaded triangle B represents welfare loss in terms of consumer and producer surplus from the alternative product. Therefore, net gains can be realized until production is reduced to 200 units. Thus it follows that the resources are efficiently allocated to produce a product when its output is such that its price equals marginal cost.

The theory of firm predicts that in a perfectly competitive market the demand curve of an individual firm becomes perfectly elastic therefore all firms become price takers. However, as the degree of competition is reduced, a perfect market, for instance, changes into imperfect market or monopoly, the demand curve for individual firms becomes steeper i.e. downward sloping from left to right. Firm's power to set price for its product is strengthened. Consider the following graph.



Assuming there are constant long-run marginal costs the sole seller will face the entire downward-sloping demand curve. The monopolist, therefore, produces at Q_m and charges a price P_m.(MC=MR) Now we assume that the degree of competition improves and market becomes perfectly competitive also the costs stay the same then the equilibrium price will be P_c and the equilibrium quantity supplied and demanded will be Q_c. We see, then, that a monopolist charges a higher price and produces less than an industry in a competitive situation. Resources are inefficiency allocated in such a situation - too few resources are being used in the monopolist's industry and too many are used elsewhere.

We can extend our analysis further to point out difference in consumer surplus and dead weight loss. In figure above the area of consumer surplus is YTP_c in the case of the perfectly competitive industry. While in a monopoly situation the area of consumer surplus shrinks to YSP_m. The monopolist gains the area P_cVSP_m at the expense of consumers: this area adds to producer surplus and therefore labeled as abnormal profit earned by the monopolist. The triangular area STV is part of consumer surplus in a competitive market. But in monopoly neither consumers nor the monopolist obtain this as a surplus: it is lost to both parties. Because of this it is called the deadweight welfare loss arising from monopolies.

So in a private sector it is possible that private firms earn abnormal profit and therefore result in inefficient allocation of resources. However, it does not necessarily indicate that the private market system is not a suitable means of allocation. High profits could well generate further investment, income and employment.

In other cases market failure exists when even the competitive outcome of markets is not efficient from the point of view of society as a whole. The result is a loss of economic and social welfare generally known as social inefficiency. This is because the benefits that the free-market confers on individuals or businesses carrying out a particular activity diverge from the benefits to the society as a whole.

The existence of externalities, for instance, causes market forces to fail to allocate resource at socially optimum level. An externality occurs whenever actions by firms or consumers impose costs or confer benefits on others that are not involved in the transaction. The essence of the problem created by externalities is that market forces will lead to either too little or too much production. With a positive externality, a competitive free market will produce too little of the good and with a negative externality it produces too much of the good. Thus the presence of externalities, even when all markets are perfectly competitive, leads to socially inefficient outcomes.

Another important cause of market failure is imperfect information. The reason for this is that party to a transaction can often take an advantage by shifting costs onto the other party. The other party loses because they do not have the same information. More generally, whenever either party to a transaction lacks information that the other party has, or is deceived by false claims, the outcome of market forces changes and these changes may lead to inefficiency.

Merit and demerit goods are a clear case of imperfect information. Consumers don't perceive quite well how good or bad a particular product is for them: either they do not have the right information or they simply lack some relevant information. The problem is that imperfect information causes market forces to lead to an inappropriate amount of merit and demerit goods being produced or consumed.

A distinct type of market failure exists in case of public goods. The issue here is not over and under allocation but weather resources are allocated at all. A good must possess three distinguishing characteristics to qualify as public goods. It must be non-excludible, non-rival and non-rejectable. These features give rise to the free rider problem; people receiving benefits from a good

without contributing to its cost. Thus it develops a situation in which everyone believes that others will take on the burden of paying for goods such as national defense and streetlights. Since the exclusion principle does not apply to these goods, private enterprises have no economic incentive to supply them. So we have goods which yield substantial benefits but to which the market system fails to allocate resources.

In conclusion it can be stated that private sector, though allocates resources efficiently in most cases yet it fails to achieve socially desirable outcome in certain situations known as market failures. Thus there is a justified economic role for government. However, government intervention in excess of market failure could restrict the efficient role of markets.

Question 14

'The profitability of firms is a measure of their efficiency. The higher the profit, the greater the efficiency. High profits should, therefore, be encouraged.'

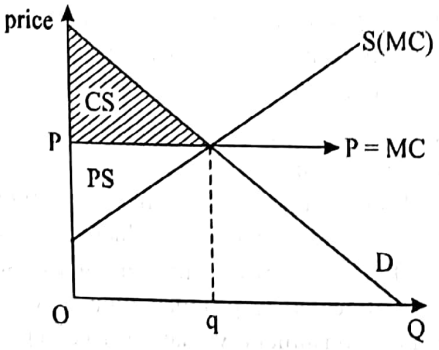
Do you support this argument? [25]

[J14/P4/Q3]

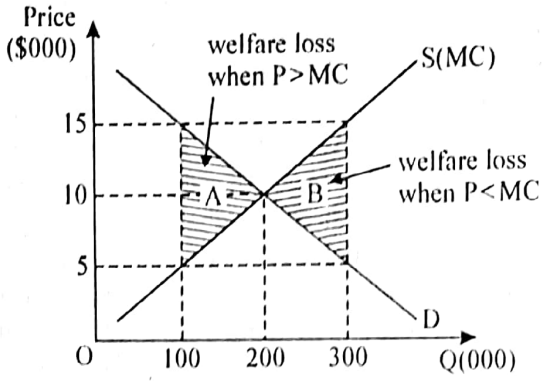
Essay

Efficiency generally relates to how well an economy uses its scarce resources to satisfy maximum wants of consumers. When economists use the term efficiency they actually mean allocative and productive efficiency.

An economy is said to achieve allocative efficiency when right amount of scarce resources are allocated to produce right products. In other words allocative efficiency occurs when the consumer valuation (P) of a product equals the cost of resources (marginal cost) used up in its production. Thus the condition required for allocative efficiency is p = MC. When this happens economic welfare measured in terms of consumer and producer surplus is maximized. The graph below illustrates allocative efficiency.

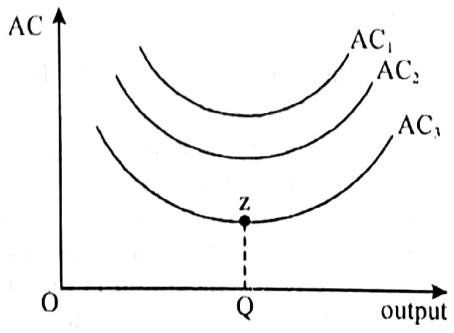


The optimum allocation of resources is where QD = QS, producing an output oq at price op. So the equilibrium in the market implies P = MC, hence generating maximum possible amounts of consumer and producer surplus. A situation where either P > MC or P < MC implies inefficient allocation of resources. Following graph illustrates these cases.



At an output of 100 units P > MC and, therefore, it indicates that fewer resources have been allocated than what are required to achieve perfect allocation i.e. P = MC. So an increase in output up to 200 units would increase both consumer and producer surplus indicated by triangle A and hence would improve allocative efficiency. On the other hand P < MC signifies that too many resources have been allocated for production. In the graph above the production of 300 units, for instance, suggests over allocation of resources. The shaded triangle B represents welfare loss in terms of consumer and producer surplus from the alternative product. Therefore, net gains can be realized until production is reduced to 200 units. Thus it follows that the resources are efficiently allocated to produce a product when its output is such that its price equals marginal cost.

Productive efficiency refers to firm's costs of production and can be applied both to the short run and long run. Productive efficiency exists when producers minimize the wastage of resources i.e when they produce a product using the least possible resources or generating the lowest possible per unit cost. The graph below shows this.

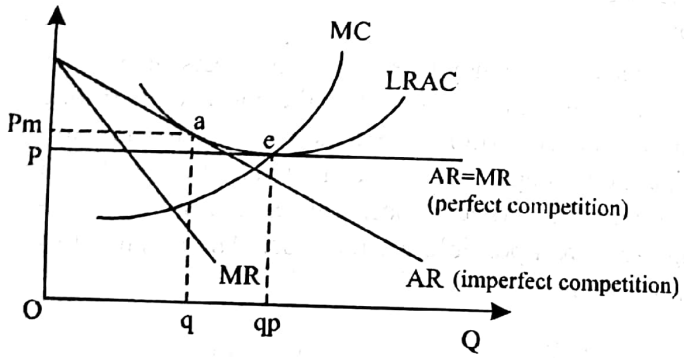


AC_3, in the figure indicates productive efficiency. This means that the lowest possible cost techniques of

production are being used to produce different levels of output. All other curves above AC_3 indicate higher per unit cost hence suggest productive inefficiency. Furthermore, the firm is said to be producing at the optimum level when production occurs at the lowest point (z) on the lowest average cost curve. Economists use the term technical efficiency for this point.

The traditional theory of firm holds that firms pursue the goal of profit maximization. This can be achieved when the firm is producing at an output where the positive difference between total revenues and total costs is the greatest. Alternatively it can also be analyzed using marginal concept. Thus the firm earns maximum possible profit where marginal cost (MC) equals marginal revenue (MR). MC is the cost of producing one extra unit while MR is the revenue earned from selling an extra unit. So, as long as MR > MC production of each next unit increases the firm's profit and therefore it maximizes profit when its output reaches where MC = MR. If ouput expands beyond this then MR ? MC that means the cost of producing an extra unit is higher than the revenue earned from its sale. It, therefore, reduces firm's total profit. Thus it follows that the firm, in order to earn highest possible profit, tends to expand output to the level where its MR = MC.

The direct link between efficiency and profit levels depends on the type of market. The theory of firm predicts that each firm in a perfectly competitive market maximses profit when it produces at the lowest point on its LRAC curve and it is not possible for any one firm to reduce its cost any further by altering its output. Every firm in perfect competition, therefore, is productively efficient. This is shown in the graph below.



A perfectly competitive firm faces a perfectly elastic demand curve (AR = MR) and its MC intersects MR at point' e' therefore its profit maximizing output is qp where it achieves both the highest possible profit and productive efficiency. It can also be analyzed that at the same output level the firm equates marginal cost and price. Thus, when perfect competition is the market structure for the whole economy, price equals marginal cost in each line of production results in allocative efficiency. Therefore in case of perfect competition firms should be encouraged to maximize profit in order to achieve greater efficiency.

On the contrary, a profit maximizing firm operating under imperfect market condition faces a downward sloping demand (AR) curve and its MR curve lies below this. Under such conditions a firm maximizes profits at an output (q) where its MC = MR. However at this output level price exceeds marginal cost, therefore results in an inefficient allocation of scarce resources. Also the firm produces at the decreasing part of LRAC curve, it is, therefore, productively inefficient. The higher average cost in production means that the firm is not making optimum use of scarce resources.

So, from the comparison of perfect and imperfect market we conclude that the assertion the higher the profit the greater the efficiency proves right in case of perfect market. However, in case of imperfect markets it does not hold true.

Question 15

'The free market is not the way to achieve a sustainable, efficient use of economic resources. Even the famous economist Adam Smith recognised that there was a need for some government involvement.'

Discuss whether government involvement in the economy might overcome the weaknesses of the free market system. [25]

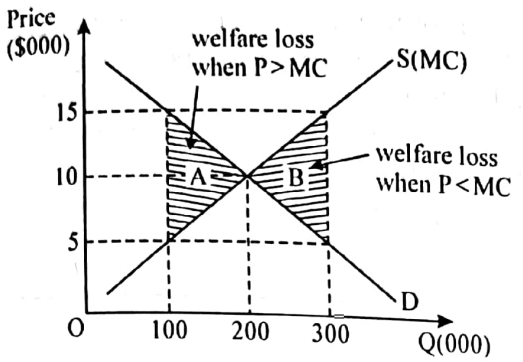
[J15/P4/Q7]

Essay

A free market system is associated with the capitalist ideology where all resources are privately owned. Hence all economic decisions are made by individual households and firms who act in their own self interest. The essence of a market system is price mechanism, often quoted as "invisible hand". Operating on its own, without government intervention, price mechanism allocates resources through million of decisions taken each day by consumers and businesses. So, it is believed that apparently chaotic system of millions of transactions would not only allocate resources but it would do it efficiently.

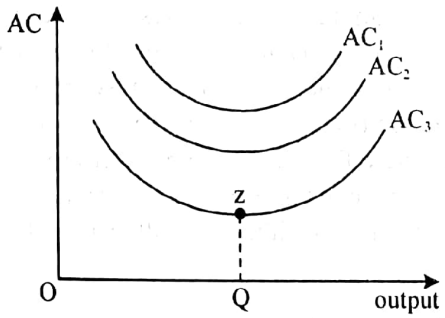
Efficiency generally relates to how well an economy uses its scarce resources to satisfy maximum wants of consumers. When economists use the term efficiency they actually mean allocative and productive efficiency. Allocative efficiency is when right amount of scarce resources are allocated to produce right products. It occurs when the consumers' valuation (P) of a product equals the cost of resources (marginal cost) used up in

its production i.e. p = MC. The graph below illustrates this concept of allocative efficiency.



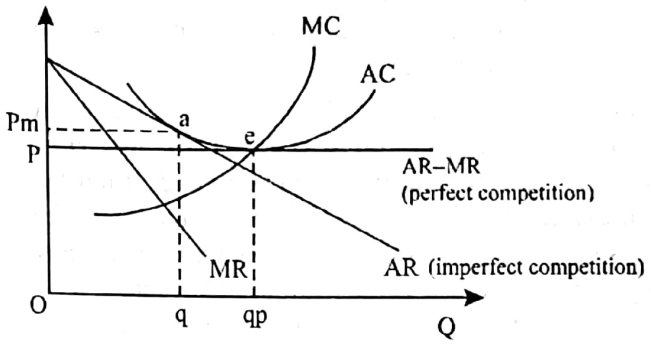
The optimum allocation of resources is when output is 200 units at a price of $10 i.e. QD = QS, So the equilibrium in the market implies P = MC, and generates maximum possible amounts of consumer and producer surplus. Any situation where either P > MC or P < MC implies inefficient allocation of resources. An output of 100 units, for instance, indicates that fewer resources have been allocated than what are required to achieve P = MC. Now an increase in output up to 200 units would increase both consumer and producer surplus indicated by triangle A and hence would improve allocative efficiency. Alternatively the output of 300 units signifies that too many resources have been allocated for production because P < MC. The shaded triangle B represents welfare loss. It, therefore, follows that net gains can be realized if production is reduced to 200 units.

Productive efficiency refers to firms' costs of production and can be applied both to the short run and long run. It exists when producers minimize the wastage of resources i.e when they produce a product using the least possible resources or generating the lowest possible per unit cost. The graph below shows this.



The curve AC_3 suggests productive efficiency because it indicates the lowest possible cost techniques of production for different levels of output. All other curves above AC_3 indicate higher per unit cost therefore they all suggest productive inefficiency. Furthermore, economists use the term technical efficiency when a firm produces at the lowest point (z) on the lowest average cost curve.

The theory of firm predicts that each firm in a perfectly competitive market produces at the lowest point on its LRAC curve and it is not possible for any one firm to reduce its cost any further by altering its output. Every firm in perfect competition is therefore productively efficient. This is shown in the graph below.



It can be analyzed from the graph that perfectly competitive firms maximize profits by equating marginal cost to price. Thus, when perfect competition is the market structure for the whole economy, price is equal to marginal cost in each line of production resulting in allocative efficiency.

On the contrary, a profit maximizing firm operating under imperfect market conditions will maximize profits at an output (q) where price exceeds marginal cost, hence leading to an inefficient allocation of scarce resources. Also the firm produces at the decreasing part of AC curve that indicates its failure to optimize use of resources.

It is held that even the competitive outcome of markets is not efficient from the point of view of society as a whole. In those cases market system is believed to have failed and it, therefore, results in a loss of economic and social welfare. This is because the benefits that the free-market confers on individuals or businesses carrying out a particular activity diverge from the benefits to the society as a whole.

The existence of externalities, for instance, causes market forces to fail to allocate resource at socially optimum level. An externality occurs whenever actions by firms or consumers impose costs or confer benefits on others that are not involved in the transaction. The essence of the problem created by externalities is that market forces will lead to either too little or too much production. With a positive externality, a competitive free market will produce too little of the good and with a negative externality it produces too much of the good.

Another important cause of market failure is imperfect information. The reason for this is that party to a transaction can often take an advantage by shifting costs onto the other party. More generally, whenever either party to a transaction lacks information that the other party has, or is deceived by false claims, the outcome of market forces changes and these changes may lead to inefficiency.

Merit and demerit goods are a clear case of imperfect information. Consumers don't perceive quite well how good or bad a particular product is for them: either they do not have the right information or they simply lack some relevant information. The problem is that imperfect information causes market forces to lead to an inappropriate amount of merit and demerit goods being produced or consumed.

A distinct type of market failure exists in case of public goods. A good must possess three distinguishing characteristics to qualify as a public good. It must be non-excludible, non-rival and non-rejectable. These features give rise to the free rider problem; people receiving benefits from a good without contributing to its cost. Thus it develops a situation in which everyone believes that others will take on the burden of paying for goods such as national defense and streetlights. Since the exclusion principle does not apply to these goods, private enterprises have no economic incentive to supply them. So we have goods which yield substantial benefits but to which the market system fails to allocate resources.

The role of the government is to intervene in markets that are not seen to be allocating and using resources in the most efficient manner. Government policy and methods of intervention can be summarized under four broad headings: regulation, financial intervention, direct provision and improving information.

In case of financial intervention indirect taxes such as changes in VAT and excise duties can be used to raise the price of demerit goods and products with negative externalities. Subsidies to consumers will lower the price of merit goods such as grants to students to reduce the internal costs of staying on in full-time education. In addition to providing the finance it is also possible for a government to take over the production of a good or service, either in whole or in part. State-owned industries are often referred to as nationalized industries such as the electricity, coal mining and railway industries are entirely owned and managed by the state in many countries. It is also very common to find some goods and services being produced by both the state and the private sectors. Education and health care are particularly good examples of these types of service.

Government action can have a role in improving information to help consumers and producers value the 'true' cost and/or benefit of a good or service.

Thus a failure to deliver efficient use of resources by the free market system is normally considered as justification for some form of government involvement in the economy. This intervention, however, should be designed to correct market failure with the view to achieve an improvement in economic and social welfare.

Question 16

'Government economic policy is based on the idea that people cannot be trusted to choose what is good for them but instead sometimes choose things that are harmful to themselves or detrimental to the environment (or both). Therefore a free market cannot allocate resources efficiently.'

Do you support this argument?

[25]

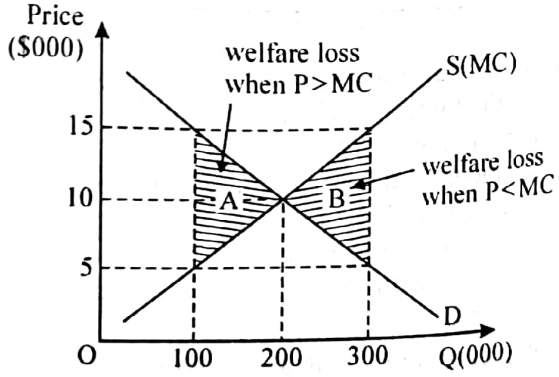
[J16/P4/Q2]

Essay

Free market system is associated with the capitalist ideology where all resources are privately owned. Hence economic decisions are made by individual households and firms who act in their own self interest. The essence of free market is price mechanism, often quoted as "invisible hand".

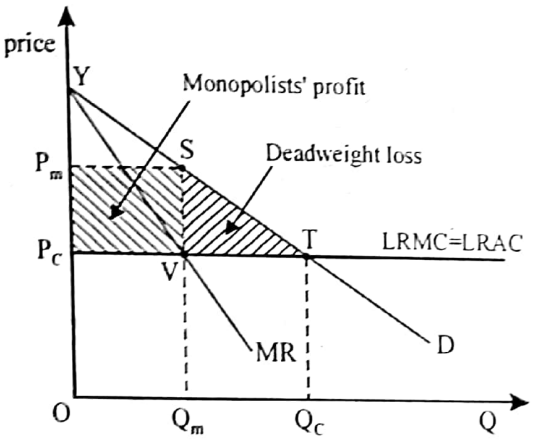
Operating on its own, without government intervention, price mechanism allocates resources through million of decisions taken each day by consumers and businesses. This system operates through signaling where a rise or fall in prices eliminates shortages and surpluses. This means that market prices will automatically adjust to where resources are required and where they are not required. Thus resources are allocated and reallocated according to the preferences of consumers and therefore consumers are said to be sovereign. So, it is believed that apparently chaotic system of millions of transactions would not only allocate resources but it would do it efficiently.

Efficiency relates to how well an economy uses its scarce resources to satisfy maximum wants of consumers. An economy achieves allocative efficiency when it allocates right amount of scarce resources to produce right products. It means that the consumer valuation of a product (Price) equals the cost of resources used up in its production (marginal cost). So when production takes place where P=MC, economic welfare measured in terms of consumer and producer surplus is maximized. The graph below illustrates allocative efficiency.



Optimum allocation of resources P=MC is where QD=QS. A situation where either P >MC or P <MC implies inefficient allocation of resources. At 100 units, for instance, P > MC that suggests fewer resources have been allocated than what are required to achieve perfect allocation. So an increase in output up to 200 units would increase both consumer and producer surplus as indicated by the shaded triangle A. On the other hand P < MC signifies that too many resources have been allocated for production. An quantity of 300 units, for instance, suggests over allocation of resources. The shaded triangle B represents welfare loss in terms of consumer and producer surplus from the alternative product. Therefore, net gains can be realized by reducing production to 200 units.

It is believed that operating on its own the price system is capable to correct inefficiencies in most situations. In certain cases, however, the system may fail to achieve this. Imperfections in markets, for instance, usually cause P > MC, and therefore result in under allocation of resources. The theory of firm predicts that as the degree of competition is reduced, the demand curve for individual firms becomes steeper i.e. the firm's power to set price for its product is strengthened. It, therefore, charges a price higher than its marginal cost. Consider the following graph.



Assuming there are constant long-run marginal costs the monopolist will face the entire downward-sloping demand curve and it will produce Q_m output where its MC=MR and will charge a price P_m.

Facing the same cost conditions a perfectly competitive market equilibrium price will be Pc and the equilibrium quantity supplied and demanded will be Qc. We see, then, that a monopolist charges a higher price and produces less than an industry in a competitive situation. Too few resources are being used in the monopolist's industry and too many are used elsewhere —inefficient allocation of scare resources. The area of consumer surplus is YTPc in the case of the perfectly competitive industry. While in a monopoly situation the area of consumer surplus shrinks to YSP_m. The monopolist gains the area P_cVSP_m at the expense of consumers: this area adds to producer surplus and therefore labeled as abnormal profit. The triangular area STV is part of consumer surplus in a competitive market. But in monopoly neither consumers nor the monopolist obtain this as a surplus: it is lost to both parties. It is therefore labeled as the deadweight welfare loss arising from monopolies.

In other cases market failure exists when even the competitive outcome of markets is not efficient from the point of view of society as a whole. The result is a loss of economic and social welfare. This is because the benefits that the free-market confers on individuals or businesses carrying out a particular activity diverge from the benefits to the society as a whole.

The existence of externalities, for instance, causes market forces to fail to allocate resource at socially optimum level. An externality occurs whenever actions by firms or consumers impose costs or confer benefits on others that are not involved in the transaction. The essence of the problem created by externalities is that market forces will lead to either too little or too much production. With a positive externality, a competitive free market will produce too little of the good and with a negative externality it produces too much of the good. Thus the presence of externalities, even when all markets are perfectly competitive, leads to socially inefficient outcomes.

Another important cause of market failure is imperfect information. The reason for this is that party to a transaction can often take an advantage by shifting costs onto the other party. The other party loses because they do not have the same information. More generally, whenever either party to a transaction lacks information that the other party has, or is deceived by false claims, the outcome of market forces changes and these changes may lead to inefficiency. Merit and demerit goods are a clear case of imperfect information. Consumers don't perceive quite well how good or bad a particular product is for them: either they do not have the right information or they simply lack some relevant information. The problem is that imperfect information causes market forces to lead to an inappropriate amount of merit and demerit goods being produced or consumed.

A distinct type of market failure exists in case of public goods. The issue here is not over and under allocation but weather resources are allocated at all. A public good is associated with three distinguishing characteristics ; it must be non-excludible, non-rival and non-rejectable. These features give rise to the free rider problem; people receiving benefits from a good with-

out contributing to its cost. Since the exclusion principle does not apply to these goods, private enterprises have no economic incentive to supply them. So we have goods which yield substantial benefits but to which the market system fails to allocate resources.

The role of the government is to intervene in markets that are not seen to be allocating and using resources in the most efficient manner. Government policy and methods of intervention can be summarized under four broad headings: regulation, financial intervention, direct provision and improving information.

In case of financial intervention indirect taxes such as changes in VAT and excise duties can be used to raise the price of demerit goods and products with negative externalities. Subsidies to consumers will lower the price of merit goods such as grants to students to reduce the internal costs of staying on in full-time education. In addition to providing the finance it is also possible for a government to take over the production of a good or service, either in whole or in part. State-owned industries are often referred to as nationalized industries such as the electricity, coal mining and railway industries are entirely owned and managed by the state in many countries. Public goods, for instance, are directly provided by the government, and are financed out of tax revenues. They are made available to the public free of charge.

It is also very common to find some goods and services being produced by both the state and the private sectors. Education and health care are particularly good examples of these types of service.

As an alternative, government can introduce laws and regulations involving emissions standards, production quotas, licenses, permits or outright restrictions. They are intended to limit production of certain undesirable goods and promote the use of socially desirable goods. Governments can also pass laws and regulations that ensure quality standards and safety features that must be maintained by producers and sellers of goods and services, such as food, medications, private schools, oys, buildings and all types of construction. In addi-ion, government action can have a role in improving ıformation to help consumers and producers value the rue' cost and/or benefit of a good or service.

, therefore, follows that in most cases free market op-ating through price system is capable of allocating sources efficiently. In certain cases, however, its fail-e to deliver efficient allocation of resources is nor-ılly considered as justification for some form of gov-ıment involvement in the economy.

Question 17

It has been said that the aim in the allocation of resources should be to achieve the greatest happiness for the greatest number of people.

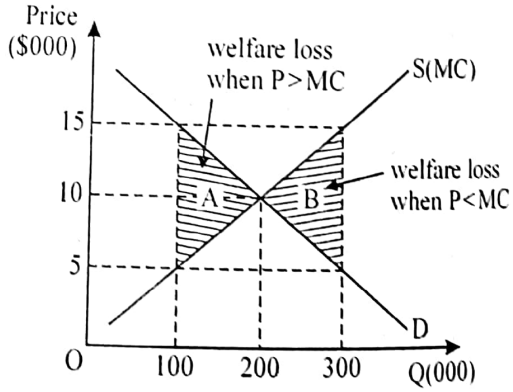
Discuss whether economics has anything to say about the best way to maximise welfare from the use of resources.

[25]

[N16/P4/Q2]

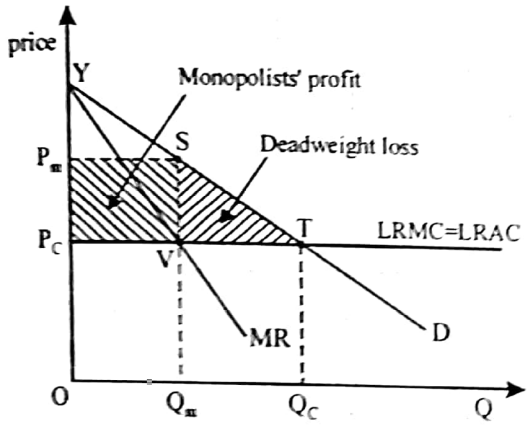
Essay

Economic theory uses the concept of efficiency to achieve maximum welfare. Efficiency relates to how well an economy uses its scarce resources to satisfy maximum wants of consumers. According to the economic theory an economy achieves allocative efficiency when it allocates right amount of scarce resources to produce right products. It means that the consumer valuation of a product (Price) equals the cost of resources used up in its production (marginal cost). So when production takes place where P = MC, economic welfare measured in terms of consumer and producer surplus is maximized. The graph below illustrates allocative efficiency.



Optimum allocation of resources P = MC is where QD = QS. A situation where either P > MC or P < MC implies inefficient allocation of resources. At 100 units, for instance, P > MC that suggests fewer resources have been allocated than what are required to achieve perfect allocation. So an increase in output up to 200 units would increase both consumer and producer surplus as indicated by the shaded triangle A. On the other hand P < MC signifies that too many resources have been allocated for production. An quantity of 300 units, for instance, suggests over allocation of resources. The shaded triangle B represents welfare loss in terms of consumer and producer surplus from the alternative product. Therefore, net gains can be realized by reducing production to 200 units.

It is believed that operating on its own the price system is capable to correct inefficiencies in most situations. In certain cases, however, the system may fail to achieve this. Imperfections in markets, for instance, usually cause P > MC, and therefore result in under allocation of resources. The theory of firm predicts that as the degree of competition is reduced, the demand curve for individual firms becomes steeper i.e. the firm's power to set price for its product is strengthened. It, therefore, charges a price higher than its marginal cost. Consider the following graph.



Assuming there are constant long-run marginal costs the monopolist will face the entire downward-sloping demand curve and it will produce Q_m output where its MC = MR and will charge a price P_m. Facing the same cost conditions a perfectly competitive market equilibrium price will be P_c and the equilibrium quantity supplied and demanded will be Q_c. We see, then, that a monopolist charges a higher price and produces less than an industry in a competitive situation. Too few resources are being used in the monopolist's industry and too many are used elsewhere-inefficient allocation of scare resources. The area of consumer surplus is YTP_c in the case of the perfectly competitive industry. While in a monopoly situation the area of consumer surplus shrinks to YSP_m. The monopolist gains the area P_cVSP_m at the expense of consumers; this area adds to producer surplus and therefore labeled as abnormal profit. The triangular area STV is part of consumer surplus in a competitive market. But in monopoly neither consumers nor the monopolist obtain this as a surplus; it is lost to both parties. It is therefore labeled as the deadweight welfare loss arising from monopolies.

In other cases market failure exists when even the competitive outcome of markets is not efficient from the point of view of society as a whole. The result is a loss of economic and social welfare. This is because the benefits that the free-market confers on individuals or businesses carrying out a particular activity diverge from the benefits to the society as a whole.

The existence of externalities, for instance, causes market forces to fail to allocate resource at socially optimum level. An externality occurs whenever actions by firms or consumers impose costs or confer benefits on others that are not involved in the transaction. The essence of the problem created by externalities is that market forces will lead to either too little or too much production. With a positive externality, a competitive free market will produce too little of the good and with a negative externality it produces too much of the good. Thus the presence of externalities, even when all markets are perfectly competitive, leads to socially inefficient outcomes.

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A distinct type of market failure exists in case of public goods. The issue here is not over and under allocation but weather resources are allocated at all. A public good is associated with three distinguishing characteristics ; it must be non-excludible, non-rival and non-rejectable. These features give rise to the free rider problem; people receiving benefits from a good without contributing to its cost. Since the exclusion principle does not apply to these goods, private enterprises have no economic incentive to supply them. So we have goods which yield substantial benefits but to which the market system fails to allocate resources.

The role of the government is to intervene in markets that are not seen to be allocating and using resources in the most efficient manner. Government policy and methods of intervention can be summarized under four broad headings: regulation, financial intervention, direct provision and improving information.

In case of financial intervention indirect taxes such as changes in VAT and excise duties can be used to raise the price of demerit goods and products with negative externalities. Subsidies to consumers will lower the price of merit goods such as grants to students to reduce the internal costs of staying on in full-time education. In addition to providing the finance it is also possible for a government to take over the production of a good or service, either in whole or in part. State-owned industries are often referred to as nationalized industries such as the electricity, coal mining and railway industries are entirely owned and managed by the state in many countries. Public goods, for instance, are directly provided by the government, and are financed out of tax revenues. They are made available to the public free of charge.

It is also very common to find some goods and services being produced by both the state and the private sectors. Education and health care are particularly good examples of these types of service.

As an alternative, government can introduce laws and regulations involving emissions standards, production quotas, licenses, permits or outright restrictions. They are intended to limit production of certain undesirable goods and promote the use of socially desirable goods. Governments can also pass laws and regulations that ensure quality standards and safety features that must be maintained by producers and sellers of goods and services, such as food, medications, private schools, toys, buildings and all types of construction. In addition, government action can have a role in improving information to help consumers and producers value the 'true' cost and/or benefit of a good or service.

It, therefore, follows that in most cases market operating through price system is capable of allocating resources efficiently. In certain cases, however, its failure to deliver efficient allocation of resources can be corrected by the government intervention.

Question 18

The driving force of some governments is to bring the benefits of competition to formerly monopolised markets.

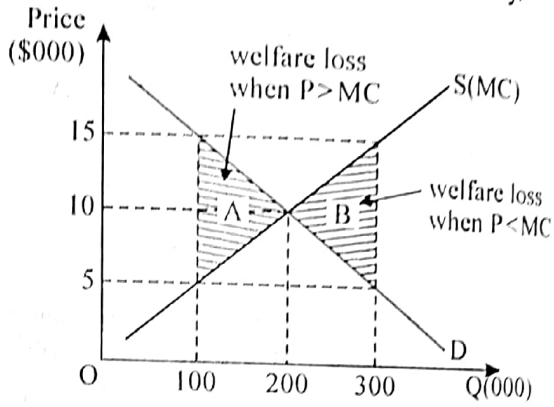
Discuss why competitive markets in the private sector are not always the most efficient means of deciding how to employ a country's resources. [13]

[J17/P4/Q7(b)]

Essay

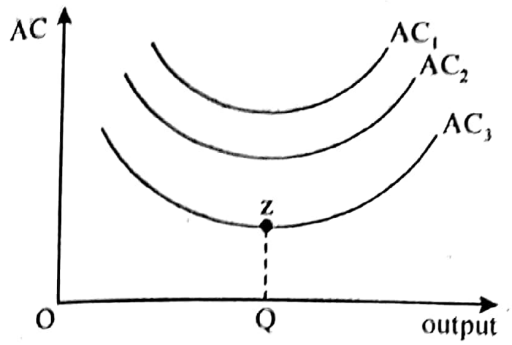
Efficiency generally relates to how well an economy uses its scarce resources to satisfy maximum wants of consumers. When economists use the term efficiency they actually mean allocative and productive efficiency.

An economy achieves allocative efficiency when it allocates right amount of scarce resources to produce right products. It means that the consumer valuation of a product (Price) equals the cost of resources used up in its production (marginal cost). So when production takes place where P=MC, economic welfare measured in terms of consumer and producer surplus is maximized. The graph below illustrates allocative efficiency.



Optimum allocation of resources P = MC is where QD = QS. A situation where either P > MC or P < MC implies inefficient allocation of resources. At 100 units, for instance, P > MC that suggests fewer resources have been allocated than what are required to achieve perfect allocation. So an increase in output up to 200 units would increase both consumer and producer surplus as indicated by the shaded triangle A. On the other hand P < MC signifies that too many resources have been allocated for production. A quantity of 300 units, for instance, suggests over allocation of resources. The shaded triangle B represents welfare loss in terms of consumer and producer surplus from the alternative product. Therefore, net gains can be realized by reducing production to 200 units. Hence resources are being efficiently allo-cated to any product when its output is such that its price equals marginal cost.

Productive efficiency refers to firms' costs of production and can be applied both to the short run and long run. Productive efficiency exists when producers minimize the wastage of resources i.e when they produce aproduct using the least possible resources or generating the lowest possible per unit cost. The graph below shows this.



In the figure above AC_3 indicates productive efficiency. This means that the lowest possible cost techniques of production are being used to produce different level of output. All other curves above AC3 indicate higher per unit cost hence represent productive inefficiency. The firm is said to be producing at the optimum level when production occurs at the lowest point indicated by point z on the lowest average cost curve. Economists use the term technical efficiency for this point..

A perfectly competitive market produces where P=MC. Also competition forces all the firms to produce at the lowest point on the lowest per unit cost, therefore it is the most efficient market. However competitiveness of the market do all the good things that we have discussed; yet there are many situations in which these markets do not result in the best outcomes. In these cases we say that markets have failed.

Market failure exists when the competitive outcome of markets is not efficient from the point of view of society as a whole. The result is a loss of economic and social welfare. This is usually because the benefits that the competitive-market confers on individuals or businesses carrying out a particular activity diverge from the benefits to the society as a whole.

The existence of externalities, for instance, causes market forces to fail to allocate resource at socially optimum level. An externality occurs whenever actions by firms or consumers impose costs or confer benefits on others that are not involved in the transaction. The essence of the problem created by externalities is that market forces will lead to either too little or too much production. With a positive externality, a competitive market will produce too little of the good and with a negative externality it produces too much of the good. Thus the presence of externalities, even when all markets are perfectly competitive, leads to socially inefficient outcomes.

Another important cause of market failure is imperfect information. The reason for this is that party to a transaction can often take an advantage by shifting costs onto the other party. The other party loses because they do not have the same information. More generally, whenever either party to a transaction lacks information that the other party has, or is deceived by false claims, the outcome of market forces changes and these changes may lead to inefficiency. Merit and demerit goods are a clear case of imperfect information. Consumers don't perceive quite well how good or bad a particular product is for them: either they do not have the right information or they simply lack some relevant information. The problem is that imperfect information causes market forces to lead to an inappropriate amount of merit and demerit goods being produced or consumed.

A distinct type of market failure exists in case of public goods. The issue here is not over and under allocation but weather resources are allocated at all. A public good is associated with three distinguishing characteristics; it must be non-excludible, non-rival and non-rejectable. These features give rise to the free rider problem; people receiving benefits from a good without contributing to its cost. Since the exclusion principle does not apply to these goods, private enterprises have no economic incentive to supply them. So we have goods which yield substantial benefits but to which the market system fails to allocate resources.

While in general the private competitive markets are considered most efficient but in certain cases they fail to bring the most desirable outcome from a society's point of view.

Question 19

(a) A country moved from a point **within** its production possibility curve to a point **on** its production possibility curve.

Explain what is meant by economic efficiency. Analyse what happened to economic efficiency in that country as a result of this movement. [12]

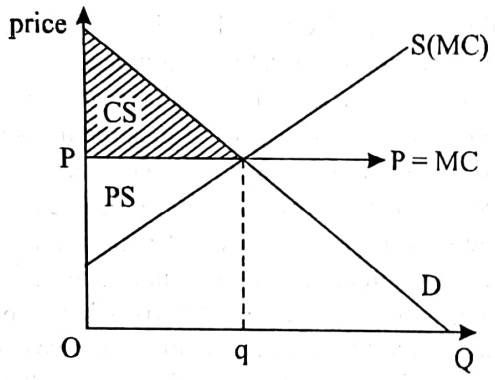
(b) Discuss whether government intervention in the economy is a necessary and sufficient condition for overcoming inefficiency in resource allocation. [13]

[N17/P4/Q2]

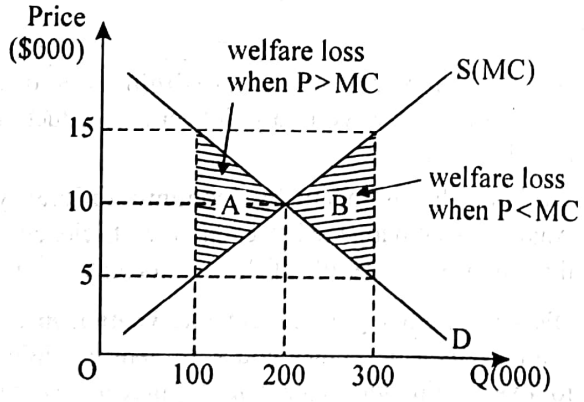
Essay

(a) Economic efficiency generally relates to how well an economy uses its scarce resources to satisfy maximum wants of consumers. It occurs when society is using its scarce resources to produce the highest possible amount of goods and services. When economists use the term efficiency they actually mean allocative and productive efficiency.

An economy is said to achieve allocative efficiency when right amount of scarce resources are allocated to produce right products. This can be achieved when the value that consumers place on a good or service (price) equals the cost of the resources (marginal cost) used up in production i.e. P=MC. When this happens economic welfare measured in terms of consumer and producer surplus is maximized. The graph below illustrates allocative efficiency.



The optimum allocation of resources is where QD=QS, producing an output oq at price op. So the equilibrium in the market implies P = MC, hence, generating maximum possible amounts of consumer and producer surplus with the given supply and demand curves. Situations where either P >MC or P < MC imply inefficient allocation of resources as illustrated in the graph below.

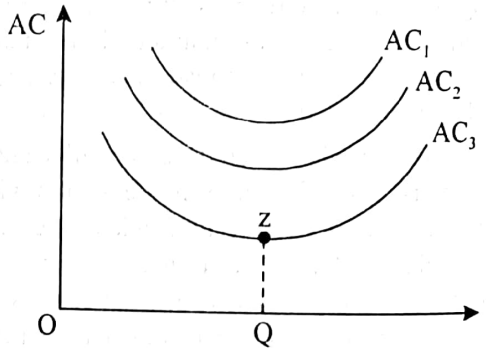


P > MC indicates that fewer resources have been allocated than what are required to achieve perfect allocation. This suggests that society would be under-allocating resources to the production; more of it should be produced. because each additional unit up to 200,000 would increase both consumer and producer surplus as indicated by triangle A, hence would improve allocative efficiency. But when P = MC, the benefit of producing this product and alternative products with the available resources are equal, i.e. allocative efficiency is achieved.

On the other hand P < MC signifies that too many resources have been allocated for the production of this product. Hence the shaded triangle B represents welfare loss in terms of consumer and producer surplus from the alternative product. Therefore net gains can be realized until production can be reduced to 200,000.

Hence resources are being efficiently allocated to any product when its output is such that its price equals marginal cost.

Productive efficiency refers to firms' costs of production and can be applied both to the short run and long run. Productive efficiency exists when producers minimize the wastage of resources i.e when they produce a product using the least possible resources or generating the lowest possible per unit cost. The graph below shows this.



In the figure above AC_3 indicates productive efficiency. This means that the lowest possible cost techniques of production are being used to produce different level of output. All other curves above AC_3 indicate higher per unit cost hence represent productive inefficiency. The firm is said to be producing at the optimum level when production occurs at the lowest point indicated by point z on the lowest average cost curve. Economists use the term technical efficiency for this point..

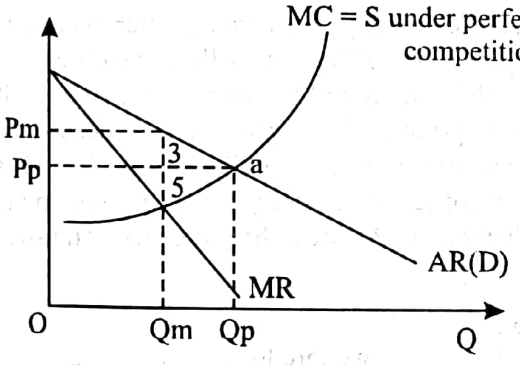
In terms of PPC, an economy is said to achieve productive efficiency when it operates at any point on its PPC, therefore, when it operates at any point below its PPC it is said to be productively inefficient i.e. it fails to produce the highest possible output. Thus, when economy moves from a point inside its PPC to any point on its PPC it is said to improve its productive efficiency.

For an optimal allocation of resources productive efficiency is a necessary but insufficient condition. For instance, there is little point in producing items at lowest cost if they are not the products most valued by consumers. Thus allocative efficiency is also required and it can be achieved at any point on the PPC provided it reflects the output of goods most wanted by the society. It implies that a point on the PPC is necessarily productively efficient but it is not necessarily allocatively efficient.

Therefore it can be deduced that productive efficiency in that economy would increase but it is not possible to tell whether this movement to the curve achieves allocative efficiency.

(b) Market failure exists when the actions by individuals are not efficient from the point of view of society as a whole. The result is a loss of economic and social welfare. This is usually because the benefits of individuals' actions in terms of carrying out a particular activity diverge from the benefits to the society as a whole.

The first of these situations occurs when a firm facing downward sloping demand curve attempts to maximize profits and produces an output where price exceeds marginal cost, hence leading to an inefficient allocation of scarce resources. This is shown in the graph below:



Under perfect competition the price is determined by market forces of demand and supply, hence Pp is the market price and the industry will sell Qp output. The industry is said to achieve allocative efficiency because P = MC. On the other hand a monopolist, for instance, will produce where MC=MR. Thus it produces QM output and will sell this at Pm price. Clearly the monopolist produces where MC < P, hence results in inefficient allocation of resources. Moreover lack of competition allows the monopolist to reduce welfare of consumers because they have a little choice available. Besides this, monopoly has resulted in a loss of total surplus of areas 3+5. This is known as deadweight loss of monopoly and reduces the welfare of the whole society.

Apart from imperfect markets, the existence of externalities also causes market forces to fail to allocate resource at socially optimum level. An externality occurs whenever actions by firms or consumers impose costs or confer benefits on others that are not involved in the transaction. The essence of the problem created by externalities is that market forces will lead to either too little or too much production. With a positive externality, a competitive free market will produce too little of the good and with a negative externality it produces too much of the good. Thus the presence of externalities, even when all markets are perfectly competitive, leads to allocatively inefficient outcomes.

Another important cause of market failure is imperfect information. The reason for this is that party to a transaction can often take an advantage by shifting costs onto the other party. The other party loses because they do not have the same information. More generally, whenever either party to a transaction lacks information that the other party has, or is deceived by false claims, the outcome of market forces changes and these changes may lead to inefficiency.

Merit and demerit goods are a clear case of imperfect information. Consumers don't perceive quite well how good or bad a particular product is for them: either they do not have the right information or they simply lack some relevant information. The problem is that their existence will cause market forces to lead to an inappropriate amount of the product being produced or consumed. In this case as well the producers usually have more information of the effects than consumers therefore consumers are usually seen to make inappropriate consumption, thus they lose.

It, therefore, follows that there is role for the government,. It is required to intervene in markets that are not seen to be allocating resources in the most efficient manner. Government policy and methods of intervention can be summarized under four broad headings: regulation, financial intervention, direct provision and improving information.

Financial intervention means the use of indirect tax and subsidy to achieve optimum allocation of resources. Indirect taxes such as changes in VAT and excise duties can be used to raise the price of demerit goods and products with negative externalities. Subsidies to consumers will lower the price of merit goods such as grants to students to reduce the internal costs of staying on in full-time education. In addition to providing the finance it is also possible for a government to take over the production of a good or service, either in whole or in part.

State-owned industries are often referred to as nationalized industries such as the electricity, coal mining and railway industries are entirely owned and managed by the state in many countries. It is also very common to find some goods and services being produced by both the state and the private sectors. Education and health care are particularly good examples of these types of service. Government action can have a role in improving information to help consumers and producers value the 'true' cost and/or benefit of a good or service. This could be done by persuasion (nudge theory) rather than by enforcement. Nudge theory, originally an ethical idea not a government manipulative tool, involves designing choices to encourage decision making in wider positive interests of society. It is held that well-placed 'nudges' can reduce market failure, save the government money, encourage desirable actions and help increase the efficiency of resource use.

Government intervention, however can prove to be ineffective or misplaced at times. For instance, the pursuit of self-interest amongst politicians and civil servants can often lead to a misallocation of resources. For example decisions about where to build new roads, by-passes, schools and hospitals may be decided with at least one eye to the political consequences. The pressures of a looming election or the influence exerted by special interest groups can foster an environment in which inappropriate spending and tax decisions are made. - e.g. capital spending on infrastructural projects without the projects being subjected to a full and proper cost-benefit analysis to determine the likely social costs and benefits.

A decision by the government to raise taxes on demerit goods such as cigarettes might lead to an increase in attempted tax avoidance, tax evasion, smuggling and the development of grey markets where trade takes place between consumers and suppliers without paying tax. Government intervention can prove costly to administer and enforce. The estimated social benefits of a particular policy might be largely swamped by the administrative costs of introducing it. Lastly a policy made on limited or wrong information available to the government can further accentuate the failures of markets.

Thus a failure of individuals' actions to deliver efficient allocation of scarce resources is normally regarded as justification for some form of government intervention in the economy. Though government intervention is designed to correct market failure but it is also possible that government's actions based on imperfect information might further accentuate inefficiencies.

Question 20

A free market economy operates to the benefit of both consumer and producer to achieve the most efficient outcome, and therefore there is no role for a government to play in controlling the market.

Consider the extent to which this statement is correct.

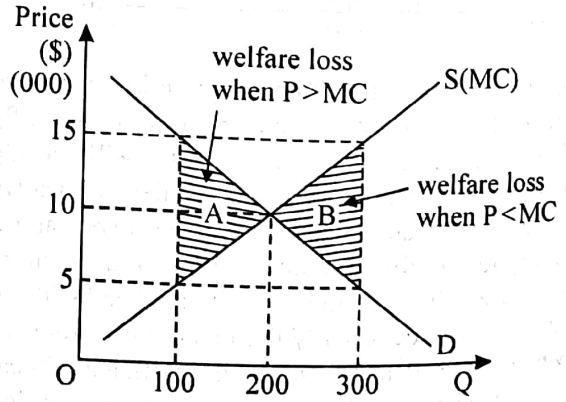
[25]

[J18/P4/Q7]

Essay

A free market system is associated with the capitalist ideology where all resources are privately owned. Hence all economic decisions are made by individual households and firms who act in their own self interest. The essence of a market system is price mechanism, often quoted as "invisible hand". Operating on its own, without government intervention, price mechanism allocates resources through million of decisions taken each day by consumers and businesses. So, it is believed that apparently chaotic system of millions of transactions would not only allocate resources but it would do it efficiently.

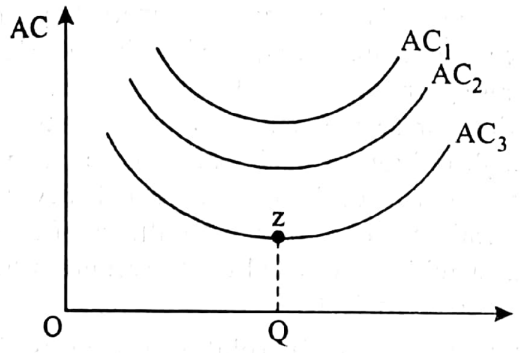
Efficiency generally relates to how well an economy uses its scarce resources to satisfy maximum wants of consumers. When economists use the term efficiency they actually refer to allocative and productive efficiency. Allocative efficiency is when right amount of scarce resources are allocated to produce right products. This occurs when the consumers' valuation (P) of a product equals the cost of resources (marginal cost) used up in its production i.e. P = MC. The graph below illustrates this.



The optimum allocation of resources is when output is 200 units at a price of $10 i.e. QD = QS, So the equilibrium in the market implies P = MC, and generates maximum possible amounts of consumer and producer surplus. Any situation where either P > MC or P < MC implies inefficient

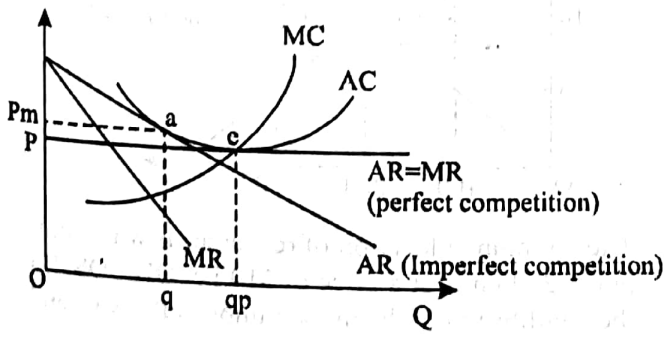
allocation of resources. An output of 100 units, for instance, indicates that fewer resources have been allocated than what are required to achieve P = MC. Now an increase in output up to 200 units would increase both consumer and producer surplus indicated by triangle A and hence would improve allocative efficiency. Alternatively the output of 300 units signifies that too many resources have been allocated for production because P < MC . The shaded triangle B represents welfare loss. It, therefore, follows that net gains can be realized if production is reduced to 200 units.

Productive efficiency refers to firms' costs of production and can be applied both to the short run and long run. It exists when producers minimize the wastage of resources i.e when they produce a product using the least possible resources or generating the lowest possible per unit cost. The graph below shows this.



The curve AC_3 suggests productive efficiency because it indicates the lowest possible cost techniques of production for different levels of output. All other curves above AC_3 indicate higher per unit cost therefore they all suggest productive inefficiency. Economists use the term technical efficiency when a firm produces at the lowest point (z) on the lowest average cost curve.

The theory of firm predicts that each firm in a perfectly competitive market produces at the lowest point on its LRAC curve and it is not possible for any one firm to reduce its cost any further by altering its output. Every firm in perfect competition, therefore is productively efficient. This is shown in the graph below.



It can be analyzed from the graph that perfectly competitive firms maximize profits by equating marginal cost to price. Thus, when perfect competition is the market structure for the whole economy, price is equal to marginal cost in each line of production resulting in allocative efficiency.

On the contrary, a profit maximizing firm operating under imperfect market conditions will maximize profits at an output (q) where price exceeds marginal cost, hence leading to an inefficient allocation of scarce resources. Also the firm produces at the decreasing part of AC curve that indicates its failure to optimize use of resources.

However it is held that in few cases even the competitive outcome of markets is not efficient from the point of view of society as a whole. In those cases market system is believed to have failed and it, therefore, results in a loss of economic and social welfare. This is because the benefits that the free-market confers on individuals or businesses carrying out a particular activity diverge from the benefits to the society as a whole.

The existence of externalities, for instance, causes market forces to fail to allocate resource at socially optimum level. An externality occurs whenever actions by firms or consumers impose costs or confer benefits on others who are not involved in the transaction. The essence of the problem created by externalities is that market forces will lead to either too little or too much production. With a positive externality, a competitive free market will produce too little of the good and with a negative externality it produces too much of the good.

Another important cause of market failure is imperfect information. The reason for this is that party to a transaction can often take an advantage by shifting costs onto the other party. More generally, whenever either party to a transaction lacks information that the other party has, or is deceived by false claims, the outcome of market forces changes and these changes may lead to inefficiency.

Merit and demerit goods are a clear case of imperfect information. Consumers don't perceive quite well how good or bad a particular product is for them: either they do not have the right information or they simply lack some relevant information. The problem is that imperfect information causes market forces to lead to an inappropriate amount of merit and demerit goods being produced or consumed.

A distinct type of market failure exists in case of public goods. A good must possess three distinguishing characteristics to qualify as a public good. It must be non-excludible, non-rival and

non-rejectable. These features give rise to the free rider problem; people receiving benefits from a good without contributing to its cost. Thus it develops a situation in which everyone believes that others will take on the burden of paying for goods such as national defense and streetlights. Since the exclusion principle does not apply to these goods, private enterprises have no economic incentive to supply them. So we have goods which yield substantial benefits but to which the market system fails to allocate resources.

The role of the government is to intervene in markets that are not seen to be allocating and using resources in the most efficient manner. Government policy and methods of intervention can be summarized under four broad headings: regulation, financial intervention, direct provision and improving information.

In case of financial intervention indirect taxes such as changes in VAT and excise duties can be used to raise the price of demerit goods and products with negative externalities. Subsidies to consumers will lower the price of merit goods such as grants to students to reduce the internal costs of staying on in full-time education. In addition to providing the finance it is also possible for a government to take over the production of a good or service, either in whole or in part. State-owned industries are often referred to as nationalized industries such as the electricity, coal mining and railway industries are entirely owned and managed by the state in many countries. It is also very common to find some goods and services being produced by both the state and the private sectors. Education and health care are particularly good examples of these types of service.

Government action can have a role in improving information to help consumers and producers value the 'true' cost and/or benefit of a good or service.

However the critics argue that government intervention does not always improve efficiency. They believe that the pursuit of self interest, limited information and tendency to look for quick fixes among politicians can result in a further loss of efficiency. Even with good intentions governments seldom get their policy application correct. They can tax, control and regulate but the eventual outcome may be a deepening of the market failure or even worse a new failure may arise.

Thus a failure to deliver efficient use of resources by the free market system in certain cases is normally considered as justification for some form of government involvement in the economy. This intervention, however, should be carefully designed to correct market failure with the view to achieve an improvement in economic and social welfare.

Question 21

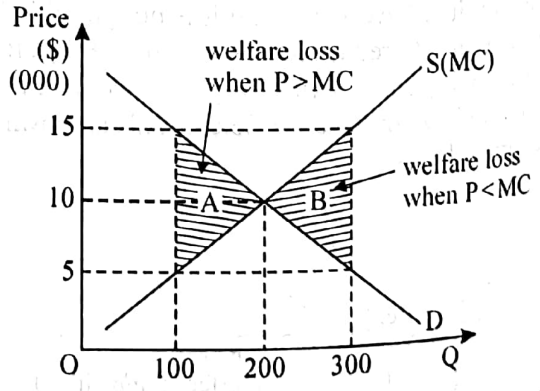
Discuss whether economic efficiency is always achievable in a market economy. [25]

[N18/P4/Q2]

Essay

A market economy is associated with the capitalist ideology where all resources are privately owned. Hence all economic decisions are made by individual households and firms who act in their own self interest. The essence of a market system is price mechanism, often quoted as "invisible hand". Operating on its own, without government intervention, price mechanism allocates resources through million of decisions taken each day by consumers and businesses. So, it is believed that apparently chaotic system of millions of transactions would not only allocate resources but it would do it efficiently.

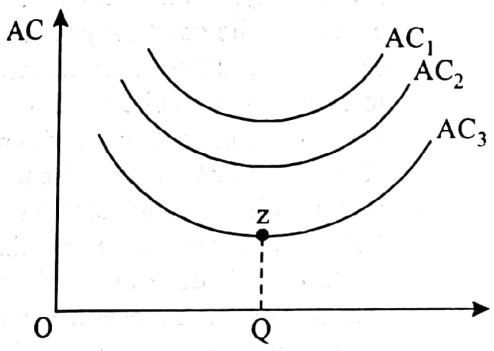
Efficiency generally relates to how well an economy uses its scarce resources to satisfy maximum wants of consumers. When economists use the term efficiency they actually refer to allocative and productive efficiency. Allocative efficiency is when right amount of scarce resources are allocated to produce right products. This occurs when the consumers' valuation (Price) of a product equals the cost of resources (marginal cost) used up in its production i.e. P = MC. The graph below illustrates this.



The optimum allocation of resources is when output is 200 units at a price of $10 i.e. QD = QS, So the equilibrium in the market implies P = MC, and

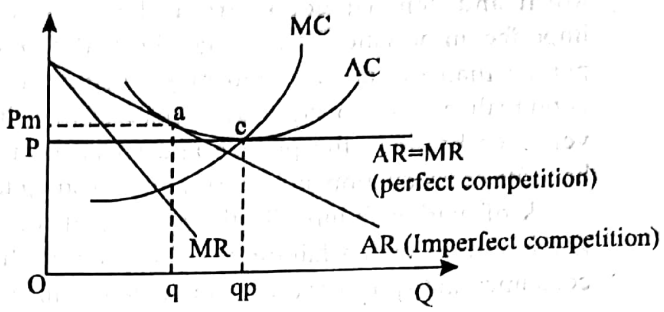
generates maximum possible amounts of consumer and producer surplus. Any situation where either P > MC or P < MC implies inefficient allocation of resources. An output of 100 units, for instance, indicates that fewer resources have been allocated than what are required to achieve P = MC. Now an increase in output up to 200 units would increase both consumer and producer surplus indicated by triangle A and hence would improve allocative efficiency. Alternatively the output of 300 units signifies that too many resources have been allocated for production because P < MC. The shaded triangle B represents welfare loss. It, therefore, follows that net gains can be realized if production is reduced to 200 units.

Productive efficiency refers to firms' costs of production and can be applied both to the short run and long run. It exists when producers minimize the wastage of resources i.e when they produce a product using the least possible resources or generating the lowest possible per unit cost. The graph below shows this.



The curve AC_3 suggests productive efficiency because it indicates the lowest possible cost techniques of production for different levels of output. All other curves above AC_3 indicate higher per unit cost therefore they all suggest productive inefficiency. Economists use the term technical efficiency when a firm produces at the lowest point (z) on the lowest average cost curve.

The theory of firm predicts that each firm in a perfectly competitive market produces at the lowest point on its LRAC curve and it is not possible for any one firm to reduce its cost any further by altering its output. Every firm in perfect competition, therefore is productively efficient. This is shown in the graph below.



It can be analyzed from the graph that perfectly competitive firms maximize profits by equating marginal cost to price. Thus, when perfect competition is the market structure for the whole economy, price equals marginal cost in each line of production results in allocative efficiency.

On the contrary, a profit maximizing firm operating under imperfect market conditions maximizes profits at an output (q) where price exceeds marginal cost, hence causes an inefficient allocation of scarce resources. Also the firm produces at the decreasing part of its AC curve that indicates its failure to optimize use of resources.

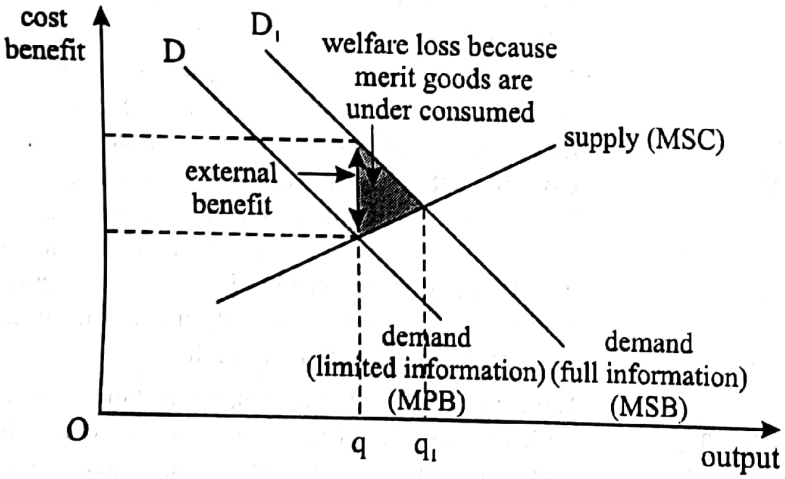
However it is held that in few cases even the competitive outcome of markets is not efficient from the point of view of society as a whole. In those cases market system is believed to have failed and it, therefore, results in a loss of economic and social welfare. This is because the benefits that the free-market confers on individuals or businesses carrying out a particular activity diverge from the benefits to the society as a whole.

The existence of externalities, for instance, causes market forces to fail to allocate resource at socially optimum level. An externality occurs whenever actions by firms or consumers impose costs or confer benefits on others who are not involved in the transaction. The essence of the problem created by externalities is that market forces will lead to either too little or too much production. With a positive externality, a competitive free market will produce too little of the good and with a negative externality it produces too much of the good.

Another important cause of market failure is imperfect information. The reason for this is that party to a transaction can often take an advantage by shifting costs onto the other party. More generally, whenever either party to a transaction lacks information that the other party has, or is deceived by false claims, the outcome of market forces changes and it could lead to inefficiency.

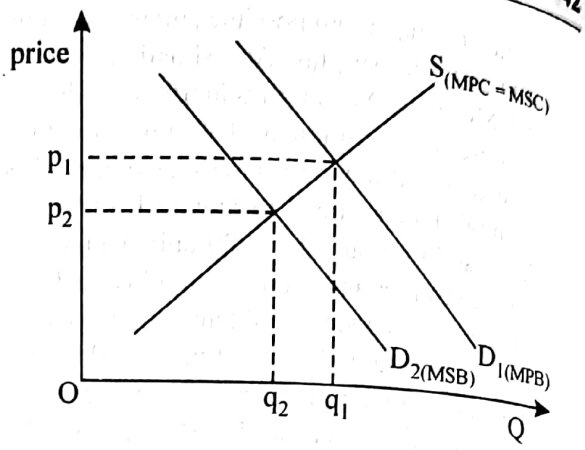
Merit and demerit goods are a clear case of imperfect information. A merit good is better for a person than the person who may consume the good realizes. Moreover, these goods create a divergence between the private and social costs/ benefits of production and consumption leading to a risk of market failure. So the essence of merit good is to do with a failure of information to the consumer and spillover effects on non-consumers.

Good examples of merit goods include health services, education, work training programmes, public libraries etc. There is nothing inherent that makes these goods different from private goods. Therefore they can be supplied through the market and in some countries they actually are. However, consumer may not be able to purchase or feel the need to consume them up to the correct level i.e. socially optimum level. Thus the free market forces would not provide them in the quantities that society ought to consume. This is illustrated in the graph below.



Marginal social benefits equal marginal social costs indicate q_1 as socially optimum output. However, consumers undervalue the product for their demand is indicated by D_2. This leads to q_2 production of the good that is below the optimum level, thus market has allocated insufficient amount of resources and hence resulted in welfare loss as shown by the shaded triangular area.

In contrast demerit goods are worse for the consumers than they realize. A demerit good is associated with negative externalities. Consumers do not fully realize how bad a particular good is for them. Either they do not have the right information or they simply lack some relevant information. The result is higher demand and overproduction of such goods. Figure below illustrates this.



Here the correct level of demand is D_2 that indicates q_2 as socially optimum allocation of resources. However D_1 is the actual demand registered in the market that is higher than D_2. Equilibrium in the market indicates q1 production that is higher than the socially optimum level of output.

Thus imperfect information causes market forces to lead to an inappropriate amount of both merit and demerit goods being produced or consumed.

A distinct type of market failure exists in case of public goods. A good must possess three distinguishing characteristics to qualify as a public good. It must be non-excludible, non-rival and non-rejectable. These features give rise to the free rider problem; people receiving benefits from a good without contributing to its cost. Thus it develops a situation in which everyone believes that others will take on the burden of paying for goods such as national defense and streetlights. Since the exclusion principle does not apply to these goods, private enterprises have no economic incentive to supply them. So we have goods which yield substantial benefits but to which the market system fails to allocate resources.

In general a market economy, operating through the forces of demand and supply, is credited to achieve efficiency. However its failure to deliver efficient use of resources in specific areas justifies some form of government involvement in the economy.