

2000

ECONOMICS

MCQ WITH HELPS

Frequently Examined Questions
FOR
**AS & A
LEVEL**

► 2300+ MCQs ► Answers with Help ► Topic By Topic

Project Editor: Syed Zahid Kamal

 **REDSPOT**
PUBLISHING

CoNTeNTs



AS LEVEL

TOPIC 1 BASIC ECONOMIC IDEAS

1.1	Scarcity, Choice and Resource Allocation -----	10
1.2	Production Possibility Curve -----	13
1.3	Opportunity Cost -----	24
1.4	Positive and Normative Statements -----	28
1.5	Different Allocative Mechanisms (Economic Systems) -----	30
1.6	Money and Division of Labour -----	33
	Answers with help -----	35

TOPIC 2 THE PRICE SYSTEM

2.1	Demand -----	44
2.2	Supply -----	51
2.3	Price Determination -----	54
2.4	Price Elasticity of Demand -----	63
2.5	Income Elasticity of Demand -----	70
2.6	Cross Elasticity of Demand -----	72
2.7	Price Elasticity of Supply -----	75
2.8	Consumer and Producer Surplus -----	79
	Answers with help -----	86

TOPIC 3 GOVERNMENT MICROECONOMIC INTERVENTION

3.1	Indirect Taxes and Subsidies -----	102
3.2	Price Fixing -----	110
3.3	Classification of Goods and Services -----	117
3.4	Privatization and Nationalisation -----	120
3.5	Transfer Payments -----	123
	Answers with help -----	127

TOPIC 4 INTERNATIONAL TRADE

4.1 Principles of Absolute and Comparative Advantage ----- 136

4.2 Protectionism ----- 146

4.3 Terms of Trade----- 152

4.4 Economic Integration ----- 157

4.5 Balance of Payments ----- 159

4.6 Exchange Rate----- 166

Answers with help ----- 178

TOPIC 5 THEORY AND MEASUREMENT IN THE MACROECONOMY

5.1 Interaction of AD and AS ----- 195

5.2 General Price Level: Price Indices----- 201

5.3 Inflation ----- 204

5.4 Government Macro Economic Policies----- 209

Answers with help ----- 217

CoNTeNTs



A LEVEL

TOPIC 6 CONSUMER BEHAVIOUR

6.1	Utility	228
6.2	Budget Line and Indifference Curve	234
6.3	Income and Substitution Effects	241
	Answers with help	243

TOPIC 7 THE PRICE SYSTEM AND THE THEORY OF THE FIRM

7.1	Production Function	250
7.2	Costs and Revenue Functions	256
7.3	Size and Growth of Firms	266
	Answers with help	271

TOPIC 8 MARKET STRUCTURE

8.1	Perfect Competition	280
8.2	Monopoly	290
8.3	Monopolistic Competition	300
8.4	Oligopoly	304
8.5	Contestable Market	310
	Answers with help	311

TOPIC 9 EFFICIENCY AND EQUITY

9.1	Allocative and Productive Efficiency	322
9.2	Externalities	335
9.3	Cost and Benefit Analysis	341
	Answers with help	345

TOPIC 10 THEORY OF DISTRIBUTION (LABOUR MARKET)

	Answers with help	369
--	-------------------------	-----

TOPIC 11	NATIONAL INCOME STATISTICS.	374
	Answers with help	387
TOPIC 12	NATIONAL INCOME DETERMINATION	
12.1	Consumption and Savings	392
12.2	Investment	400
12.3	National Income Equilibrium and Multiplier	403
	Answers with help	419
TOPIC 13	MONEY MARKET	
13.1	Interest Rate Determination	428
13.2	Quantity Theory of Money	438
	Answers with help	443
TOPIC 14	AIMS AND POLICY OPTIONS	
14.1	Monetary Policy	449
14.2	Fiscal Policy	455
14.3	Supply Side Policy	466
	Answers with help	467
TOPIC 15	MACROECONOMIC PROBLEMS	
15.1	Unemployment	474
15.2	Growth and Development	482
	Answers with help	489

Basic Economic Ideas

Contents that you will be examined on:

- (a) Scarcity, choice and opportunity cost
 - the fundamental economic problem
 - the meaning of scarcity and the inevitability of choices at all levels (individual, firms, governments)
 - the basic questions of what will be produced, how and for whom
 - the meaning of the term, 'ceteris paribus'
 - the margin and decision making at the margin
 - short run, long run, very long run
- (b) Positive and normative statements
 - the distinction between facts and value judgements
- (c) Factors of production
 - the rewards to the factors of production: land, labour, capital and enterprise
 - specialisation and division of labour
- (d) Resource allocation in different economic systems and issues of transition
 - decision making in market, planned and mixed economies
 - the role of the factor enterprise in a modern economy
- (e) Production possibility curves
 - shape and shifts of the curve
 - constant and increasing opportunity costs
- (f) Money
 - functions and characteristics in a modern economy
 - barter, cash and bank deposits, cheques, near money, liquidity

1.1 Scarcity, Choice and Resource Allocation

Q1

Which action by an individual would **not** be considered an action of the factor of production labour?

- A leaving college to work on the land
 - B moving from a labour-intensive industry to work in a capital-intensive industry
 - C setting up a new business in information technology
 - D undertaking a training course in computer skills
-

Q2

Why is scarcity the central feature of the economic problem?

- A People's needs are limited.
 - B Resources have alternative uses.
 - C Economic resources are finite.
 - D Consumers have limited choices.
-

Q3

What does the concept of *ceteris paribus* allow economists to do?

- A calculate the monetary value of consumer surplus
 - B distinguish between economic and free goods
 - C distinguish between normative and positive statements
 - D isolate the effect of one variable on another variable
-

Q4

What is the central problem for an economy?

- A to achieve maximum growth in production
 - B to allocate resources between alternative uses
 - C to ensure all resources are fully exploited
 - D to overcome inequalities in income distribution
-

Q5

Which combination of events must increase the level of scarcity in an economy?

- A discovery of new oil reserves and higher saving ratios
 - B improved application of technology and new invention
 - C less certain weather patterns and a fashion for greater consumption
 - D more efficient power generation and a reduced birth rate
-

Q6

What is the fundamental assumption of the economic problem?

- A Factors of production are finite.
 - B Individuals are the best judges of their own wellbeing.
 - C Individuals can be relied upon to behave rationally.
 - D The principal aim of private firms is profit maximisation.
-

Q7

Which question does **not** directly refer to the basic economic problem?

- A What goods and services should a firm produce?
 - B What price should a firm charge?
 - C What production methods should a firm use?
 - D Who should receive the goods and services that a firm produces?
-

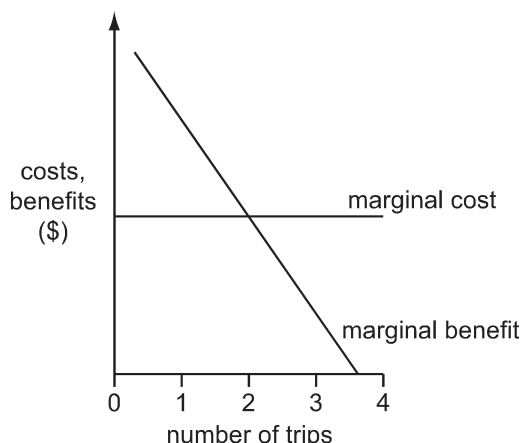
Q8

What term is used by economists for the income received by the factor of production enterprise?

- A capital
 - B interest
 - C profit
 - D revenue
-

Q9

The diagram shows a person's marginal costs and marginal benefits of making trips to the cinema.



How many trips will the person make?

- A None, as each extra trip reduces marginal benefit.
- B One, as this maximises the excess of marginal benefit over marginal cost.
- C Two, as this maximises the net benefit of making trips.
- D Three, as all trips have a positive marginal benefit.

Q10

A number of changes occur in an economy. Online training is made available to engineers, machinery in food processing is automated, profit taxes are imposed on information technology entrepreneurs and subsidised fertilisers are given to farmers.

Which factor of production is **least** likely to experience rising productivity?

- A capital
- B enterprise
- C labour
- D land

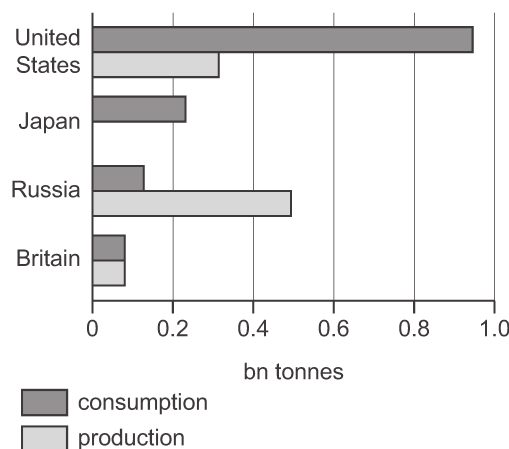
Q11

What confirms that scarcity exists?

- A A product has an opportunity cost.
- B The demand for a product has risen.
- C The government has set a minimum price for a product.
- D The supply of a product has fallen.

Q12

In 2007 there was a worldwide shortage of oil. The diagram shows the consumption and production of oil (billion tonnes) in 2007 for selected countries.



What can be concluded from the diagram?

- A In Britain, oil had zero opportunity cost.
- B In Japan, there was self sufficiency in oil.
- C In Russia, there was no shortage of oil.
- D In the United States, rationing was the only solution to oil shortage.

Q13

Why is choice central to the economic problem?

- A Different governments have different objectives.
- B Firms have access to unlimited resources.
- C Most resources have alternative uses.
- D People's wants are limited.

Q14

What must follow when scarcity exists?

- A Consumers have to make choices.
- B Governments are unable to supply public goods.
- C Producers must be misallocating resources.
- D Workers must be earning low wages.

Q15

Scarcity means that goods need to be rationed between competing consumers.

Which basis for rationing is the most likely to result in the most equal distribution of goods?

- A consumer preference B market price
C political decision D seller preference

Q16

The diagram is from a chapter on ‘The Economic Problem’ in an Economics textbook. It should contain the terms *opportunity cost*, *scarcity* and *choice* in the order that identifies the economic problem.



What is the correct order for the terms to appear in the diagram?

- A choice → opportunity cost → scarcity
B choice → scarcity → opportunity cost
C scarcity → choice → opportunity cost
D scarcity → opportunity cost → choice

Q17

To overcome the problem of scarcity, countries with few natural resources need to concentrate on the quality of human resources.

Which set of policies would be most appropriate?

	natural resources policy	human resources policy
A	develop renewable energy supplies	improve education and training
B	plan the allocation of resources	discourage automation
C	protect land resources	protect jobs in manufacturing
D	restrict imports of raw materials	restrict influx of skilled migrants

Q18

Which statement about economics is **not** correct?

- A Economic actions can produce unexpected side effects.
B Economic thinking is usually based on logical reasoning at the margin.
C The use of scarce resources to produce a good always has a cost.
D The value of a good or service involves a purely objective judgement.

1.2 Production Possibility Curve

Q19

Which one of the following could result in an outward shift in a community's production possibility curve?

- A an increase in the labour force
- B a reduction in the level of unemployment
- C a reduction in government expenditure on the armed forces
- D an increase in the general price level

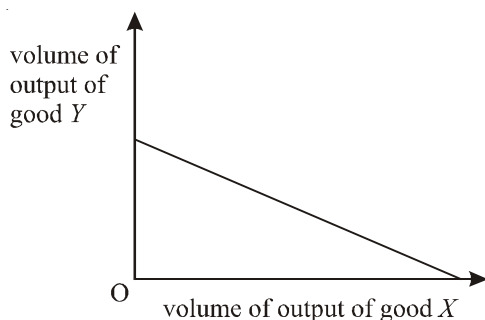
Q20

A situation where an economy is operating at a point inside its production possibility boundary can be described as inefficient because at such points

- A shortage of some goods and unsold stocks of others are inevitable.
- B individuals are necessarily enjoying too much leisure at the expense of productive work.
- C increased production of one good can be achieved without decreased production of another.
- D the economy is not participating in international trade.

Q21

The diagram below shows the production possibility curve for an economy.



From the information provided in the graph, which one of the following statements about the production of goods X and Y must be true?

- A The capital of labour ratios are different.
- B The marginal costs of good X in terms of good Y is constant.

- C Utility is maximised by specialising completely in the production of good X.
- D The factors of production are more efficiently employed in the production of good X than in the production of good Y.

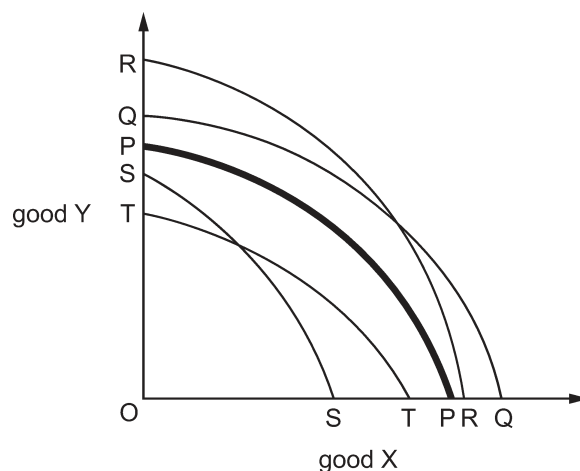
Q22

If military and civilian expenditure in the U.S.A. increased to the point where that country was on its production possibility curve then

- A further increases could only come from absorbing unemployed resources.
- B neither civilian nor military expenditure could be increased.
- C no further increases in output would be possible.
- D more of some goods could be produced but only at the expenses of others.

Q23

The curve PP in the diagram is the production possibility curve for a country producing goods X and Y. The production of X is more labour-intensive than the production of Y.

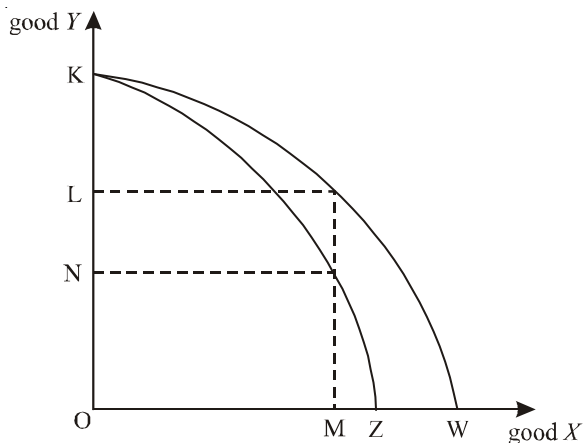


The working hours of the labour force are reduced by law. Which curve could be the country's new production possibility curve?

- A TT
- B SS
- C QQ
- D RR

Q24

The diagram below shows production possibility curves before and after a technical discovery affecting the production of good X.

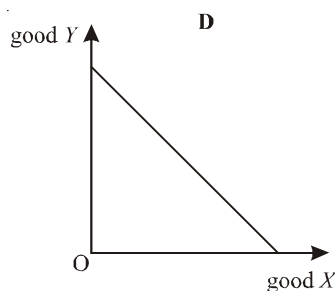
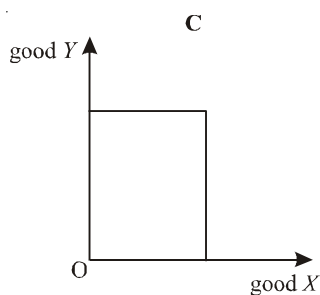
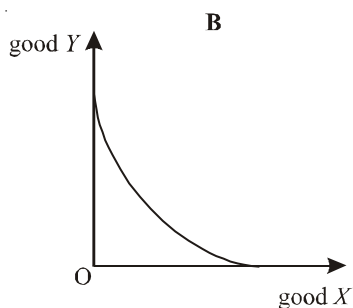
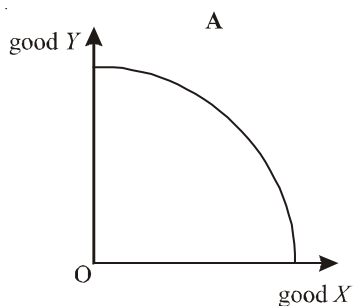


Which one of the following distances represents the *reduction* in the total opportunity cost of producing OM of X in terms of Y?

- A KL B KN
C LN D MZ

Q25

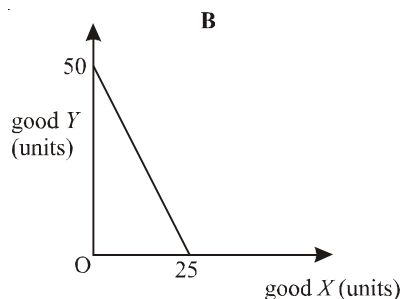
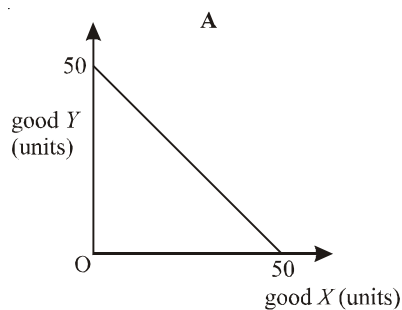
Which one of the production possibility curves below is inconsistent with the statement that “scarce resources have alternative uses”?

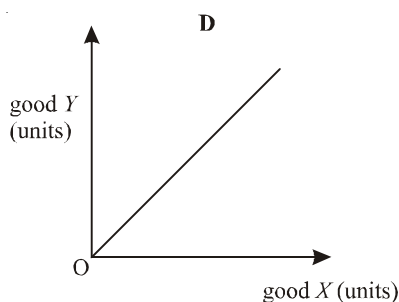
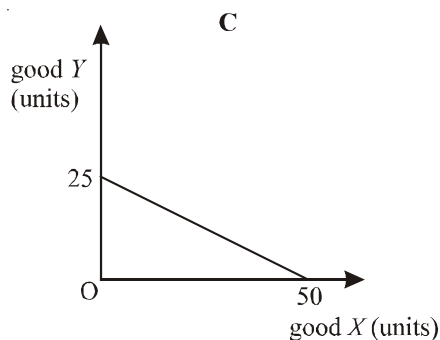
**Q26**

An economy has 100 units of capital and 200 units of labour. It produces two goods, X and Y, which require units of capital and labour per unit of output as shown in the table below.

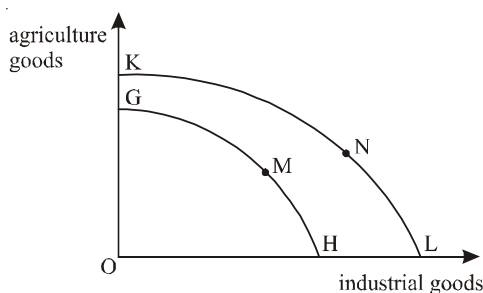
	capital	labour
X	4	3
Y	2	4

Which one of the diagrams below represents the production possibility frontier of the economy?



**Q27**

In the diagram, GH and KL are two production possibility frontiers.



Which one of the following would account for a movement from point M on frontier GH to point N on frontier KL?

- A** a more efficient allocation of resources between industry and agriculture
- B** technological advances in both industry and agriculture
- C** the introduction of government subsidies for agricultural output
- D** a reduction in unemployment

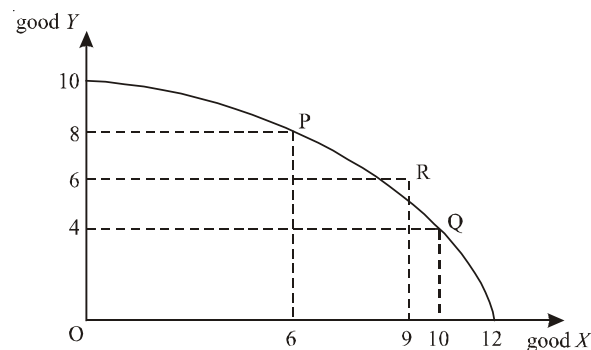
Q28

What can be deduced from a production possibility curve for a country that can produce two goods: **X**, a consumer good and **Y**, a capital good?

- A** the amount of **X** it will produce
- B** the extent to which resources are being fully utilised
- C** the opportunity cost of **X** in terms of **Y**
- D** the country's preference for present as compared to future consumption

Q29

The diagram shows the production possibility curve for an economy producing goods **X** and **Y**.



Given this production possibility curve, one way in which consumption at point R could be attained would be to produce.

- A** at point P, export 2Y and import 3X.
- B** at point P, export 3X and import 2Y.
- C** at point Q, export 2Y and import 1X.
- D** at point Q, export 2X and import 2Y.

Q30

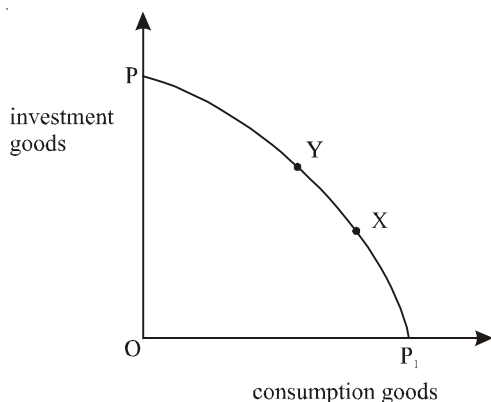
The only available information in relation to a particular country which can produce two commodities, **X** a consumer good and **Y** a capital good, is its production possibility curve.

Which of the following can be deduced from this information?

- A** the amounts of **X** and **Y** it will produce
- B** the extent to which resources are being fully utilised
- C** the opportunity cost of **X** in terms of **Y** at any given level of output
- D** the country's preference for present as compared to future satisfaction of wants

Q31

An economy is faced with the production possibility curve PP_1 shown in the diagram.



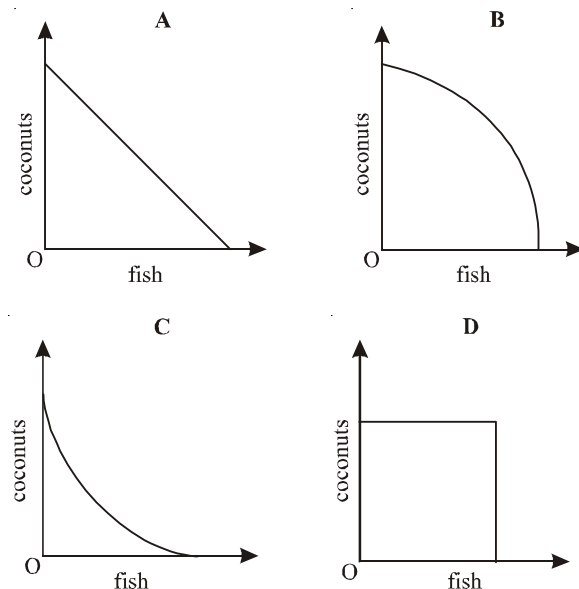
The selection of point Y rather than point X implies

- A a more rapid rate of future economic growth.
- B a more efficient allocation of resources.
- C an increase in current consumption relative to future consumption.
- D an increase in unemployment in consumer goods industries.

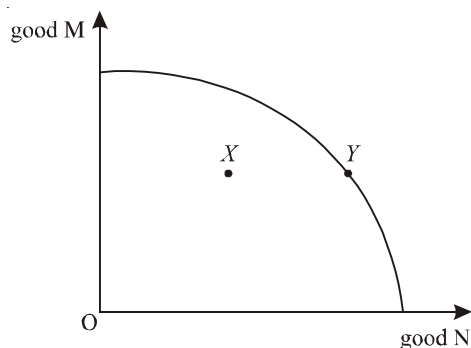
Q32

A group of individuals are shipwrecked on a tropical island and allocate their time between gathering coconuts and fishing. Each individual is equally productive in collecting coconuts and catching fish.

Which diagram represents the production possibility curve of this community?

**Q33**

The diagram shows the production possibility frontier for an economy capable of producing only goods, M and N.



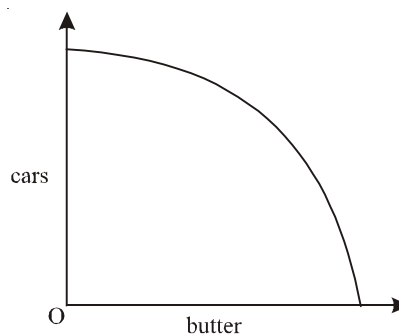
What would explain a change in production from combination X to combination Y?

- A a fall in the opportunity cost of good N
- B an advancement in technology
- C an increased desire for good N
- D employment of previously unemployed resources

Q34

An economy produces two goods, cars and butter.

The diagram shows the economy's production possibility frontier.

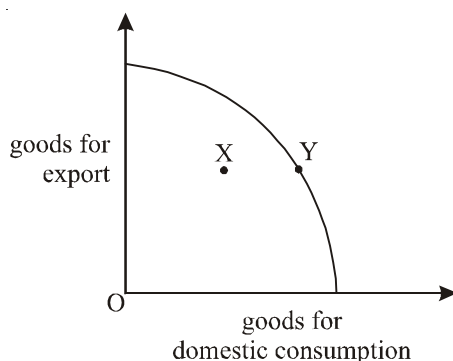


Why is the frontier curved outwards?

- A Some resources are better suited to the production of cars and others to butter.
- B There are economies of scale in the production of both goods.
- C The resources available to the economy are in fixed supply.
- D Any increase in the resources devoted to car production requires a reduction in the resources devoted to butter.

Q35

The diagram shows the production possibility curve of an economy.

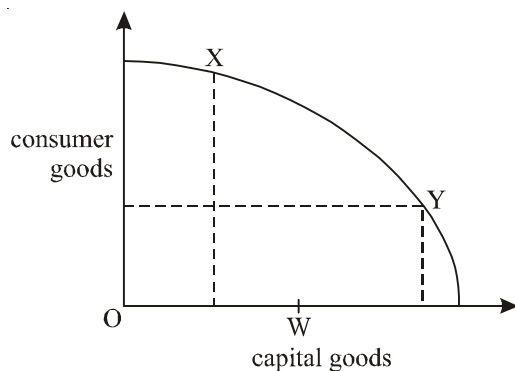


What might explain the movement from X to Y?

- A an improvement in technology
- B growth in productive capacity
- C more favourable terms of trade
- D recovery from recession

Q36

The diagram shows the production possibilities of an economy that has a rate of capital consumption of OW.

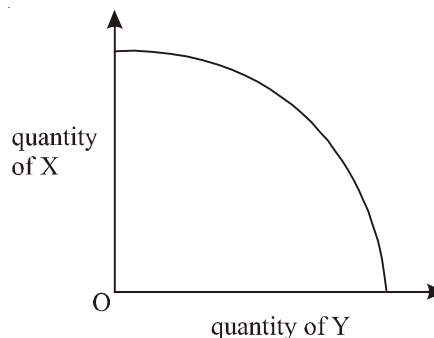


What will be the effect on current and future living standards of a movement from X to Y on the curve?

- | | <i>current living standards</i> | <i>future living standards</i> |
|---|---------------------------------|--------------------------------|
| A | decrease | decrease |
| B | decrease | increase |
| C | increase | decrease |
| D | increase | increase |

Q37

The diagram shows the production possibility curve of an economy which uses two factor inputs, capital and labour, to produce two goods, X and Y.



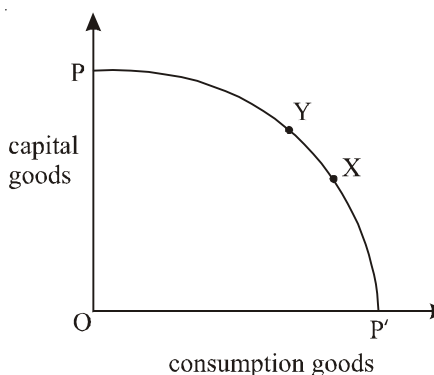
The amounts of capital allocated to both X and Y are fixed.

What explains why the curve is bowed outwards?

- A decreasing opportunity costs
- B diminishing returns
- C diseconomies of scale
- D economies of scale

Q38

The curve PP' in the diagram is a country's production possibility curve.

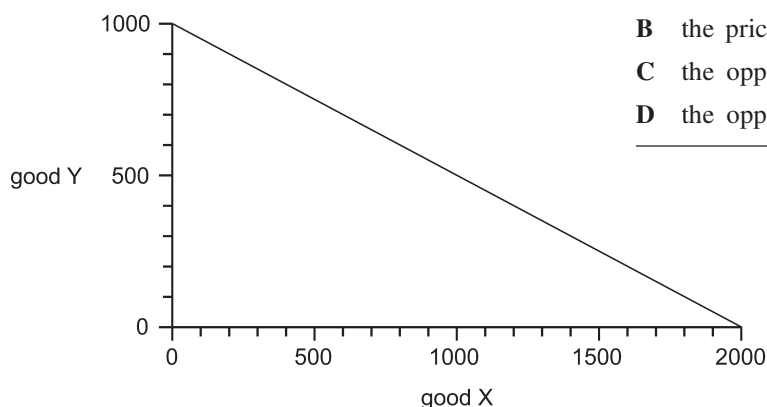


What is likely to be the effect on current and future total output of a move from point X to point Y?

- | | <i>current total output</i> | <i>future total output</i> |
|---|-----------------------------|----------------------------|
| A | lower | lower |
| B | lower | higher |
| C | unchanged | lower |
| D | unchanged | higher |

Q39

The diagram shows a production possibility curve for an economy that produces only two goods, X and Y.



The economy produces 800 of good Y and produces on its production possibility curve.

Which quantity of good X is given up?

- A 200 B 400
C 800 D 1600

Q40

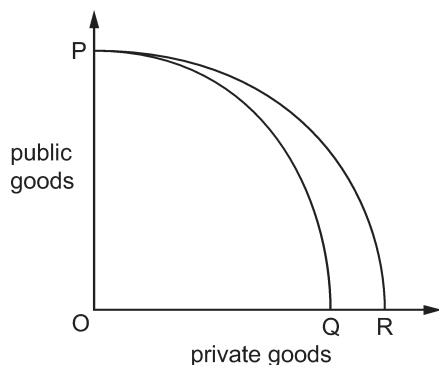
A production possibility curve shows labour-intensive farming output and capital-intensive manufacturing output.

What would **not** cause a shift in this curve?

- A a reduction in sales tax on manufactured products
B better training of workers in the manufacturing sector of the economy
C improvements in the productivity of agricultural machinery
D the reclamation of land to be used for both agriculture and manufacturing

Q41

The diagram shows the change in a country's production possibility curve from PQ to PR.

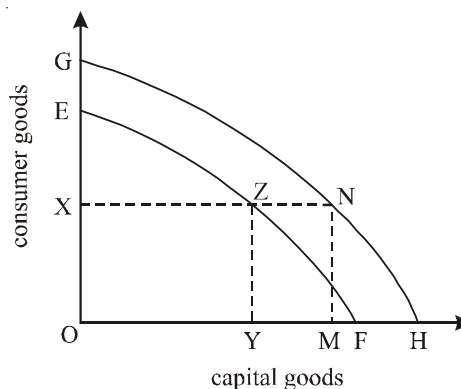


What increases as a result of the change from PQ to PR?

- A the price of private goods
B the price of public goods
C the opportunity cost of private goods
D the opportunity cost of public goods

Q42

The diagram shows two production possibility curves (EF and GH), before and after technological progress has taken place.

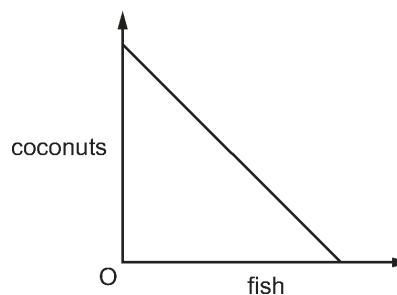


After technological progress has taken place, what is the opportunity cost in capital goods of producing OX consumer goods?

- A MH B OH
C OM D YF

Q43

The diagram shows the production possibility curve of a desert island economy where the inhabitants live off just two commodities, coconuts and fish.

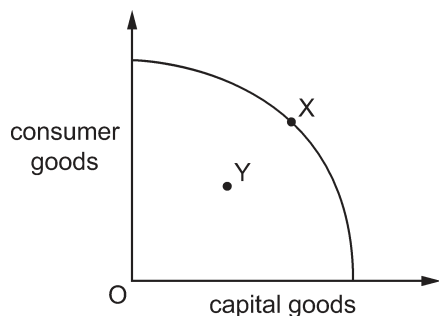


What explains the shape of the production possibility curve?

- A Coconuts and fish are in joint demand.
- B Coconuts and fish are perfect substitutes when consumed.
- C Fishing and coconut growing are equally efficient.
- D The opportunity cost of fish falls as more time is devoted to fishing.

Q44

The diagram shows a production possibility curve for an economy.

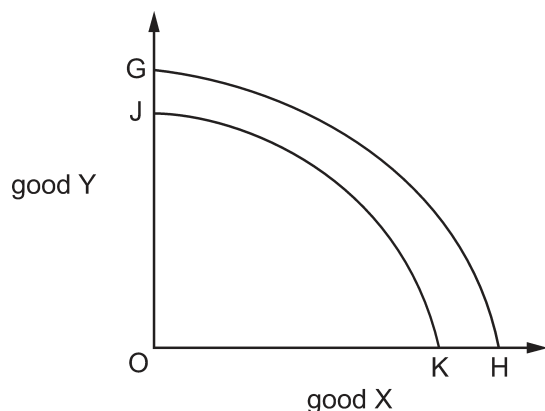


Assuming that the production possibility curve remains unchanged, what is the most likely reason for the movement from point X to point Y?

- A a civil war causing a widespread loss of resources
- B a permanent fall in productivity in both capital and consumer goods
- C the exhaustion of a natural resource
- D the rise in unemployment due to a recession

Q45

In the diagram, GH is an economy's initial production possibility curve.



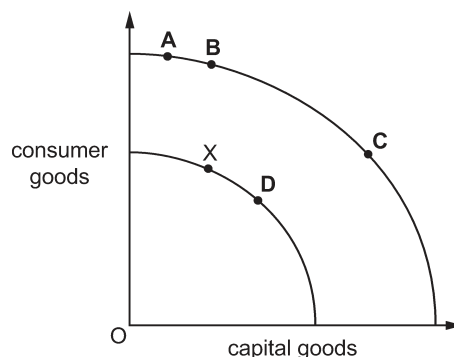
What could cause the curve to shift to JK?

- A a decrease in net exports
- B an increase in the average price level
- C an increase in the unemployment rate
- D net outward migration

Q46

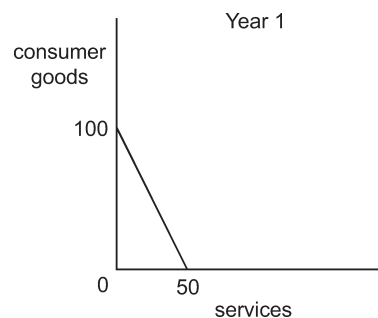
The diagram shows the change in an economy's production possibility curve as it grows in the long run.

Which movement from point X is **most** likely to show the highest potential for growth?



Q47

The diagrams show the change in a country's production possibility curve between Year 1 and Year 2.

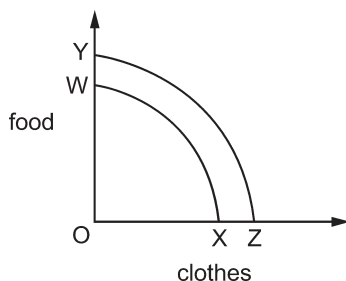


What can be concluded from the diagrams?

- A Future growth prospects have been harmed.
- B The level of unemployment has fallen.
- C The opportunity cost of consumer goods has risen.
- D The proportionate growth in production is greater in consumer goods.

Q48

The change from WX to YZ in a country's production possibility curve is shown.

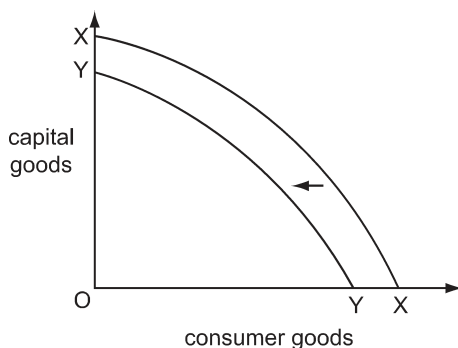


What could have caused this shift?

- A an increase in employment among the existing labour force
- B an increase in the rate of interest
- C the closing of an inefficient factory
- D the discovery of a new resource

Q49

A country's production possibility curve moves from XX to YY as shown in the diagram.

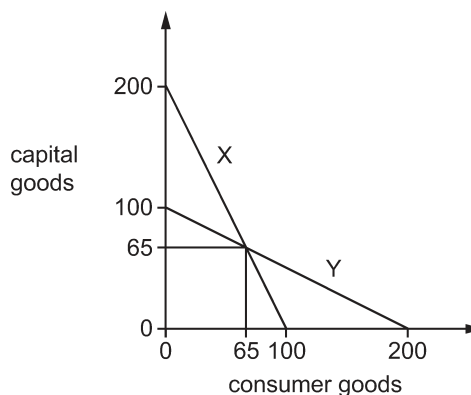


What could have caused this movement?

- A a rise in technological progress
- B a rise in the retirement age
- C an increase in investment
- D an increase in net emigration

Q50

The diagram shows the production possibility curves of two economies, X and Y.

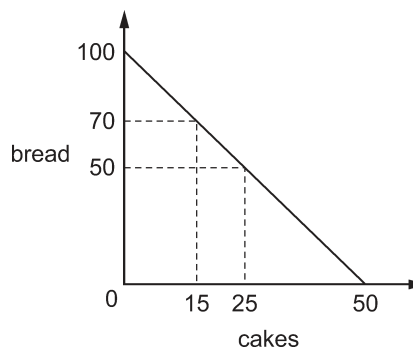


Which statement about the two economies is correct?

- A Both economies always have identical opportunity costs.
- B Both economies have the same future growth prospects.
- C The opportunity costs are constant in each economy.
- D The terms of trade for both countries will be one capital good for one consumer good.

Q51

The diagram shows different production possibilities for a bakery.



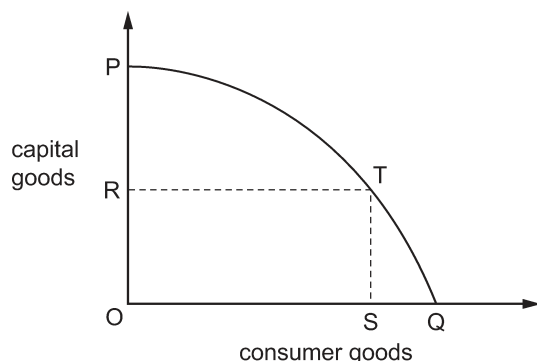
They wish to increase production of cakes from 15 units to 25 units.

What is the opportunity cost?

- A 10 units of cake B 15 units of cake
- C 20 units of bread D 50 units of bread

Q52

The production possibility curve for an economy producing capital goods and consumer goods is represented by the line PQ.

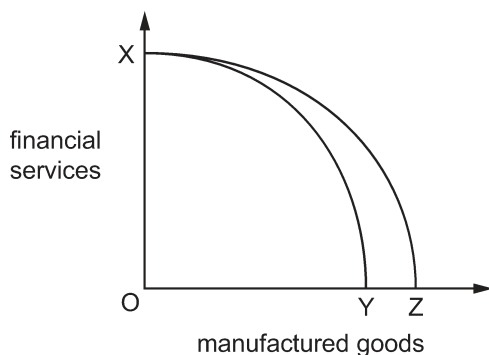


What is the opportunity cost of producing OS of consumer goods?

- A OR of capital goods
- B PR of capital goods
- C SQ of consumer goods
- D SQ of consumer goods + PR of capital goods

Q53

In the diagram XY is an economy's production possibility curve.

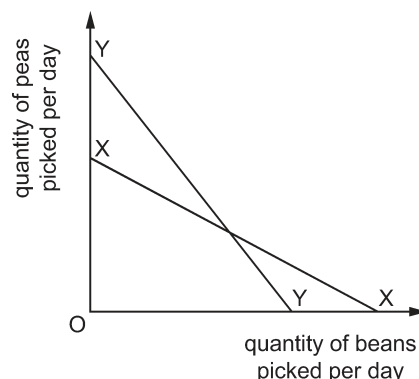


What could cause the curve to shift to XZ?

- A a fall in productivity in manufacturing
- B a fall in the price of manufactured goods
- C a higher demand for manufactured goods
- D an improvement in manufacturing technology

Q54

Line XX is the production possibility curve (PPC) of a worker picking peas and beans in a 10 hour working day.



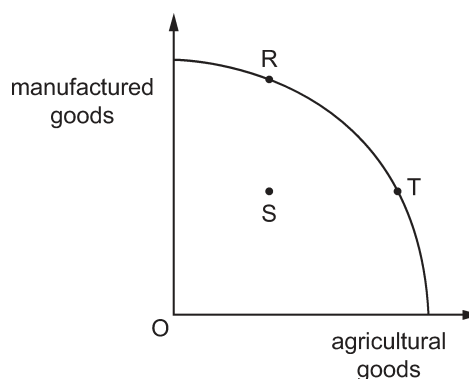
What would cause the worker's PPC to shift to the line YY?

- A a machine that increases the worker's pea picking productivity only
- B a new work schedule where the worker spends 6 hours per day picking peas and only 4 hours picking beans
- C a reduction in working hours to 8 per day and a machine that increases the worker's pea picking productivity
- D a reduction in working hours to 8 per day only

Q55

Farmers using traditional methods lack access to finance and often employ family members on a part-time basis.

If working practices in agriculture could be improved, how would this be likely to be shown on the production possibility curve?



- A by a movement from R to T
- B by a movement from S to R
- C by a movement from S to T
- D by a movement from T to R

Q56

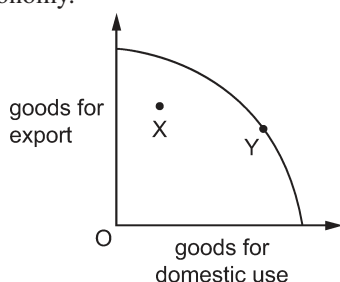
An economy can produce only two goods at any one time. These are good X and one other good from A, B, C or D. The table shows the outputs of goods A, B, C and D with each output of good X when the economy's resources are fully employed.

Which good must be produced with good X to show a production possibility curve with increasing costs?

	units				
X	0	100	200	300	400
A	0	20	40	60	80
B	110	70	40	20	0
C	120	90	60	30	0
D	140	120	90	50	0

Q57

The diagram shows a production possibility curve for an economy.

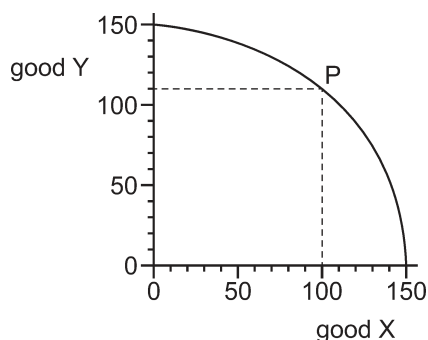


What might cause the movement from X to Y?

- A a more efficient use of resources
- B an increased emphasis on international trade
- C growth in the productive capacity of the economy
- D new innovations and technology

Q58

The diagram shows a production possibility curve for an economy that is producing at point P.

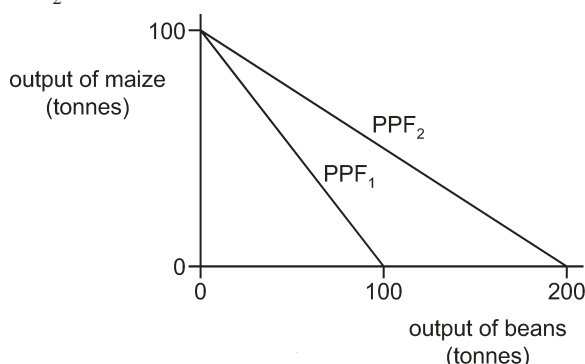


Which quantity of X is given up to produce the quantity of Y shown?

- A 40
- B 50
- C 100
- D 110

Q59

The diagram shows that the production possibility frontier of maize and beans has changed from PPF₁ to PPF₂.

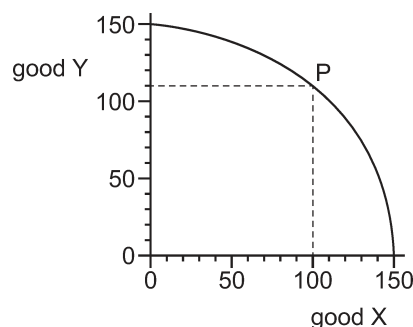


What has happened to the opportunity cost of maize and the returns to factors producing beans?

	opportunity cost of maize	returns to factors producing beans
A	fallen	fallen
B	fallen	risen
C	risen	fallen
D	risen	risen

Q60

The diagram shows a production possibility curve for an economy that is producing at point P.



Which quantity of Y is given up to produce the quantity of X shown?

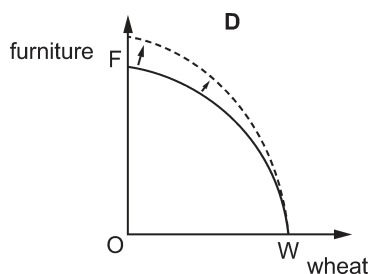
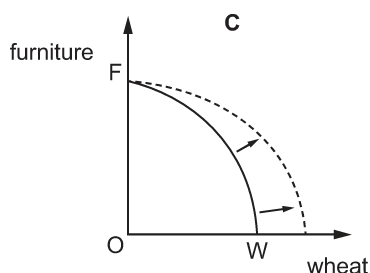
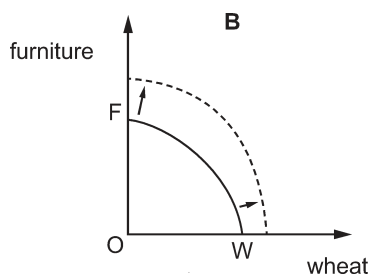
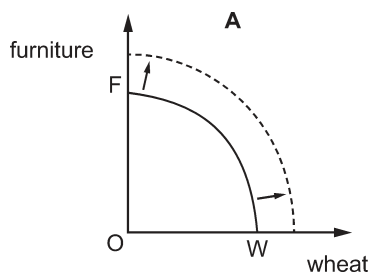
- A 40
- B 50
- C 100
- D 110

Q61

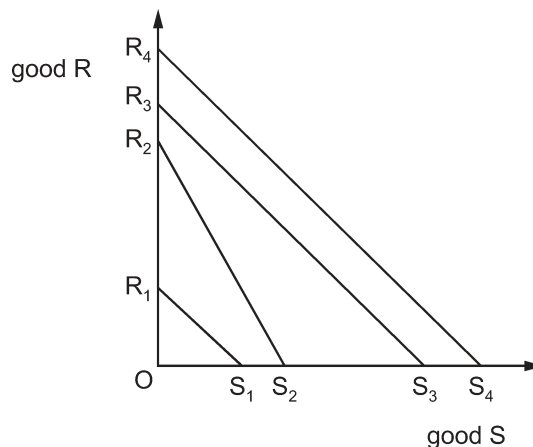
Economy X uses its resources in the labour-intensive production of wheat and wooden furniture as shown by the production possibility curve FW.

With the help of new strains of wheat seeds, X increased yields and shifted to a new production possibility curve.

Which diagram depicts this change?

**Q62**

R_1S_1 , R_2S_2 , R_3S_3 and R_4S_4 are production possibility curves (PPC) for four different countries 1, 2, 3 and 4.



Which statement about the opportunity cost of good R in terms of good S is **not** correct?

- A** It is greater at all points on R_4S_4 than on R_3S_3 .
- B** It is greater in country 3 than country 2.
- C** It is lower in country 2 than country 1.
- D** It is the same at each point on R_3S_3 .

1.4 Positive and Normative Statements

Q91

Which one of the following represents a value judgement?

- A A more equal distribution of income would increase the rate of economic growth.
- B A more equal distribution of income would be inflationary.
- C A more equal distribution of income would reduce the incentive to work.
- D A more equal distribution of income would be desirable.

Q92

Which one of the questions below cannot be examined by the method of positive economic analysis?

- A What goods and services are produced?
- B How are goods and services produced?
- C How is the level of investment determined?
- D How should goods and services be shared out between individuals?

Q93

Which one of the following statements is normative rather than positive?

- A Smoking can seriously damage your health.
- B Cigarette machines should be available only on premises to which children do not have ready access.
- C The prevalence of smoking is much higher among manual workers than among non-manual workers.
- D An increase in taxes on cigarettes will lead to additional unemployment in some regions.

Q94

What must be true of a positive statement?

- A It is one that can be shown to be correct or incorrect.
- B It is one that deals with positive changes in economic well being.
- C It is one that is true by definition.
- D It is one with which everyone is in agreement.

Q95

Which of the following is a normative statement?

- A The imposition of import tariffs will reduce unemployment.
- B A policy of controlling inflation which results in increased unemployment is undesirable.
- C The level of social security benefits is the primary factor influencing the level of unemployment.
- D Unemployment is a phenomenon of capitalist as opposed to socialist economies.

Q96

Which statement about trade unions is normative?

- A Since trade unions exist to safeguard the interests of their members, they deserve the legal protection of the state.
- B In countries where trade unions are strong, income distribution is more equal.
- C Uneven trade union membership has resulted in a widening of the wage gap between different industries.
- D In industries where trade unions are powerful, technical progress tends to be much slower.

Q97

Unemployment among young people in Spain was 56.1% in June 2013. Youth unemployment in Spain should be reduced.

Which combination correctly describes these two statements?

	unemployment among young people in Spain was 56.1% in June 2013	youth unemployment in Spain should be reduced
A	normative statement	normative statement
B	normative statement	positive statement
C	positive statement	normative statement
D	positive statement	positive statement

Q98

What is always true of a positive statement?

- A It is based on statistical data.
 - B It is possible to test its validity.
 - C It is the only basis for economic policy.
 - D It overrides any normative statement.
-

Q99

A teacher asks four students to fill in the gaps in the following sentence.

‘A positive economic statement is1.... statement that2.... be tested using factual evidence, whereas a normative economic statement is3.... statement that4.... be tested using factual evidence.’

The students’ answers are shown in the table.

Which student is correct?

	1	2	3	4
A	an objective	can	a subjective	cannot
B	an objective	cannot	a subjective	can
C	a subjective	can	an objective	cannot
D	a subjective	cannot	an objective	can

Q100

A government decides to subsidise farms producing milk in its country.

Which question about this decision is a normative question rather than a positive question?

- A How much will milk production increase?
 - B How should essential products, such as milk, be produced?
 - C How will employment in the milk industry change?
 - D How will milk prices change?
-

MCQ ANSWERS

Topic

1

Remember: You are required to make a good effort in attempting to answer the questions first before referring and comparing the suggested answers given.

TOPIC 1: Basic Economic Ideas

1.1 Scarcity, Choice and Resource Allocation.

- 1 **C** Setting up a new business is entrepreneurship. All other options refer to the actions of factor of production labour
- 2 **C** Economic problem of scarcity signifies finite economic resources available in order to satisfy infinite human material wants.
- 3 **D** The concept of "ceteris paribus" is often used by economists to analyse the cause and effect relationship between any two variables in isolation i.e. assuming everything else is constant.
- 4 **B** Primarily the problem of "Scarcity of resources and unlimited wants" requires an efficient allocation of resources between alternative uses. Options **A**, **C** and **D** refer to the secondary issues.
- 5 **C** Scarcity in an economy refers to a shortfall of all different goods and services produced than what its people would want to consume at any point in time. Thus both a lower output resulting from uncertain weather pattern and an increasing desire to consume might accentuate this shortfall and hence result in a higher level of scarcity. Other options refer to an increase in productive potential leading to a higher output and hence a lower level of scarcity.
- 6 **A** The term "fundamental assumption" refers to the basic economic problem of finite (limited) factors of production (resources) and infinite wants. All other options suggest secondary issues.
- 7 **B** Basic economic problem relates three fundamental questions of what, how & for whom to produce. Other options are cancelled for they are related to the basic economic problem.
- 8 **C** By definition.
- 9 **C** Net benefit is the positive outcome of $MB - MC$. Hence, when $MB > MC$, an increase in number of trips adds to the net benefit. Similarly, when $MB < MC$ a decrease in number of trips increases net benefits by reducing net cost. Net benefit, therefore, is maximized when $MB = MC$.
- 10 **B** An imposition of profit taxes is likely to demotivate entrepreneurs and hence it could lower their productivity. However, training is likely to improve productivity of engineers, thus option **C** is incorrect. Automation improves productivity of capital while a subsidized fertilizer is likely to increase productivity of land, therefore, options **A** & **D** are ruled out.
- 11 **A** Scarcity of resources compels us to choose between the available options that usually involves a sacrifice of the second best alternative often quoted as opportunity cost. Other options do not confirm scarcity for they all refer to shortages that have more to do with the working of markets.
- 12 **C** In Russia oil production exceeds its consumption, so there should not be a shortage. Oil is a scarce resource, therefore, it has an opportunity cost, hence option **A** is invalid. Japan does not produce oil at all, therefore **B** is incorrect. US can import oil in order to make up for its shortfall; hence **D** is not necessarily true.
- 13 **C** Choices have to be made because alternative uses of scarce resources require the answer to the question of where to allocate them and how much. Option **A** is unrelated, while **B** & **D** contradict the central problem of limited resources and unlimited wants.
- 14 **A** Consumers need to choose between alternatives because only a limited quantity of goods & services can be produced from the available scarce resources. Other options refer to the problems related to allocation of scarce resources.
- 15 **C** Options **A**, **B** & **D** refer to the markets distributing goods between competing consumers according to their ability to pay, hence they are less likely to distribute goods equally. Governments, however, can take on distribution of goods on the basis of equality.
- 16 **C** Scarcity of resources leads to the choices that involve sacrifice of the next best alternative often quoted as opportunity cost.

- 17 **A** Developing renewable energy sources would increase the overall availability of resources while education & training would improve productivity of workers. Both would result in higher output and hence will help address the problem of scarcity more effectively. Option **D** will further intensify the problem while **B** & **C** will have no impact.
- 18 **D** People place values on different goods & services in accordance with the satisfaction they expect to obtain from their consumption. The value of a good and service, therefore, involves a subjective judgement. Other choices are clearly related to economics.
- 25 **C** Inconsistent with alternative uses of scarce resources means single use resources. In such a case a change in quantity of X fails to bring a change in the output of Y and vice versa. Options **A**, **B** & **D** are consistent with the statement because in all three cases more of one good can be obtained by reducing the quantity of the other good.
- 26 **B** $100/4 = 25X$
 $100/2 = 50Y$
- 27 **B** Shift in PPC from GH to KL is due to the technological improvement in both industry and agriculture. PPC is drawn on the assumption that resources are fully and efficiently used, therefore, **A** and **D** are incorrect. A change in government expenditure does not shift PPC, thus **C** is incorrect.

1.2 Production Possibility Curve.

- 19 **A** An increase in the labour force increases productive potential of an economy as indicated by an outward shift in the PPC. Option **B** is incorrect because a reduction in unemployment moves the point from inside towards PPC. Also, a change in either government expenditure or price level do not affect the position of PPC, hence **C** & **D** are incorrect.
- 20 **C** An increase in production of one good without decreasing output of another is possible only when an economy operates below its PPC. Shortages and surpluses have to do with the working of markets, hence **A** is incorrect. Option **B** is unrelated while **D** cannot be concluded from the given information.
- 21 **B** A straight line downward sloping PPC reflects constant opportunity cost. PPC does not show factor ratio or utility, therefore, **A** & **C** are incorrect. Option **D** is marked as invalid because all points on a PPC suggest efficient use of resources in production of both goods.
- 22 **D** Operating on a PPC more of one product is produced only by decreasing the output of another, hence **B** & **C** are incorrect. Also, a PPC is drawn on the assumption that all the available resources are fully and efficiently used i.e. full employment, thus **A** is incorrect.
- 23 **B** A reduction in working hours would reduce the availability of labour, hence it will shift the PPC inward for both X & Y. However, the output of X could fall more than the output of Y because X uses a larger proportion of labour than capital.
- 24 **C** Opportunity cost of OM quantity of good X:
Before technological progress = KN
After technological progress = LK.
So, the reduction in opportunity cost = LN
- 28 **C** Primarily a PPC reveals opportunity cost of a good measured in terms of output of another. Other choices relate secondary issues.
- 29 **A** If the economy produces at point P, and exports 2 units of Y and possibly imports 3 units of X, it would be able to attain consumption at point R.
- 30 **C** A PPC reflects opportunity cost of one good in terms of another. The statement asserts that PPC is the only information available, thus the amount and preference of X & Y, or the extent to which resources are utilized cannot be concluded.
- 31 **A** Point Y indicates a higher output of capital goods than point X. Selection of point Y, therefore is likely to increase the rate of growth in future. Options **B** & **D** are incorrect because all points on the PPC assume that resources are fully and efficiently used. Option **C** is invalid because it contradicts the changes in output.
- 32 **A** A straight line PPC measures constant opportunity cost for it implies that resources are equally productive in the production of both products. Option **B** indicates increasing opportunity cost, while **C** suggests decreasing opportunity cost, and **D** represents zero opportunity cost.
- 33 **D** A point inside the PPC indicates unemployment and a point on the PPC signifies full employment. Option **A** is incorrect because opportunity cost of good N has increased. Since PPC has not shifted, therefore, **B** is incorrect. Option **C** is marked as invalid because PPC does not indicate desire.

- 34 **A** A PPC drawn bowed outward implies that economic resources are not equally productive for all different goods. Economies of scale are not related to PPC, hence **B** is invalid. Also, a fixed supply of resources makes PPC to slope downward where an increase of resources in producing one good requires a decrease in resources in another but it does not determine the shape, hence **C & D** are incorrect.
- 35 **D** Point X is below full employment, hence it indicates recession, while Y represents full employment, therefore, movement from X to Y suggests an increase in employment caused by a recovery from recession. All other options are more likely to shift the PPC outward.
- 36 **B** Point Y indicates less quantity of consumer goods, thus living standard falls as less is available to consume. However, a higher quantity of capital goods will lead to economic growth (PPC shifts outward) resulting in more consumer goods available in future.
- 37 **B** A PPC is drawn bowed outwards to show that more of one good is obtained only by sacrificing a progressively increasing quantity of another. Option **A** suggests a PPC which is bowed inwards, while **C & D** are invalid in the context of PPC.
- 38 **D** Both points X and Y are located on the PPC, therefore, both suggest potential output and hence a switch from X to Y does not change its current level of total output. In future, however, with more capital goods available, economy's total output is likely to be higher.
- 39 **D** On a PPC opportunity cost is measured by the quantity of a good that could have been produced instead. The point located on the PPC that indicates 800 units of Y also suggests 400 units of good X. Therefore, $2000 - 400 = 1600$ units of good X have been given up.
- 40 **A** Taxes in whatever form cannot shift PPC, they can only shift the production point on a given PPC. All other options are likely to shift PPC outward because they are related to the amount of resources available and their productivity.
- 41 **D** With an outward shift of PPC on X-axis alone, the country can now produce the same quantity (OP) of public goods by sacrificing a higher quantity (OR) of private goods compared to OQ at the original PPC (PQ). Hence it cancels option **C**. Also, a PPC represents only the quantities of goods that the economy can produce, therefore, options **A & B** are marked as invalid.
- 42 **A** Technological progress is marked by an outward shift of PPC from EF to GH. So, on the new PPC, (GH), current production is located at point N, indicating OM output of capital goods and OX of consumer goods. Hence it implies that by reducing consumer goods to zero the economy can produce additional quantity of capital goods MH.
- 43 **C** A straight line PPC measures constant opportunity cost. Thus it cancels option **D**. Also, a PPC does not indicate demand, therefore options **A & B** are invalid.
- 44 **D** A recession causes unemployment, therefore, it decreases actual output as indicated by a shift from point X to point Y on the graph. All other choices are likely to shift the PPC inward.
- 45 **D** A net outward migration suggests a decrease in the available labour force leading to a decreased productive potential as indicated by a leftward shift of PPC. Other options are invalid because they don't affect potential output in any way and hence they fail to shift PPC.
- 46 **C** Option D is cancelled because potential growth shifts a PPC outward. Also, the highest potential for growth is achieved with the maximum output of capital goods hence **A & B** are ruled out.
- 47 **C**
- | Year | Opportunity cost ratio | |
|------|------------------------|---------------|
| | Consumer goods | capital goods |
| 1 | 1 | : 0.5 |
| 2 | 1 | : 0.533 |
- We cannot assess changes in future growth or unemployment because the graphs only show production possibilities without indicating the actual production points, therefore options **A** and **B** are invalid. Option **D** is incorrect because the proportionate growth in services is higher.
- 48 **D** Discovery of new natural resource increases productive potential as indicated by an outward shift in the PPC. All other options suggest factors that do not shift PPC.

49 **D** An increase in net emigration implies that more people are moving abroad to settle than those coming into the country. Hence it decreases the available labour force that lowers productive potential as indicated by an inward shift of PPC. Options **A** & **C** could shift PPC outward by increasing the amount and productivity of capital, and **C** by increasing the labour force.

50 **C** A straight line PPC indicates constant opportunity cost. However different slopes of the two countries' PPC signify different opportunity cost ratios. Option **A**, therefore, is invalid. Future growth prospects are higher in economy X because it can produce a comparatively larger quantity of capital goods. This cancels option **B**. TOT between them can be anywhere between 0.5 unit of capital goods to 2 units of consumer goods, therefore, **D** stands invalid.

51 **C** On a PPC graph, opportunity cost measures the quantity of a good sacrificed for an additional output of another. The graph indicates that the bakery needs to reduce its bread production by 20 units = (70 – 50) in order to produce 10 more cakes.

52 **B** On a PPC diagram opportunity cost is measured in terms of the quantity of a good that could have been produced instead. In the graph, point T indicates OS consumer goods and OR capital goods with full employment. This economy can increase its output of capital goods from OR to OP by reducing consumer goods to zero. It must, therefore, sacrifice RP of capital goods in order to produce OS of consumer goods.

53 **D** An improvement in technology in manufactured goods pushes the PPC outward on X-axis. Option **A** would have shifted the PPC inward while **B** & **C** are not related to PPC.

54 **C** Productivity rise in peas picking would shift the line upwards on Y-axis, while a decrease in number of hours with no change in productivity in beans picking would shift the curve inwards on X-axis.

55 **C** A PPC is drawn on the assumption that resources are fully & efficiently used. So, any point inside PPC indicates inefficiency. Hence, an improvement in efficiency in agriculture goods suggests that the economy was operating inside its PPC at point S and then its output of agricultural goods rose to point T. Note that efficiency has improved only in agricultural goods and not in manufactured goods, hence point R is ruled out.

Quantity of other good sacrificed for each 100 units of good X
20
30
40
50

Options **A** & **C** reflect constant opportunity cost while **B** measures a decreasing opportunity cost.

57 **A** A productive point below PPC is marked with inefficiency and/or unemployment. Hence, a movement from point X to point Y implies a more efficient use of resources. All other options would shift the PPC outward as they are likely to increase the productive potential.

58 **B** Maximum quantity of good Y = 150 with good X = 0, while the maximum quantity of good X = 150 units with good Y = 0. The current output at point P indicates 100 units of good X and 110 units of good Y. Hence the economy has given up 50 units of good X for the production of 110 units of good Y.

59 **D** Opportunity cost of maize on PPF₁

$$= \frac{100}{100} = 1 \text{ ton of beans.}$$
 Opportunity cost of maize on PPF₂

$$= \frac{200}{100} = 2 \text{ tonnes of beans.}$$

So the opportunity cost of maize in terms of beans increases while a higher quantity of beans production suggests higher returns from the resources employed in beans production.

60 **A** The economy is capable to produce 150 units of good Y. Instead it chooses 110 units of Y and with the remaining resources it produces 100 units of good X. Therefore, the economy sacrifices 40 units of good Y in order to produce 100 units of good X.

61 **C** New seeds help increase productivity of only wheat production and hence it causes the PPC to shift outward on X-axis.

62 **A** Slope of a PPC measures opportunity cost and it is the same in country 3 & 4, therefore, option **A** is incorrect & hence it is marked as the right option. On this graph the flatter the PPC the higher is the opportunity cost of good S, therefore, **B** & **C** are correct but not the correct options. On a straight line PPC the opportunity cost is constant; hence **D** is also correct.

1.3 Opportunity Cost.

- 63 **D** A fully employed economy can produce more steel only by diverting resources from other industries. Hence, option **A** is incorrect. Option **B** is cancelled because it suggests opportunity cost of using steel and not of producing more steel. Option **C** is invalid for it refers to the opportunity cost of increasing car production.
- 64 **D** Free of direct charges suggests higher demand than the possible supply. Hence it is to be allocated by some form of rationing. Option **A** is invalid because the same resources could have been used to produce something else. Options **B** & **C** are incorrect for resources are scarce and private sector can also provide higher education.
- 65 **B** In a fully employed economy more investment necessarily requires a reallocation of resources from the production of consumer goods. Options **A**, **C** & **D** refer to the possible consequences of increasing investment than its opportunity cost.
- 66 **B** Options **A**, **C** and **D** refer to the possible consequences of faster growth and not the sacrifice involved.
- 67 **B** A free good is out of the ambit of scarcity. Goods provided by the government freely have to be paid for indirectly through taxation, therefore, they are scarce, hence **A** and **D** are incorrect, while option **C** is invalid in this context.
- 68 **B** Using the equation we calculate maximum quantities of the two products. Thus: $Y = 200$ and $X = 15$
Opportunity cost of $Y = \frac{15X}{200Y}$
- 69 **D** An economy operating at its PPC cannot produce more of one good without producing less of another, hence it is necessarily employing all its resources fully and efficiently. Option **A** is a value judgment. While **B** depends on the shape of PPC and **C** cannot be concluded from the given information.

- | | | | |
|----|----------|------------------------|-------------|
| 70 | C | Opportunity cost ratio | Price ratio |
| | | pork : beef | pork : |
| | beef | 1 : 3 | 2 : 1 |

Option	production	earnings
1	1 pound of pork	2
2	3 pounds of beef	3

By converting price ratio in \$2 for pork and \$1 for beef we find that beef production maximizes his profit.

- 71 **A** **Option 1:** $\pounds 120 \times \frac{10}{100} = \pounds 12$
 $\pounds 120 + \pounds 12 = \pounds 132$
Option 2: $\pounds 130$
- 72 **D** Goods such as air and sunshine do not involve an opportunity cost i.e. nothing else has to be sacrificed in order to obtain them. **Option A** is invalid while options **B** and **C** involve scarce resources that always have an opportunity cost.
- 73 **C** Consumption of \$100 is the opportunity cost of saving \$100 in period 0. Question is about opportunity cost in period 0 and not in period 1, hence **A** & **B** are incorrect. 10% interest would be paid in period 1, therefore, in period 0 the amount available is only \$100, thus **D** is incorrect.
- 74 **A** $\pounds 240 \times \frac{10}{100} = \pounds 24$
 Offer 1; $\pounds 264 = 240 + 24$
 Offer 2; $\pounds 260$
- 75 **D** Choice 1; trip to Paris
 Choice 2; $\pounds 200$
 So, the choice of trip involves a sacrifice of $\pounds 200$.
- 76 **A** Opportunity cost is the consequence of "scarce resources and unlimited wants". Options **B** & **C** are clearly incorrect, whereas production below PPC implies that more of one good can be obtained without sacrificing the other, hence **D** is incorrect.
- 77 **C** Assuming $X=0$, then $Y=100$.
 Assuming $Y=0$, then $X=5$.
 Opportunity cost of a unit of $X = \frac{100Y}{5X} = 20Y$
- 78 **D** Opportunity cost is the next best alternative sacrificed. Options **A**, **B** & **C** refer to the consequence of constructing rail tunnel, hence they do not suggest opportunity cost.
- 79 **D** In a fully employed economy more investment necessarily requires diversion of resources from the production of consumer goods. Options **A**, **B** & **C** are possible consequences.

Topic

3

Government Microeconomic Intervention

Contents that you will be examined on:

- (a) Classification of goods and services
 - free goods, private goods (economic goods) and public goods
 - merit goods and demerit goods as the outcome of imperfect information by consumers.
- (b) Maximum and minimum prices
 - meaning and effect on the market
- (c) Taxes (direct and indirect)
 - impact and incidence of taxes
 - specific and ad valorem taxes
 - average and marginal rates of taxation
 - proportional, progressive and regressive taxes
 - the Canons of Taxation
- (d) Subsidies
 - impact and incidence of subsidies
- (e) Transfer payments
 - meaning and effect on the market
- (f) Direct provision of goods and services
 - meaning and effect on the market
- (g) Nationalisation and privatisation
 - meaning and effect on the market

3.1 Indirect Taxes and Subsidies

Q1

The following figures relate the demand and supply schedules for red peppers. The equilibrium price is initially 15 cents per kg.

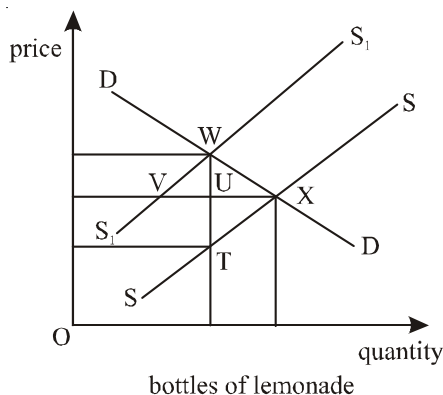
price per kg cents	amount demanded kg (000s)	amount supplied kg (000s)
30	11	22
25	12	19
20	13	17
15	15	15
10	17	13
5	20	11

If the government imposes a subsidy of 10 cents per kg, what is to be the new equilibrium price charged to consumers?

- A 20 cents B 15 cents
C 10 cents D 5 cents

Q2

A specific tax is placed on the sale of bottles of lemonade. In the diagram below, SS is the supply curve before imposition of the tax and S_1S_1 is the supply curve after tax.

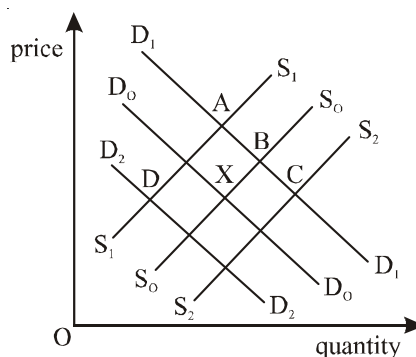


Which distance represents the specific tax on each bottle?

- A UT B UX
C VX D WT

Q3

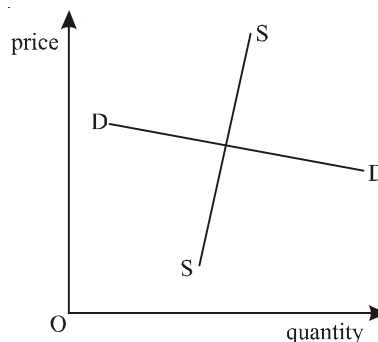
The diagram below relates to the demand for and supply of beef.



The market is initially in equilibrium at point X. The government imposes a specific tax on beef while, at the same time, the price of lamb (a substitute for beef) rises. Which point, A, B, C or D, represents the new market equilibrium?

Q4

The diagram shows the demand curve and supply curve for a good on which the government has imposed a specific tax.



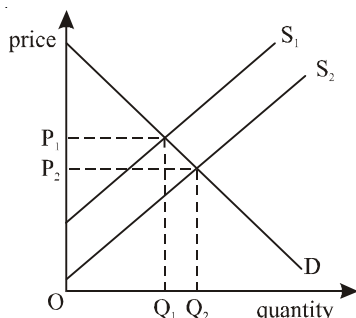
The government doubles the amount of the specific tax.

What will be the result of this tax increase?

- A The government's tax revenue will fall.
B Most of the incidence will fall on the producer.
C The quantity bought will stay the same.
D The price will rise by the full amount of the tax increase.

Q5

In the diagram, D is the demand curve for a commodity, S_1 and S_2 are the supply curves before and after intervention by the government.



What action has the government taken?

- A It has given producers a subsidy to encourage greater output.
- B It has given a subsidy to consumers.
- C It has imposed a tax equal to $P_2 - P_1$ to discourage production.
- D It has purchased a quantity $Q_1 - Q_2$ for government use.

Q6

The table shows the demand and supply schedule for a good before and after the imposition of a tax.

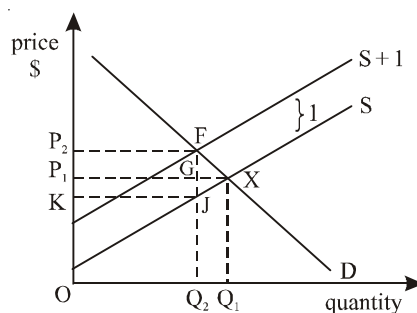
price \$	quantity demanded	quantity supplied before tax	quantity supplied after tax
20	80	600	320
19	120	440	240
18	170	400	170
17	200	320	130
16	240	240	90
15	400	170	50
14	600	130	20

What was the amount of the tax imposed?

- A \$1
- B \$2
- C \$3
- D \$4

Q7

In the diagram, the initial equilibrium in a market for a good is given by point X.



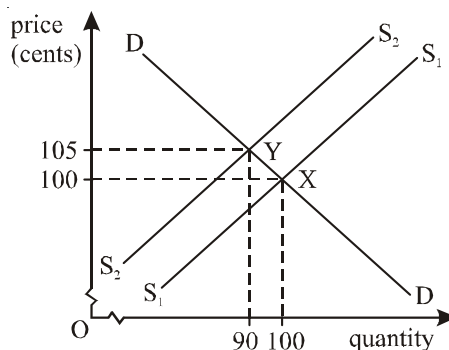
A government imposes a specific tax of \$1 per unit, and a new equilibrium is established at point F.

Which area measures the tax revenue obtained by the government?

- A P_1P_2FG
- B P_1KJG
- C P_1KJX
- D P_2FJK

Q8

Point X on the diagram shows the initial equilibrium point in a market in which the government has imposed a specific tax of 10 cents per unit.



The tax is then doubled to 20 cents per unit, shifting the equilibrium point from X to Y. Government tax receipts change from

- A zero to \$5.
- B \$5 to \$10.
- C \$10 to \$18.
- D \$10 to \$20.

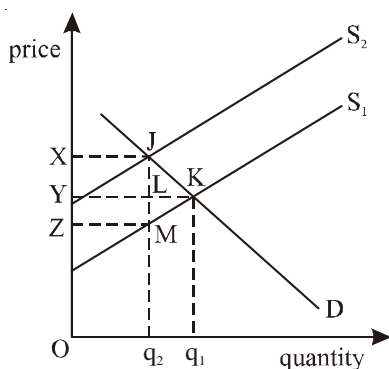
Q9

Which of the following is likely to result from an increase in subsidies for public transport in cities?

- A an increase in local taxes
- B an increase in traffic congestion
- C a reduction in distances travelled to work
- D lower occupancy rates on buses

Q10

The diagram illustrates the effects of placing a specific tax equal to JM on a good.

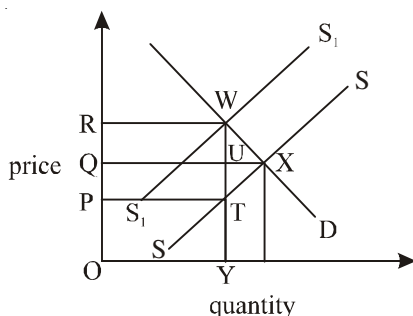


Which area represents total receipts?

- A XJKY B XJLY
C XJMZ D JKM

Q11

A specific tax is placed upon each bottle of perfume sold. In the diagram, SS is the supply curve before tax, $S_t S_t$ the supply curve after tax.



Which area represents the revenue received by the government from the tax?

- A PQUT C QRWU
B PRWT D YWXZ

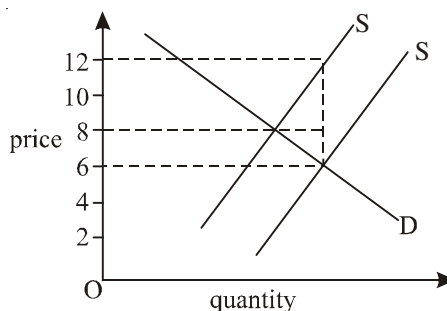
Q12

When does the incidence of a tax imposed upon a particular good fall entirely upon producers?

- A when demand is unit elastic
B when supply is unit elastic
C when demand is perfectly elastic
D when supply is perfectly elastic

Q13

The diagram shows the demand and supply curves of a commodity. One supply curve applies before the removal of a specific tax on the commodity and the other after the removal of the tax.

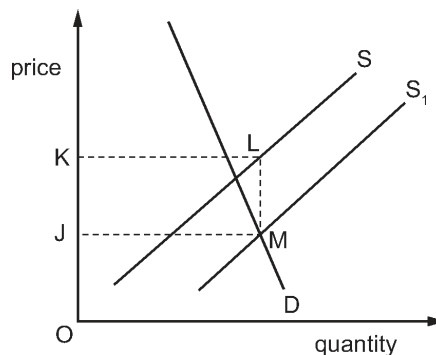


What was the tax per unit of output and what is the price after the abolition of the tax?

	tax per unit (\$)	price after the abolition of the tax (\$)
A	6	6
B	6	8
C	4	6
D	4	4

Q14

The diagram shows the effect on the market for rice of a change in government policy that causes a shift in the supply curve from S to S_1 .

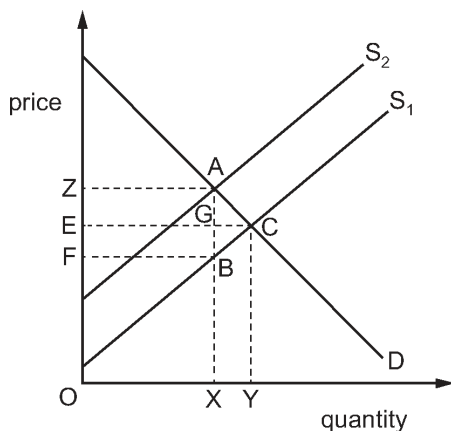


What does the area JKLM represent?

- A the cost to the government of a subsidy to rice growers
B the extra saving to importers of the removal of a tariff on rice
C the increase in consumer surplus from the introduction of a maximum price for rice
D the loss in government revenue from the reduction in a lump sum tax on rice

Q15

The diagram shows the effects of placing a unit tax equal to AB on a good.

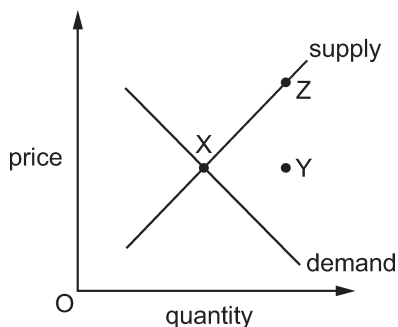


Which area represents the burden of tax paid by the producer?

- | | |
|---------------|---------------|
| A ECBF | B EGBF |
| C ZABF | D ZAGE |

Q16

The diagram shows the market for onions in equilibrium at point X. The government has a stock of onions and wants to establish a new equilibrium at point Y.



Which actions should the government take?

- A** It should buy an amount equal to XY and subsidise producers by a sum equal to YZ.
- B** It should buy an amount equal to XY and tax producers by a sum equal to YZ.
- C** It should sell an amount equal to XY and subsidise producers by a sum equal to YZ.
- D** It should sell an amount equal to XY and tax producers by a sum equal to YZ.

Q17

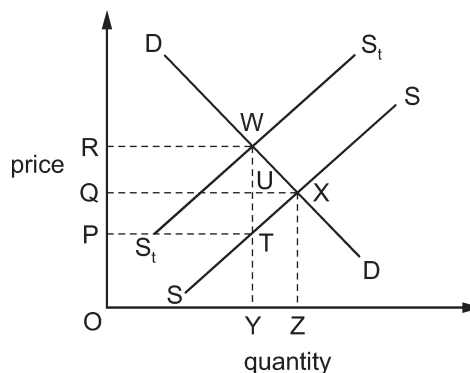
A 10% tax is placed on a good.

What type of product would be most likely to face the biggest impact on its equilibrium price as a result?

- A** one with elastic demand
- B** one with inelastic demand
- C** one with infinite elasticity of demand
- D** one with unitary elasticity of demand

Q18

A specific tax is placed upon each bottle of perfume sold. In the diagram, SS is the supply curve before tax, $S_t S_t$ is the supply curve after tax.

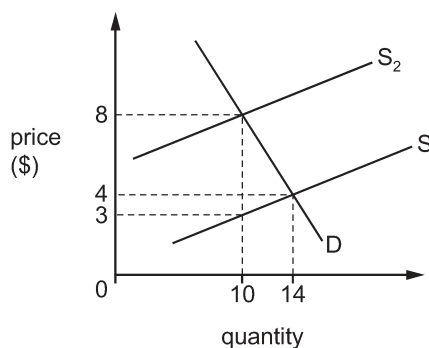


Which area represents that part of the tax revenue paid by consumers?

- | | |
|---------------|---------------|
| A ORWY | B PQUT |
| C PRWT | D QRWU |

Q19

The diagram shows demand and supply curves for a good. S_1 is the original supply curve, S_2 is supply after a tax is added.



How much tax revenue is earned by the government?

- | | |
|---------------|---------------|
| A \$10 | B \$40 |
| C \$50 | D \$80 |

Q20

A product with infinite elasticity of supply has sales of 1000 units a week at a price of \$1 per unit. Price elasticity of demand is 1.5 over the relevant range.

The government imposes a tax of 10%.

What will be the government's weekly tax revenue?

- A \$15 B \$85
C \$100 D \$150

Q21

A government pays a subsidy to a country's onion producers.

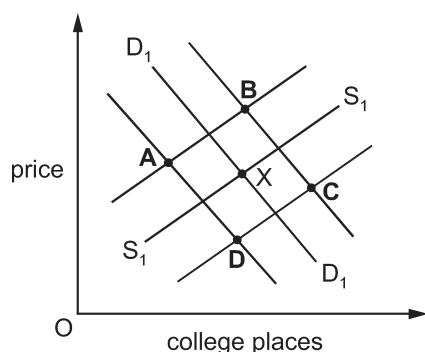
With which price elasticity of demand (PED) will this action be most effective in reducing the price of onions?

- A PED equals 0.
B PED is greater than 0 but less than 1.
C PED equals 1.
D PED is greater than 1 but less than infinity.

Q22

The diagram shows possible demand and supply curves for places in colleges in a country. The initial equilibrium position is X. To increase the number of students in colleges, a government subsidises the colleges and also gives a grant of money to the students.

What would be the new equilibrium position?

**Q23**

A government imposes a tax on a good. The equilibrium price rises by the same amount as the tax.

What can be concluded about the price elasticity of demand for the good?

- A It is perfectly elastic.
B It is perfectly inelastic.

C It is unitary.

D Nothing can be determined about price elasticity of demand.

Q24

A government imposes an indirect tax on a product with normal demand and supply curves. The tax raises \$100 million.

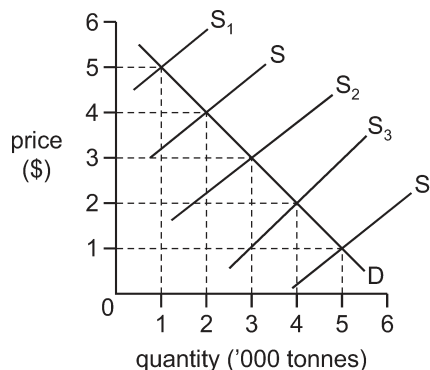
What effect will the tax have on the value of the combined consumer surplus and producer surplus?

- A It will be unaffected.
B It will fall by less than \$100 million.
C It will fall by exactly \$100 million.
D It will fall by more than \$100 million.

Q25

In the diagram, D is the demand curve of an agricultural commodity and S is the initial supply curve.

The government promises to maintain farmers' incomes at least at this initial level. The harvests in four subsequent years are shown by supply curves S_1 – S_4 .



How much in total will the government pay to support farmers over the four subsequent years?

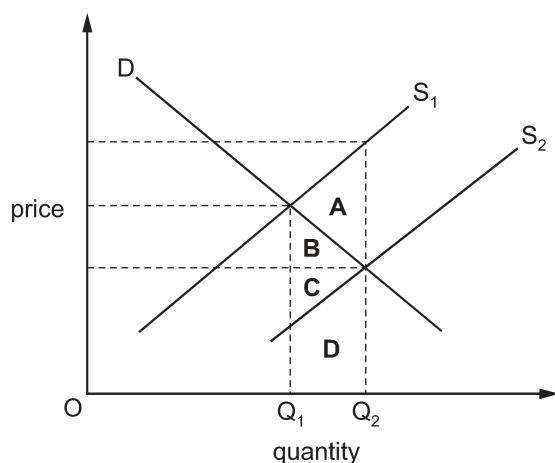
- A \$0 B \$3000
C \$6000 D \$10 000

Q26

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?

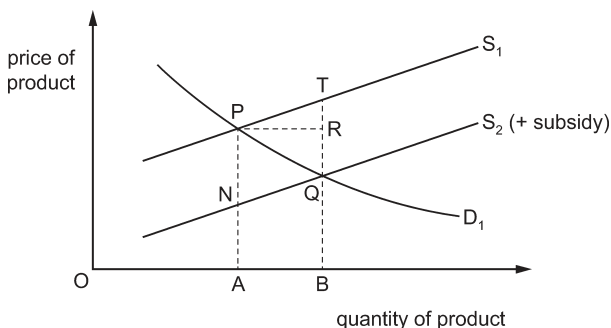
**Q27**

What will cause the payment of a subsidy to firms to result in the greatest increase in sales?

- A a shift in the demand curve to the right
- B a shift in the supply curve to the left
- C an elastic price elasticity of demand for the product
- D an inelastic price elasticity of supply for the product

Q28

The initial market for a product is represented by the demand and supply curves D_1 and S_1 respectively. A subsidy is then introduced, represented by the shift of S_1 to S_2 (+ subsidy).



What is the incidence of the subsidy for the consumer and producer?

	consumer	producer
A	PN	NA
B	QR	TR
C	QT	QB
D	TR	QR

Q29

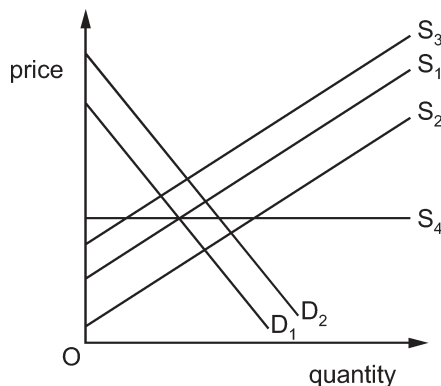
A government imposes a specific indirect tax on a product.

When will the tax cause the greatest reduction in consumer surplus for the buyers of the product?

- A The product has price elastic demand and price elastic supply.
- B The product has price elastic demand and price inelastic supply.
- C The product has price inelastic demand and price elastic supply.
- D The product has price inelastic demand and price inelastic supply.

Q30

The diagram shows the demand curve, D_1 , and the supply curve, S_1 , for a good.



The government decides to pay producers a specific subsidy for each unit supplied to the market.

Which curve shows the new effective demand or supply curve?

- A D_2
- B S_2
- C S_3
- D S_4

Q31

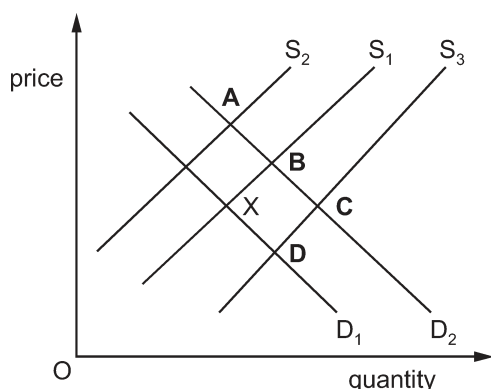
What is an accurate statement about a production subsidy?

- A It causes demand for the good to increase so the demand curve shifts to the right.
- B It enables firms to supply more so the supply curve shifts to the left.
- C It is financial assistance to firms from the government to help increase output.
- D It is money taken from firms by the government to reduce harmful side effects of production.

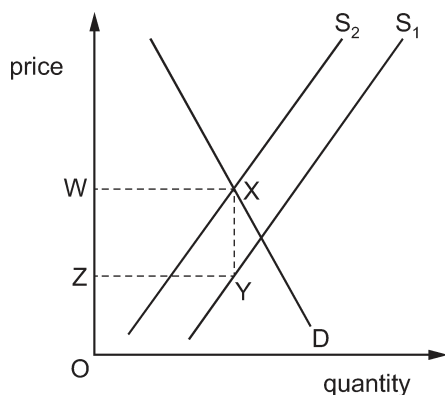
Q32

A market is in equilibrium at point X. The government then subsidises both consumers and producers by direct payments.

What will be the new equilibrium position?

**Q33**

The diagram illustrates the effect of a government action that shifts S_1 to S_2 .



What does the area of the rectangle WXYZ represent?

- A the consumer tax burden
- B the government tax revenue
- C the government subsidy payment
- D the producer subsidy income

Q34

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

Q35

The table shows the demand and supply schedules for a product before and after the government pays a subsidy of \$4 per unit to the producers.

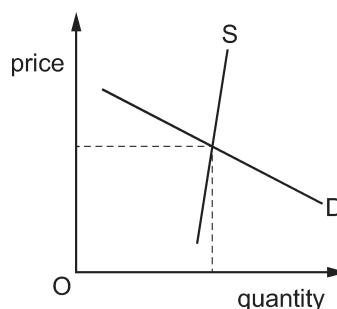
price (\$)	quantity demanded (units)	quantity supplied before subsidy (units)	quantity supplied after subsidy (units)
6	140	60	100
8	120	80	120
10	100	100	100
12	80	120	160
14	60	140	180

What is the total government spending on the subsidy?

- A \$240
- B \$400
- C \$480
- D \$960

Q36

The diagram shows the market for heating oil.



If the government introduces a production subsidy, how will the financial benefit be shared between consumers and producers?

- A It will be shared equally between producer and consumer.
- B It will go entirely to the producer.
- C The majority will go to the consumer.
- D The majority will go to the producer.

Q37

The table shows the demand and supply schedules for a product before and after the government pays a subsidy of \$4 per unit to the producers.

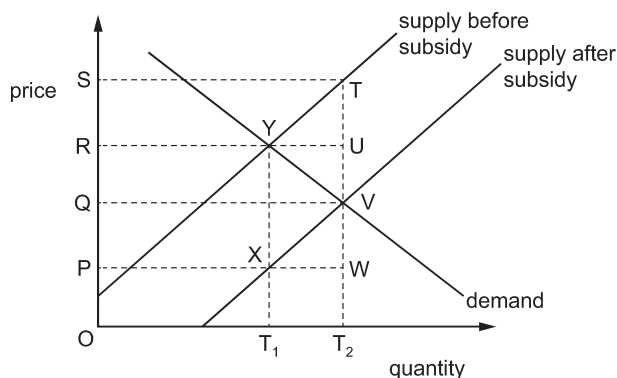
price \$	quantity demanded (units)	quantity supplied before subsidy (units)	quantity supplied after subsidy (units)
6	250	50	150
8	200	100	200
10	150	150	250
12	100	200	300
14	50	250	350

Assuming that any extra sales are to new consumers, how much do the original consumers of the product save as a result of the subsidy?

- A \$300 B \$600
C \$900 D \$1500

Q38

The diagram shows the market for a product before and after the introduction of a subsidy.



Which area represents the total amount paid in subsidies?

- A PRYX B QRUV
C QSTV D RSTU

Q39

In which of the following situations will the burden of an indirect tax fall most heavily on the producer of a good rather than the consumer?

	price elasticity of demand	price elasticity of supply
A	perfectly elastic	elastic
B	elastic	inelastic
C	unity	elastic
D	inelastic	elastic

Q40

The table shows the demand and supply schedules for a good before and after the imposition of a tax.

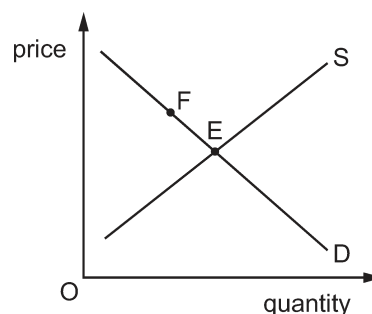
price (\$)	quantity demanded	quantity supplied before tax	quantity supplied after tax
20	340	440	380
19	340	430	340
18	340	410	290
17	340	380	230
16	340	340	160
15	340	290	80
14	340	230	0

What was the tax and the price change?

	tax (\$)	price change (\$)
A	3	2
B	3	3
C	4	3
D	4	4

Q41

The diagram shows the equilibrium price and quantity of good X.



The initial market equilibrium is shown by point E.

What might cause the market equilibrium to move to point F?

- A a decrease in the costs of producing good X
B a decrease in the demand for good X
C an increase in the price of a substitute good
D the imposition of a specific sales tax on producers of good X

3.3 Classification of Goods and Services

Q73

Which one of the following is a distinctive feature of a pure public good?

- A It is produced by the state.
 - B It is produced at zero cost.
 - C Greater consumption by one person implies less by another.
 - D No body can be excluded from consuming it.
-

Q74

Which one of the following is a good or service whose consumption by one individual results in a reduction in the quantity available to others?

- A defence
 - B a lighthouse
 - C medical care
 - D road signs
-

Q75

It would not be feasible for street lighting to be supplied by private companies and sold directly to consumers because

- A there are economies of scale in public provision by a single authority.
 - B variable costs are high relative to overhead costs so that it would be impossible to know what prices to charge.
 - C it would be difficult to prevent those who would not be prepared to pay from benefiting.
 - D individuals do not set a sufficiently high value on public benefits of this kind.
-

Q76

What is the major problem associated with a government directly providing the correct amount of a public good?

- A competition from private producers
 - B estimation of demand
 - C increased trade diversion
 - D rivalry in consumption
-

Q77

Why would it **not** be practicable to supply pure public goods, for example street lighting, through the ordinary market mechanism?

- A Private monopolies would earn excess profits.
 - B Some households would not be able to afford to make their full contribution towards the cost.
 - C The benefits would not be confined to the buyers, but would automatically be available to non-buyers.
 - D The provision of public goods is essential, and therefore cannot be left to private initiative
-

Q78

Which of the following is provided by the government entirely because of market failure?

- A agricultural support
 - B free health services
 - C retirement benefits
 - D street lighting
-

Q79

Which one of the following is a merit good?

- A any good that cannot be provided by private enterprise because non-payers cannot be excluded from enjoying its benefits
 - B any good that the government believes consumers will buy too little of if it is provided by private enterprise at market prices
 - C any good provided free of charge to consumers by the government
 - D any good where the private benefits of consuming the good exceed its social benefits.
-

Q80

The income derived from visitors to an historic property is insufficient to meet the cost of upkeep. Which one of the following justifies contributions by the state towards the maintenance of the property?

- A There is no market in historic properties.
- B Historic properties do not fall into the category of "public goods".

- C The social benefits from maintaining historic properties exceed the cost of upkeep.
- D The social costs of maintaining historic properties exceed the private costs.

Q81

What is a merit good?

- A a good where any benefit obtained by one consumer is extended to all consumers
- B a good that is made available to consumers according to merit
- C a good that the government believes consumers will buy too little of if it is provided by private enterprise at market prices
- D a good where the private benefits of consuming the good exceed its social benefits

Q82

A government believes that consumers derive greater benefit from a good than consumers themselves perceive.

To which category does the good belong?

- A collective goods B merit goods
- C public goods D superior goods

Q83

A national museum charges an entry fee for admission.

Which combination of rival and excludable qualities would apply to visits to the national museum on a day when there are very few visitors?

	rival	excludable
A	no	no
B	no	yes
C	yes	no
D	yes	yes

Q84

Prisoners are able to buy an upgrade on the type of prison cell they are allocated in some state-run prisons in California.

What does this indicate?

- A Public goods can be made excludable.
- B Public goods use price as an allocative mechanism.

- C The market system is not only used for private enterprise.
- D The market system misallocates resources.

Q85

What is the best example of what was once a public good becoming a private good?

- A education
- B medical care
- C postal services
- D television broadcasts

Q86

Which statement is correct?

- A A demerit good is overconsumed.
- B A demerit good produces zero consumer surplus.
- C A merit good is defined by its non-excludability and non-rivalry.
- D A merit good is provided free of charge.

Q87

In 2014, there was an outbreak of ebola, a deadly disease, in West Africa. People obtained information from hospitals, radio broadcasts and notices posted by the roadside on how to prevent the disease from spreading.

How can these sources of information be classified?

	hospitals	radio broadcasts	notices
A	private good	private good	public good
B	private good	public good	public good
C	public good	private good	private good
D	public good	public good	private good

Q88

The provision of which service by governments could be explained by the concept of public goods?

- A education B health services
- C law enforcement D public libraries

Q89

Very heavy rain often causes houses to flood. The government protects the area with flood defence schemes while households buy sandbags to protect their houses.

How would an economist classify these items?

	flood defence schemes	sandbags
A	merit goods	private goods
B	merit goods	public goods
C	public goods	private goods
D	public goods	public goods

Q90

Which goods will be provided only by the government?

- A** capital goods **B** inferior goods
C merit goods **D** public goods

Q91

An individual buys a ticket to visit a government-owned art gallery.

How would this visit be classified by an economist?

- A** private and demerit good
B private and merit good
C public and demerit good
D public and merit good

Q92

What is an example of direct public provision of goods and services?

- A** a charity hospital funded by public donations that offers free treatment to the rural poor
B a mobile government library that travels to rural villages offering access to books
C a pharmacy in a local shopping centre that provides treatment direct to the public
D a private school that offers free places to children of low income families

Q93

What is an accurate statement about different types of goods?

- A** Free goods are offered for sale at a loss-making price.
B Merit goods generate more consumer surplus than producer surplus.
C Private goods can be consumed with no opportunity cost.
D Public goods can be used by additional consumers with no extra production cost.

Q94

Which types of good are distinguished from one another by the presence or absence of opportunity cost?

- A** demerit and merit goods
B economic and free goods
C inferior goods and normal goods
D private and public goods

Q95

Many governments are concerned that the high sugar content in fizzy drinks might lead to health problems such as obesity. These governments are also concerned about the lack of public awareness of the dangers.

What can be concluded from this?

- A** Consumers of fizzy drinks have information failures.
B Consumers under-consume fizzy drinks.
C Fizzy drinks are merit goods.
D Fizzy drinks are non-excludable.

Q96

The Bureau of Alcohol, Tobacco, Firearms and Explosives is a branch of the United States Government which regulates markets.

What does its name imply is most likely to be its main responsibility?

- A** to prevent harm from demerit goods
B to provide subsidies for essential goods
C to raise revenue from goods in elastic demand
D to safeguard employment in manufacturing industry

MCQ ANSWERS

Remember: You are required to make a good effort in attempting to answer the questions first before referring and comparing the suggested answers given.

Topic

3

TOPIC 3: Government Microeconomic Intervention

3.1 Indirect Taxes and Subsidies

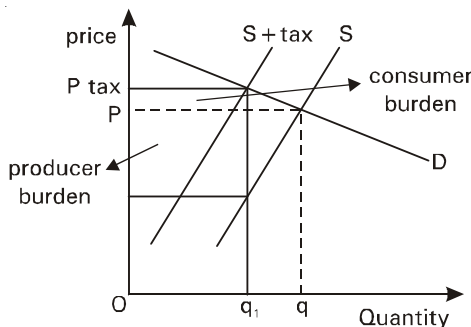
1 C

Price	QD	QS before subsidy	QS after subsidy
30	11	22	-
25	12	19	-
20	13	17	22
15	15	15	19
10	17	13	17
5 + 10 = 15	20	11	15

At market price of 5 cents, we add 10 cents subsidy that gives us 15 cents that the producers receive. Since at 15 cents they are willing to sell 15 units so, we increase QS from 11 units to 15 units. Similarly at 10 cents QS increases from 13 to 17 units where we find 10 cents as the new equilibrium price.

- 2 D Vertical difference between the supply curves before tax and after tax measures per unit tax.
- 3 A An indirect tax shifts the supply curve leftward, hence S_1 applies while an increase in the price of beef (substitute) shifts the demand curve rightward, hence D_1 applies.

4 B



- 5 A A subsidy to the producers shifts the supply curve to the right (rise in supply).
- 6 C Price difference of the same QS before tax and after tax = per unit tax.
- 7 D Tax revenue = per unit tax $\times$ quantity after tax. So, on the graph vertical difference P_2K measures per unit tax and OQ_2 is the quantity after tax.

- 8 C When tax per unit = 10 cents, and quantity sold = 100 units, the revenue received by government = 1000 pence or \$10. Tax per unit = 20, quantity traded = 90. Thus $90 \times 20 = 1800$ pence or \$18.

- 9 A In order to provide subsidy government has to raise money through taxes. We eliminate options B & D because more people are likely to use public transport thus subsidy will increase occupancy rate and will also help reduce congestion. Option C is invalid in the context.

- 10 C Tax revenue = per unit tax $\times$ quantity sold. Thus vertical difference between pre tax and post tax supply curves XZ multiplied by OQ_2 quantity.

- 11 B Per unit tax = WT, and the new equilibrium quantity = OY. Tax revenue received by government = WT $\times$ OY.

- 12 C When demand is perfectly elastic, sellers cannot increase price because a rise in price will reduce demand to zero.

- 13 A Vertical difference between the two supply curves represents per unit tax. While removal of tax should shift the supply curve rightward, thus equilibrium after the abolition of tax = \$6.

- 14 A A rightward shift of S curve suggests subsidy while the vertical distance between the two S curves measures per unit subsidy. So, per unit subsidy multiplied by the new Q measures cost to the government.

- 15 B Increase in price is consumers' burden of tax. Since the per unit tax (Z-F) is a larger amount than the rise in P (E-Z), therefore, the area of tax not passed on to the consumer (E-F) multiplied by OX quantity measures the tax paid by the producer.

- 16 A A subsidy = YZ will shift the S curve to the right thus creating a surplus X - Y at the current equilibrium price. Government will have to buy this in order to maintain this price. Option B is incorrect because it would decrease supply while C would create a surplus at OP. Option D is incorrect because a tax will offset the extra supply by the government.

MCQ ANSWERS

17 **B** The lower the PED the bigger is the effect on the equilibrium price because it allows the producers to pass on a larger proportion of tax to the consumer by raising price.

18 **D** An increase in price due to the imposition of tax is the consumers' share of tax revenue. PR is the per unit tax of which QR is passed on to the consumers. Thus $QR \times OY = QRWU$ is the area of tax paid by consumers.

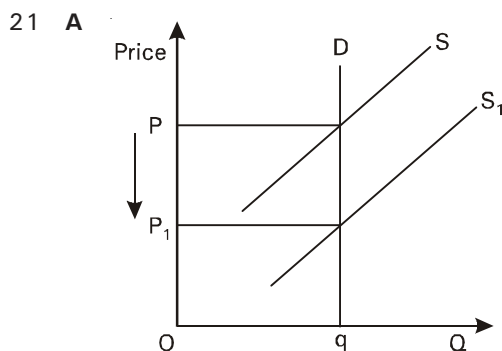
19 **C** The vertical difference between S_1 & S_2 ($8 - 3 = 5$) indicates per unit tax. This multiplied by the after tax equilibrium quantity = government's tax revenue. ($5 \times 10 = 50$)

20 **B** When a product has infinite elastic supply its price increases by the same percentage as tax imposed. Thus price rises by 10 percent (from \$1 to \$1.1). Now we first calculate % change in QD by using the PED formula and then calculate the change in quantity demanded in absolute units.

$$-1.5 = \frac{X\%}{+10\%}$$

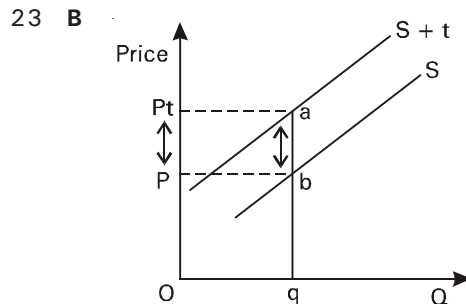
By multiplying percentage change in price with the value of PED we obtain the percentage change in QD ($10\% \times -1.5 = 15\%$) and 15% of 1000 makes 150 units. So quantity demanded falls to 850 units.

Now per unit tax $\times$ quantity = government's tax revenue. ($\$0.1 \times 850 = \85)



Vertical distance between S and S_1 measures per unit subsidy and the price has fallen by the same amount as per unit subsidy. This signifies that the entire subsidy has been passed on to the consumer.

22 **C** Subsidy to colleges enables them to expand their services, thus S_1 curve shifts to the right while subsidy to students encourage more students to join colleges that shifts D_1 curve to the right.



Vertical distance $a - b$ measures per unit tax and the same increase in price ($P - P_t$) as per unit tax implies that demand for the good is perfectly inelastic.

24 **D** Dead weight welfare loss resulting from a fall in equilibrium quantity + 100 million tax revenue = combined fall in consumer & producer surplus.

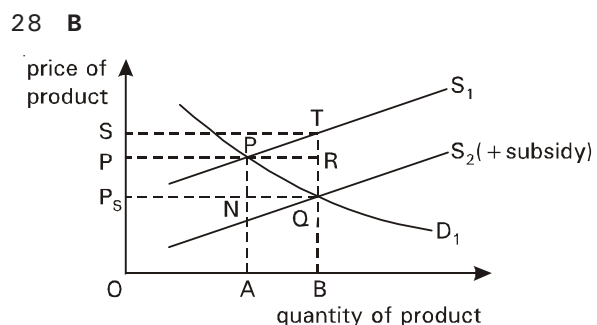
25 **C** Initial level of income ($\$4 \times 2000 = \8000).

Season	Farmers' income
1	$\$5 \times 1000 = \5000
2	$\$3 \times 3000 = \9000
3	$\$2 \times 4000 = \8000
4	$\$1 \times 5000 = \5000

Farmers' incomes fell below the initial level in the year 1 & 4 by \$3000 each making it \$6000 in total.

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

27 **C** A producer subsidy causes market price to fall by increasing supply of the good while elastic demand results in a proportionately greater increase in QD leading to the greatest increase in sales.



Per unit subsidy = TQ and it lowers the market price from OP to OP_1 . Of this, RQ is the consumers' share of subsidy while the remaining TR is the producers' incidence of subsidy.

- 29 **C** The higher the resulting increase in price the more is the fall in consumer surplus. Inelastic demand and elastic supply would allow the producers to pass on a larger proportion of tax to consumers. This combination of demand & supply would increase price by the highest amount and hence would cause the greatest fall in consumer surplus. This eliminates other choices.
- 30 **B** A subsidy shifts the supply curve rightward and if it is specific it will shift the curve parallel because per unit subsidy is a fixed amount as measured by the vertical distance between the two supply curves.
- 31 **C** A producer subsidy increases output for it acts as sharing cost of production with the producers. This eliminates other choices.
- 32 **C** Consumer subsidy increases demand from D to D_1 and producer subsidy increases supply from S_1 to S_3 .
- 33 **B** Vertical distance (XY) between S_1 & S_2 measures per unit tax and this multiplied by the quantity traded = government tax revenue (WXYZ).
- 34 **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 choices refer to market failure.
- 35 **C** At $P = \$10$ the equilibrium quantity before subsidy = 100. After subsidy the same quantity would be supplied when $P = \$6$. The difference between these two prices = per unit subsidy ($\$10 - \$6 = \$4$). Now per unit subsidy $\times$ new equilibrium quantity = government spending on the subsidy. ($\$4 \times 120 = \480).
- 36 **D** The lower the PES the higher is the producers' benefit of subsidy.
- 37 **A** Before subsidy consumers bought 150 units at $\$10$ hence they spent $\$1500$. After subsidy the same consumers need to pay $\$8$ for 150 units that reduces their spending to $\$1200$. Thus the original consumers save $\$300$.
- 38 **C** Per unit subsidy $\times$ new equilibrium quantity = total amount paid in subsidy. Vertical distance between the two supply curves = TV, thus $TV \times T_2 = QSTV$.
- 39 **B** when PED is high (elastic) and PES is low (inelastic) the producers cannot pass on a larger proportion of an indirect tax to consumer.
- 40 **B** Per unit tax is the difference between equilibrium price ($\$19$) before tax and equilibrium price after tax ($\$16$). So, $\$19 - \$16 = \$3$.
- 41 **D** Equilibrium can shift to point F only by shifting the supply curve to the left and a sales tax does that. Option **A** shifts it to the right while options **B** & **C** shift the demand curve.

3.2 Price Fixing

- 42 **D** Agreement between oil producers to increase price shifts the supply curve to S_2 . While recession means a fall in economic activity which is expected to cause demand for oil to fall to D' . Thus the new equilibrium is found by the intersection of S_2 and D' .
- 43 **D** All fish are sold by auction daily' suggests that the supply of fish is perfectly inelastic.
- 44 **C** Quantity supplied = OL, thus only OL tenants would be able to retain their tenancy. Since maximum rent has been fixed at OP_1 , therefore, OL tenants would have to pay P_1 rather than OP.
- 45 **C** Large stocks would enable the government to sell when there is a shortage at the identified price, while large sum of money makes it possible to buy the excess quantity.

46 **C**

year	price	QD	QS	Quantity in Buffer stock
1	20	60	70	10
2	20	60	90	30
3	20	60	40	-20
				20

- 47 **A** Demand rises to D_2 on the same supply curve (S_0).
- 48 **C** At 20P excess supply = 4000 kg. that government buys at 20P per kg.
 $20P \times 4000 = 80000P$
 $80000P/100 = £800$.

- 49 **A** On the supply curve S_1 , QS is OQ, because maximum price means that the price can fall below but cannot rise above the ceiling. For supply curve S_2 , QS is OM at the maximum price.
- 50 **B** At a price £3, government will have to buy the surplus of 2 million. Thus, $2 \times £3 = £6$ million.
- 51 **C** Price can only fluctuate between P_1 and P_2 , therefore, supply curve starts from P_1 and extends to point V, then slopes upward to point R and finally becomes horizontal at P_2 .
- 52 **D** A maximum price fixed above and a minimum price below the market equilibrium are ineffective, therefore, both price and quantity traded remain unchanged.
- 53 **B** With S_2 supply curve $Q_1 - Q_3$ is the shortfall at OP_1 price that government has to supply from its buffer stock.
- 54 **B** Market price is already below the maximum price, hence it remains unaffected.
- 55 **D** At OP_1 the output is OM_2 and to sell all of this price must fall to OP_2 where buyers are willing to buy the same quantity as indicated by the demand curve.
- 56 **C** A maximum price means that the price can be lower than OP. At present it is ineffective because equilibrium price is below the maximum price. However, advertising can cause demand to rise and maximum price to become effective.
- 57 **A** Price ceiling below the equilibrium price creates a lasting shortage for it prevents the price from rising and market to clear. Hence, a permanent shortage will require an alternative mechanism to allocate the good between consumers.
- 58 **C** A maximum price sets a maximum limit to which market price can rise. Thus it can affect quantity supplied and quantity bought only when it is imposed below the market equilibrium. Both these quantities, however, remain unaffected when it is fixed above the market clearing price as is the case in the graph.
- 59 **C** A maximum price fixed above the market equilibrium proves ineffective. This eliminates other choices.
- 60 **C** Since there is excess supply at the minimum price, therefore producers would not be able to sell all what they have produced. Those who manage to sell their output would gain from a higher price but those who are unable

to sell would lose. Consumers would definitely lose because they have to pay a higher price for a lower quantity than what they were able to buy at the market equilibrium price.

- 61 **B** Government should buy surplus quantity = KR in order to maintain OP_2 price.
- 62 **B** A maximum price fixed below the market equilibrium price causes a permanent shortage.
- 63 **A** S_2 indicates a higher output, while on a non-linear demand curve $PED = -1$ at all points, hence fall in price will maintain the farm revenue.
- 64 **C** Initial level of income ($\$4 \times 2000 = \8000).

Season	Farmer's Income
1	$\$5 \times 1000 = \5000
2	$\$3 \times 3000 = \textbf{\$9000}$
3	$\$2 \times 4000 = \textbf{\$8000}$
4	$\$1 \times 5000 = \5000

Farmers' incomes remained equal or higher than the initial level in the year 2 & 3 where the government will not need to provide extra income to farmers.

- 65 **C** A maximum price fixed above the market equilibrium price fails to change the equilibrium price and/or the equilibrium quantity.
- 66 **D** Price reduced by the super market is located below the equilibrium price where $QS = 4$ while $QD = 17$. This indicates a shortage of 13,000 litres. Effective minimum price is located above the equilibrium price where $QD = 6000$ litres and $QS = 13,000$ litres, hence there is a surplus of 7000 litres.
- 67 **D** A minimum price fixed below the market equilibrium fails to affect the market in any way. Everything in the market, therefore, remains the same. However, when it is fixed above the market equilibrium price it causes QD to fall and QS to increase. This makes all other options invalid.
- 68 **D** A maximum price fixed below the market equilibrium price causes a shortage ($QD > QS$). However, when maximum price is removed the existing shortage causes price to rise followed by an increase in QS. This is an indicator of resource allocation by the price system. Other options suggest the measures that governments are more likely to adopt after they have fixed an effective maximum price.

- 69 **D** $V-X$ is the per unit difference between the market price and the guaranteed price that government paid to the producers. So, per unit payment $(VX) \times$ quantity traded $(OT) =$ total subsidy payment $(VXYZ)$.
- 70 **C** It would cause a permanent shortage of cereals in the market, hence rationing would ensure that the good is fairly distributed. This eliminates other choices.
- 71 **B** Price ceiling below the equilibrium price causes a permanent shortage that requires an alternative mechanism to allocate the good. In all other cases it is the price system deciding allocation of a good.
- 72 **B** An effective Maximum price causes a shortage for it is set below the market equilibrium. So, a fall in effective maximum price will increase QD along with a fall in QS leading to an increase in shortage. However, the resulting shortage will be more intense if $PES > 1$ because it will result in a proportionately greater fall in QS. Thus option **A** is ruled out. Options **C** & **D** would reduce shortage, hence they are invalid.
- 77 **C** Public goods are characterized by non-excludability i.e. those unwilling to pay cannot be excluded from the benefits. This leads to free rider problem, therefore, the good cannot be supplied through market mechanism.
- 78 **D** It involves free rider problem arising from its features of non-excludability and non-rivalry.
- 79 **B** Owing to the imperfect information, Perceived benefits of merit goods are less than the actual benefit. Therefore, people tend to under consume these goods, Option **A** suggests public goods, while **C** is not necessarily true. Option **D** is invalid for it refers to a demerit good.
- 80 **C** Government's contribution is justified on the ground of over all benefit (social benefit) to society in terms of providing valuable information about history. Thus **D** is incorrect because historic properties involve positive externality. They can also be private places, so **A** & **B** are incorrect.
- 81 **C** Perceived benefits of merit goods are less than the actual benefit. Therefore, people tend to under consume these goods. Option **A** suggests public goods while **B** is unrelated and **D** indicates negative externality.

3.3 Classification of Goods and Services

- 73 **D** The distinctive feature of public goods is non-excludability. Option **A** does not refer to a feature, while production of these goods involves certain cost, hence **B** is incorrect. Option **C** refers to rivalry, a feature of private goods.
- 74 **C** Services of a doctor are not simultaneously available to everyone hence there is rivalry i.e. a doctor busy in giving treatment to a patient implies that others will have to wait. National defense, lighthouse and road signs all are jointly consumed without reducing the quantity available to others.
- 75 **C** Street lighting is characterized by non-excludability i.e. those unwilling to pay cannot be excluded from benefitting. This eliminates other choices.
- 76 **B** It is difficult to assess the accurate quantity of a public good that should be provided in order to maximize social benefits. Other options are unrelated to the issue of direct provision.
- 82 **B** Lack of information results in people not being able to acknowledge full benefits of merit goods.
- 83 **B** *Entry fee for admission* suggests excludability while *a few visitors* implies empty space, thus non rivalry.
- 84 **C** Buying an upgrade prison cell involves demand, supply and a market price, it, therefore, becomes a private good because all those who are unwilling and/or unable to pay would be excluded.
- 85 **D** In the past TV broadcasters used wireless signals, hence it was impossible to exclude non payers. These days the same service is provided through cables that makes it possible to exclude non payers.
- 86 **A** Lack of information results in people over consuming a demerit good. Demerit goods are a kind of private goods for they are characterized by excludability and rivalry that makes option **C** incorrect. Also, their demand curve generally slopes downward from left to right this rules out option **B**. Moreover, merit goods are usually priced in the market, therefore **D** is incorrect.

- 87 **B** Private goods are associated with excludability and rivalry and hospitals share these two features, hence we eliminate options **C** & **D**. Radio broadcast is both non-excludible and non-rival, thus it is categorized as a public good that eliminates option **A**.
- 88 **C** Left on the market forces of demand and supply law enforcement can never be provided because its provision cannot generate profit. All other options suggest merit goods and market is believed to provide these goods because it is possible to charge directly and earn profit.
- 89 **C** A flood defence scheme is non-excludible because it is not possible to exclude non-payers from its benefits. It's non-rival because benefits to some don't reduce its benefits to others. Thus it can be classified as a public good. Sandbags on the other hand are excludible as those who do not pay for them can be excluded. There is also rivalry because the quantity available to others will be less as some people buy them. Thus economists would classify sand bags as private goods.
- 90 **D** Free rider problem arising from non-excludability and non-rivalry makes it impossible for the markets to provide public goods. All other goods do not share the same problem, therefore markets can provide them.
- 91 **B** Price paid for tickets to visit art gallery is reflective of a private good while government ownership implies that it is a merit good because government feels that the market will under provide them.
- 92 **B** The term public provision implies that government directly provides certain goods to the people that it believes will be under-consumed otherwise. Options **A**, **C** & **D** suggest provision of goods by private sector.
- 93 **D** Once provided more & more people can benefit from public goods and no one can be excluded. Unlike private goods free goods are abundantly available, therefore, people do not have to sacrifice anything, also these goods are not supplied through markets. Thus options **A** & **D** are ruled out. Merit goods have more social benefits but not necessarily higher consumer surplus that makes **B** incorrect.
- 94 **B** Free goods are abundantly available for one can obtain these goods without sacrificing something else e.g., sun shine. Economic goods, on the other hand, are produced from scarce resources, therefore they are available in limited quantities. This results in making choices and hence they involve an opportunity cost. All other options suggest a further classification of economic goods.
- 95 **A** Demerit goods are worse for the people than they realize. So a lack of public awareness of the hazards in consumption of fizzy drinks suggests that it is a demerit good with over consumption, therefore, options **B** & **C** are incorrect. Fizzy drinks are private goods and their consumption can be restricted to those who pay for them thus they are excludable, this eliminates option **D**.
- 96 **A** All these can be identified as demerit goods that the Bureau aims at restricting their consumption to the socially optimum level by using regulation (laws). Thus option **B** is cancelled for it refers to financial intervention. Also we eliminate both options **C** & **D** because regulation in any form does not raise revenue and it reduce employment by decreasing output.

3.4 Privatization & Nationalization

- 97 **D** The dominant objective of private firms is to maximize their profits hence it prevents them from operating in loss making services. Other options suggest more likely outcomes of privatization.
- 98 **D** Nationalization involves a transfer of ownership from private firms to government.
- 99 **C** After becoming part-owners the manager and workers also share profit, therefore they will have a higher incentive to work.
- 100 **B** Motivated by profit the private firms are generally more cost efficient compared to public sector firms.
- 101 **B** Entry of new firms will make the industry more efficient by increasing competition. Other choices give more likely arguments for nationalization.
- 102 **A** Privatization increases competition that encourages innovation and hence creates choices for consumers. This cancels option **C**. Privatization, however, might result in higher unemployment and less provision of public goods, therefore, options **B** & **D** are incorrect.
- 103 **B** Overall the trend in privatization remained higher than nationalization. It, therefore, signifies that governments raised more revenue from privatization. Options **A** & **D** cannot be concluded because the graph provides only the monetary information of assets while **C** is marked wrong because it contradicts the values provided.

Topic

6

A Level

Consumer Behaviour

Contents that you will be examined on:

- (a) Law of diminishing marginal utility
 - its relationship to derivation of an individual demand schedule
 - equi-marginal principle
 - limitations of marginal utility theory; rational behaviour versus behavioural economic models
- (b) Indifference curves and budget lines
 - income, substitution and price effects for various types of goods

6.1 Utility

Q1

The following table shows the price per unit and the marginal utility derived by a consumer who devotes the whole of his weekly income of \$20 to two goods, X and Y, whose unit prices are \$2 and \$4 respectively.

	<i>marginal utility of X (price \$2 per unit)</i>	<i>marginal utility of Y (price \$4 per unit)</i>
first unit	10	12
second unit	8	10
third unit	6	8
fourth unit	4	4

In order to maximise his utility, the consumer should spend his income on

- A 1 X and 2 Y. B 2 X and 4 Y.
C 3 X and 1 Y. D 4 X and 3 Y.

Q2

Given that a consumer is seeking to obtain maximum benefit from his expenditure, it follows that the quantities of those goods with the same unit price which he purchases must be such that

- A his total utility from each is equal.
B his marginal utility from each is equal.
C his marginal utility from each is zero.
D his marginal utility from each is proportional to total utility.

Q3

Water, which is essential to life, is cheap, while diamonds, which are not, are expensive. This so-called *paradox of value* is resolved when account is taken of

- A the industrial uses of diamonds.
B the differences between total and marginal utility.
C the monopoly power of diamond producers.
D the irrationality of consumers.

Q4

A basic assumption of demand theory is that households allocate their incomes in order to maximise

- A present consumption.
B the quantities of all goods bought.
C total utility.
D marginal utility

Q5

A housewife spends her income on three products: sugar, butter and carrots. When all her income has been spent she obtains the following marginal utilities from the three goods:

	<i>Price/kg</i>	<i>Marginal utility/kg</i>
Sugar	15	30
Butter	40	40
Carrots	20	50

Assuming the products are available in any quantity (however small) the housewife may best increase her total utility (if this is indeed possible) by

- A increasing her consumption of butter and decreasing her consumption of sugar.
B increasing her consumption of butter and decreasing her consumption of carrots.
C decreasing her consumption of butter and increasing her consumption of carrots.
D decreasing her consumption of carrots and sugar, and increasing her consumption of butter.

Q6

A housewife purchases 10 lbs of apples at 5p per pound and 5 lbs of oranges at 10p per pound. She derives the same amount of utility from the tenth pound of apples as from the fifth pound of oranges. What should she do in order to maximise her utility from the purchase of these two commodities?

- A She should spend more on apples and less on oranges.
B She should spend more on oranges and less on apples.

- C She should spend more on oranges but the same amount on apples.
- D She should spend the same amount on both apples and oranges.

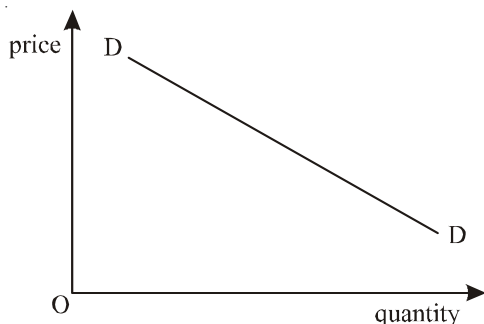
Q7

An individual consumer is in equilibrium in commodity markets when he equates the ratios of

- A the prices of goods to their marginal costs.
- B total utilities to expenditures on goods.
- C quantities demanded of goods to their prices.
- D marginal utilities to the prices of goods

Q8

A demand curve is shown below.



Which one of the following gives an explanation for the slope of the curve?

- A the law of variable proportions
- B diminishing returns
- C diminishing marginal utility
- D economies of scale

Q9

A housewife makes the following purchases:

	price per kg (\$)
10 kg apples	0.50
5 kg bananas	1.00
2 kg oranges	1.50

She derives twice as much utility from the fifth kg of bananas as from the tenth kg of apples, and three times as much utility from the second kg of oranges as from the tenth kg of apples.

What should she do in order to maximise her utility from the purchase of these three commodities?

	<i>purchase of apples</i>	<i>purchase of bananas</i>	<i>purchase of oranges</i>
A	decrease	decrease	increase
B	decrease	increase	increase
C	increase	decrease	decrease
D	no change	no change	no change

Q10

To maximise his utility, a consumer must spend his income so that

- A the total utility obtained from each good is equalised.
- B the marginal utility obtained from each good is equalised.
- C the ratio of marginal utility to price for each good is equalised.
- D the marginal utility obtained from each good is zero.

Q11

Why does an individual's demand curve generally slope downwards to the right for each time period?

- A The individual has a finite income out of which he attempts to satisfy many wants.
- B The individual prefers a little of all commodities to a lot of some.
- C The additional satisfaction an individual gets from consumption decreases as his income rises.
- D The additional satisfaction an individual gets from consumption decreases as his consumption increases.

Q12

An individual's satisfaction is maximized when his income is allocated between alternative purchases X and Y in such a way that the utility he derives from an extra unit of each good is diminishing and the

- A $\frac{\text{marginal utility of X}}{\text{marginal utility of Y}} = \frac{\text{price of X}}{\text{price of Y}}$
- B marginal utility of X *plus* the marginal utility of Y is maximised.
- C marginal utility of X = the marginal utility of Y.
- D $\frac{\text{marginal utility of X}}{\text{marginal utility of Y}} = \frac{\text{price of Y}}{\text{price of X}}$

Q13

In the equations below:

MU_x and MU_y denote the marginal utility and TU_x and TU_y the total utility a consumer derives from purchases of X and Y .

P_x and P_y denote the price of X and Y .

Which one of the following conditions must be met for the consumer to maximise his utility?

- A $MU_x = MU_y$ B $TU_x = TU_y$
 C $\frac{MU_x}{P_x} = \frac{MU_y}{P_y}$ D $\frac{TU_x}{P_x} = \frac{TU_y}{P_y}$

Q14

A society regards 1.1 units of a good X next year as equally desirable to 1 unit of X this year. It faces the following five consumption possibilities between X this year and X next year.

Which combination, A, B, C, or D, would achieve the highest utility?

	<i>X units this year</i>	<i>X units next year</i>
A	90	20
B	80	35
C	70	47
D	60	57

Q15

A consumer who aims to maximise his utility will arrange his consumption so that the same

- A amount of money is spent on each commodity
 B total utility is derived from each commodity.
 C utility is derived from the last unit of each commodity.
 D utility is derived from the last unit of expenditure on each commodity

Q16

Only two goods, x and y , are available to a rational consumer. Their prices are P_x and P_y . The marginal utilities of these goods are denoted by MU_x and MU_y .

The utility theory of consumer behaviour states that the consumer will purchase units of x and y until

- A $MU_x = MU_y = \text{zero}$ B $\frac{MU_x}{MU_y} = \text{zero}$
 C $\frac{MU_x}{P_y} = \frac{MU_y}{P_x}$ D $\frac{MU_x}{MU_y} = \frac{P_x}{P_y}$

Q17

The schedule shows the utility derived by a consumer of a good X at different levels of consumption.

<i>quantity of X consumed</i>	1	2	3	4	5	6	7	8	9	10
<i>utility (units)</i>	20	38	54	68	80	90	98	104	108	110

The consumer derives 2 units of satisfaction from the last penny on good X .

What is the maximum number of units of X that he will consume if the price of X is 4p?

- A 2 B 5
 C 7 D 9

Q18

The table shows the total utility derived by an individual from the consumption of three goods.

<i>units consumed</i>	<i>total utility (units)</i>		
	<i>apples</i>	<i>bananas</i>	<i>Oranges</i>
1	8	20	5
2	15	24	10
3	21	26	15
4	26	27	21
5	30	26	27

Which of the goods are subject to diminishing marginal utility?

- A apples and bananas B apples and oranges
 C bananas alone D oranges alone

Q19

A household makes the following purchases of fruit.

<i>fruit</i>	<i>quantity purchased (kg)</i>	<i>price per kg (£)</i>
apple	10	0.50
bananas	5	1.00

The household derives twice as much utility from the fifth kg of bananas as from the tenth kg of apples.

What should the household do to maximise utility from the purchase of these fruits?

	<i>purchase of apples</i>	<i>purchase of bananas</i>
A	decrease	decrease
B	decrease	increase
C	no change	no change
D	increase	decrease

Q20

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.

Q21

A consumer who aims to maximise his utility will arrange his consumption so that

- A** the same amount of money is spent on each commodity.
- B** the same total utility is derived from each commodity.
- C** the same utility is derived from the last unit of each commodity
- D** the same utility is derived from the last unit of expenditure on each commodity

Q22

A consumer has such a vast income that he has no need to limit his expenditure on anything. If he wishes to maximise his utility, he should consume up to the point where his marginal utility from each good is

- A** maximised.
- B** proportional to his expenditure on that goods.
- C** proportional to its price.
- D** zero.

Q23

A rational consumer allocates his expenditure so as to

- A** equate the marginal utilities obtained from each good.
- B** equate the total utilities obtained from each good.
- C** maximise the marginal utility from each good.
- D** maximise total utility from his expenditure as a whole.

Q24

A consumer spends his disposable income on food and clothing. When his weekly income is \$40 he buys 5 units of food at a unit price of \$5. His marginal utility from food consumption is 10 utility units.

If the price of a clothing unit is \$0.50, the consumer's marginal utility from clothing is

- A** equal to that derived from food.
- B** $\frac{1}{10}$ utility unit.
- C** 1 utility unit.
- D** 10 utility units.

Q25

The schedule shows the total utility derived by a consumer of a good X at different levels of consumption.

quantity of X consumed	1	2	3	4	5	6	7
total utility (units)	28	40	50	58	64	68	70

The consumer obtains two units of satisfaction from the last cent she spends on each good that she purchases.

What is the maximum number of units of X that she will consume if the price of X is 4 cents?

- A** 2
- B** 3
- C** 4
- D** 7

Q26

The table shows the marginal utility derived by a consumer who devotes the whole of his weekly income of \$32 to two goods X and Y, whose unit prices are \$2 and \$4 respectively.

unit	Marginal utility of X (units)	Marginal utility of Y (units)
1	9	28
2	8	26
3	7	24
4	6	22
5	5	20
6	4	18
7	3	16
8	2	14
9	1	12
10	0	10

In order to maximise his utility, which quantities of X and Y should the consumer purchase?

	X	Y
A	2	7
B	4	6
C	6	4
D	8	3

Q27

A household which spends all of its income on bananas and apples makes the following purchases.

fruit	price per unit (\$)
bananas	2.50
apples	1.00

The household derives twice as much utility from the last unit of bananas consumed as from the last unit of apples consumed.

What should the household do to maximise utility from the consumption of these fruits?

	consumption of bananas	consumption of apples
A	decrease	increase
B	increase	decrease
C	no change	decrease
D	no change	increase

Q28

A utility-maximising consumer spends the whole of his disposable income of \$40 on food and clothing.

The table shows the price of food, the quantity purchased by the consumer, and the marginal utility he derives from food consumption.

food	
price per unit	\$5
quantity demanded	5
marginal utility (units)	10

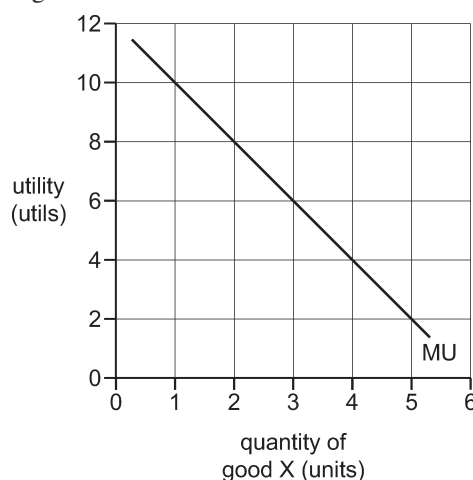
His marginal utility from clothing is 2 units.

What is the price of clothing per unit and the quantity purchased by the consumer?

	clothing	
	price (\$)	quantity (units)
A	0.5	30
B	1.0	15
C	3.0	5
D	5.0	3

Q29

The diagram shows the marginal utility (MU) an individual derives from consuming different quantities of good X.



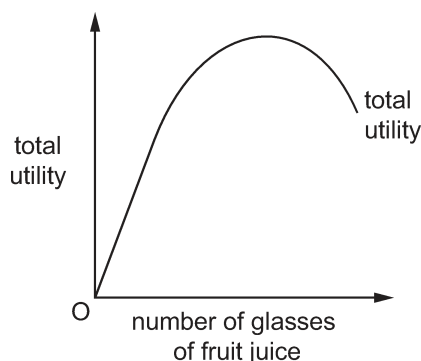
At the margin, the individual derives two units of utility from every \$1 that he spends.

Which quantity of good X will he purchase if the price of X is \$2?

- A 1 B 2
C 4 D 5

Q30

The diagram shows an individual's total utility from consuming glasses of fruit juice.



How can this information help to derive the individual's demand curve for fruit juice?

- A by revealing the individual's marginal utility curve
- B by revealing the money value of marginal utility
- C by showing how total utility is maximised
- D by showing the relationship between utility and expenditure

Q31

To maximise the satisfaction he derives from a given level of expenditure on two goods, X and Y, a consumer should allocate his expenditure between the two goods so that

- A marginal utility of X = price of X and marginal utility of Y = price of Y.
- B marginal utility of X plus marginal utility of Y is maximised.
- C marginal utility of X = marginal utility of Y.
- D $\frac{\text{marginal utility of X}}{\text{marginal utility of Y}} = \frac{\text{price of X}}{\text{price of Y}}$

Q32

Which act of purchase or consumption is most likely to illustrate the law of diminishing marginal utility?

- A the final course of an 'eat all you can' banquet to end an evening out
- B the last coin to complete an enthusiast's coin collection
- C the second of the two rolls of wallpaper needed to decorate a room
- D the tenth driving lesson needed to enable a learner to pass the driving test

Q33

The diagram shows the marginal utility (MU) that an individual derives from a good at different levels of consumption.



The utility he derives from the last \$ he spends on every good is 4 units.

Assuming the marginal utility of money is constant, which quantity will he purchase if the price of the good is \$10?

- A 4 kilos
- B 5 kilos
- C 6 kilos
- D 7 kilos

Q34

At major sporting events, unofficial markets occur where tickets originally sold by the event organiser are resold at prices higher than the original ticket price.

What might be the conclusion of an economist considering these markets?

- A Allocation of tickets by ballot would be preferable.
- B The market for the resold tickets is more equitable.
- C The new allocation of tickets better reflects consumers' utility.
- D This is a case of monopoly exploitation.

6.3 Income and Substitution Effects

Q61

An individual's demand for a good normally slopes down from left to right because

- A the price of the good falls as his consumption increases.
 - B the substitution effect of a price change cannot be perverse.
 - C producers offer more for sale at a higher than at a lower price.
 - D people judge quality by price.
-

Q62

The price of a good changes. The substitution effect of the price change is stronger than the income effect, and the effects work in opposite directions. The good is therefore

- A an inferior good.
 - B a luxury good.
 - C a necessity.
 - D a normal good.
-

Q63

When the price of a good falls, if the substitution effect is strong enough to outweigh the negative income effect, this good is defined as

- A a complementary good.
 - B an inferior good.
 - C a public good.
 - D a substitute good.
-

Q64

The direction of the income effect of a price change

- A is always positive.
 - B may be positive or zero, but is never negative.
 - C may be positive, negative or zero.
 - D is always the same as the substitution effect.
-

Q65

For the purposes of measuring the income effect of a change in the price of a good, what is **not** held constant?

- A consumer preferences
 - B relative prices
 - C the consumer's money income
 - D the consumer's real income
-

Q66

Why will the quantity demanded increase when the price of a normal good falls?

- A The income and substitution effects are both positive.
 - B The income and substitution effects are both negative.
 - C The negative income effect is greater than the positive substitution effect.
 - D The positive income effect is greater than the negative substitution effect.
-

Q67

What will happen if, in response to a fall in its price, a consumer buys more of a good?

- A a fall in the total utility derived from consuming the good
 - B a movement along the consumer's demand curve
 - C a rise in the marginal utility derived from consuming the good
 - D a shift in the consumer's demand curve
-

Q68

When the price of a good falls the effect on the quantity demanded is the result of an income effect and a substitution effect.

Which statement about these effects is correct?

- A For inferior goods the income effect and the substitution effect work in the same direction.
- B For inferior, but not Giffen, goods the income effect outweighs the substitution effect.

- C** For normal goods the income effect and substitution effect work in the same direction.
- D** For normal goods the income effect outweighs the substitution effect.
-

Q69

The table shows substitution and income effects for a normal good and for an inferior good as the price of the good changes.

Which combination is correct?

	type of good	price change	demand change from substitution effect	demand change from income effect
A	inferior	fall	negative	positive
B	inferior	rise	negative	negative
C	normal	fall	positive	positive
D	normal	rise	positive	negative

MCQ ANSWERS

Topic

6

Remember: You are required to make a good effort in attempting to answer the questions first before referring and comparing the suggested answers given.

TOPIC 6: Consumer Behaviour

6.1 Utility

- 1 D Using the formula: $\frac{MU_x}{P_x} = \frac{MU_y}{P_y}$

	$\frac{MU_x}{P_x}$	$\frac{MU_y}{P_y}$
First unit	5	3
Second unit	4	2.5
Third unit	3	2
Fourth unit	2	1

4 units of X and 3 units of Y fulfill the condition and also exhaust all \$20.

$$4 \times \$2 = \$8$$

$$3 \times \$4 = \$12$$

$$\$8 + \$12 = \$20$$

- 2 B A consumer attains maximum satisfaction from his expenditure when he derives the same utility from the last money unit spent on each good. Mathematically it is expressed as;

$$\frac{MU_a}{P_a} = \frac{MU_b}{P_b} = \dots = \frac{MU_c}{P_c}$$

Since prices of the goods are same, therefore, marginal utility for each good must also be the same.

- 3 B Solution to the paradox is that a good that is plentiful, such as water, will have a low price and hence will be consumed to the point where consumers place a low value on the last unit consumed. By contrast a product that is relatively scarce will have a high market price, therefore, consumers place a high value on the last unit consumed.

- 4 C A rational consumer aims to maximize total satisfaction from the given income.

- 5 C Diminishing marginal utility suggests that a consumer can change the marginal utility obtained from different goods by changing their quantities. The objective is to maximise satisfaction by fulfilling the following condition;

$$\frac{MU_s}{P_s} = \frac{MU_b}{P_b} = \frac{MU_c}{P_c}$$

So, by substituting the values we obtain:

$$\frac{30}{15} > \frac{40}{40} < \frac{50}{20}$$

With the current bundle the consumer does not maximize satisfaction; hence he needs to change the quantities. So, if he increases his quantity of carrots MU_c falls and hence the value of its fraction decreases. Similarly if he decreases quantity of butter, MU_b rises and hence the value of its fraction falls. The consumer needs to do this until the values of all three fractions are equal.

- 6 A $\frac{MU_{apple}}{P_{apple}} = \frac{MU_{orange}}{P_{orange}}$

We disregard the quantities and assume that

$$MU \text{ from both goods} = 1, \text{ then } \frac{1}{5} > \frac{1}{10}$$

The housewife should spend more on apples so that MU of apples decreases and lowers the value of its fraction. At the same time the housewife should spend less on oranges so that MU of oranges increases and raises the value of its fraction. The housewife needs to shuffle her purchase of the two products until the values of their respective fractions are equal.

- 7 D $\frac{MU_a}{P_a} = \frac{MU_b}{P_b} = \dots = \frac{MU_c}{P_c}$

- 8 C A downward sloping demand curve suggests that the consumer is willing to pay a decreasing amount for every next unit because each next unit is less satisfying than the previous unit i.e. diminishing marginal utility.

- 9 D $\frac{MU_{apple}}{P_{apple}} = \frac{MU_{banana}}{P_{banana}} = \frac{MU_{orange}}{P_{orange}}$

We disregard the quantities and assume that $MU_a = 1$, $MU_b = 2$ and $MU_o = 3$. By placing these values and respective prices we obtain the following:

$$\frac{1}{0.5} = \frac{2}{1} = \frac{3}{1.5}$$

These fractions have the same values. So the housewife should not change the combination as she is already maximizing satisfaction.

10 C $\frac{MU_a}{P_a} = \frac{MU_b}{P_b} \dots\dots\dots = \frac{MU_c}{P_c}$

11 D Since every next unit represents lower satisfaction, therefore, the consumer is willing to pay less for each additional unit.

12 A $\frac{MU_x}{P_x} = \frac{MU_y}{P_y}$

This can be re-written as: $\frac{MU_x}{MU_y} = \frac{P_x}{P_y}$

13 C $\frac{MU_a}{P_a} = \frac{MU_b}{P_b} \dots\dots\dots = \frac{MU_c}{P_c}$

14 C

	X unit this year	X unit next year 1.1	Total consumption
A	90	18.1	108.1
B	80	31.8	111.8
C	70	42.7	112.7
D	60	51.8	111.8

15 D A rational consumer maximizes utility from his consumption of a number of products when he derives the same utility from the last money unit spent on each product.

16 D $\frac{MU_x}{P_x} = \frac{MU_y}{P_y}$

This can be re-written as: $\frac{MU_x}{MU_y} = \frac{P_x}{P_y}$

17 C Since $\frac{MU}{P}$ from all other products = 2, therefore, $\frac{MU_x}{P_x}$ should be the same.

Quantity	MUx	$\frac{MU_x}{P_x}$
1	20	5
2	18	4.5
3	16	4
4	14	3.5
5	12	3
6	10	2.5
7	8	2
8	6	1.5
9	4	1
10	2	0.5

18 A $MU = TU_n - TU_{n-1}$

Units	MU apples	MU bananas	MU oranges
1	8	20	5
2	7	4	5
3	6	2	5
4	5	1	6
5	4	-1	6

19 C $\frac{MU \text{ apple}}{P \text{ apple}} = \frac{MU \text{ banana}}{P \text{ banana}}$

We disregard the quantities and assume that $MU_a = 1$ and $MU_b = 2$. By placing these values and respective prices in the equation we obtain;

$$\frac{1}{0.5} = \frac{2}{1}$$

The two fractions are equal in values, so, the housewife should not change the combination.

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

21 D A rational consumer maximizes utility when he derives the same utility from the last money unit spent on each product.

22 D With no limit to income, consumer maximizes total utility where marginal utility from the last unit of each good he consumes falls to zero.

23 D Consumer rationality implies that the consumer wants to maximize satisfaction from his expenditure.

24 C $\frac{MU \text{ food}}{P \text{ food}} = \frac{MU \text{ clothing}}{P \text{ clothing}}$
 $\Rightarrow \frac{10}{\$5} = \frac{x}{0.5} \Rightarrow x = 1$

25 C Since $\frac{MU}{P}$ from all other products = 2, therefore, $\frac{MU_x}{P_x}$ should be the same.

Quantity	MUx	$\frac{MU_x}{P_x}$
1	28	7
2	12	3
3	10	2.5
4	8	2
5	6	1.5
6	4	1
7	2	0.5

- 26 **A** Using the formula: $\frac{MU_x}{P_x} = \frac{MU_y}{P_y}$, we find the possible combination.

Number of portions	$\frac{MU_x}{P_x}$	$\frac{MU_y}{P_y}$
1	4.5	7
2	4	6.5
3	3.5	6
4	3	5.5
5	2.5	5
6	2	4.5
7	1.5	4
8	1	3.5
9	0.5	3
10	0	2.5

Seven units of Y and two units of X satisfy the formula and exhaust all \$32.

$$7 \times \$4 = \$28$$

$$2 \times \$2 = \frac{\$4}{\$32}$$

- 27 **A** To maximize satisfaction.

$$\frac{MU_b}{P_b} = \frac{MU_a}{P_a}$$

Where MU refers to marginal utility and P to price.

Now let's assume $MU_b = 10$, therefore MU_a

$$\text{should be } 5 = \frac{10}{2.5} < \frac{5}{1}$$

So, the household needs to change its purchase of these two goods until the two ratios are equal. According to the diminishing marginal utility a lower purchase of bananas will increase MU_b along with the value of its ratio. At the same time buying more apples will decrease first the MU_a and then the value of its ratio. In order to attain equilibrium the household needs to bring these changes until the two ratios are equal.

- 28 **B** $\frac{MU_f}{P_f} = 2$, therefore, consumer is in equilibrium when $\frac{MU_c}{P_c} = 2$. Since $MU_c = 2$, therefore, P_c must be \$1.

- 29 **C** Since $\frac{MU}{P} = 2$ and $P = 2$, therefore $MU = 4$. On the graph $MU = 4$ when consumer buys 4 units.

- 30 **A** Rate of change of TU curve measures MU that can be used to derive an individual's demand curve.

- 31 **D** A standard formula for consumer equilibrium.

- 32 **A** Each next course gives lower satisfaction than the previous course because consumers' hunger is partially satisfied with every next course. Other choices refer to the last units that enable the consumers to achieve their goals, therefore consumption of those units is likely to contradict the law.

- 33 **B** $\frac{MU_a}{P_a} = \frac{MU_b}{P_b} = \frac{MU_n}{P_n}$

$$\frac{MU}{P} = 4 \text{ from every other good, hence}$$

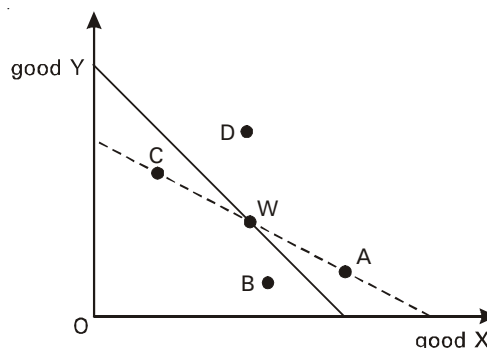
$$\frac{40}{10} = 4 \text{ is at 5 kilos.}$$

- 34 **C** A higher than the original price signifies the higher value that people place on tickets for they believe to have obtained a higher utility from attending the sporting event. Options **A** & **D** do not explain this while option **B** is inconsistent with this situation.

6.2 Budget Line and Indifference Curve

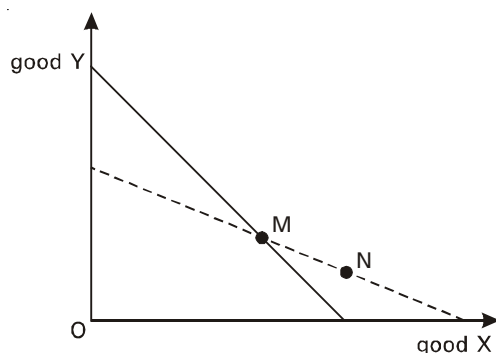
- 35 **D** A decrease in price of X, with money income remaining unchanged, causes the budget line to shift pivotal outward on x-axis.

- 36 **A**



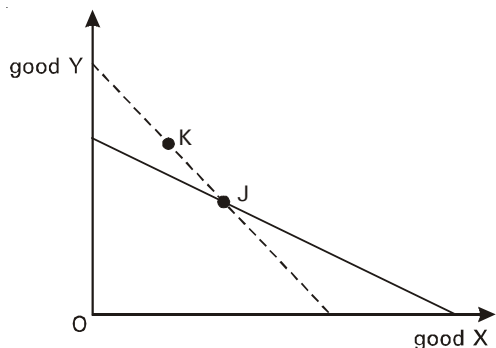
A reduction in the price of X causes a pivotal outward shift in the budget line on x-axis. A simultaneous increase in price of Y with no change in money income shifts the budget line pivotal inward on Y-axis. The consumer buys more X as it is relatively cheaper now.

37 A



A reduction in the price good X causes a pivotal outward shift in the budget line on x-axis. A simultaneous decrease in money income, with no change in price of good Y, shifts the budget line pivotal inward on y-axis. The consumer buys more X as it is relatively cheaper now.

38 D

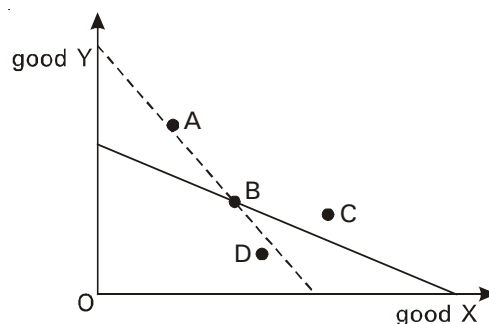


A reduction in the price good Y causes a pivotal outward shift in the budget line on x-axis. A simultaneous decrease in money income, with no change in price of good X, shifts the budget line pivotal inward on y-axis. The consumer buys more Y as it is relatively cheaper now.

39 A Movement along the budget line suggests that both prices of the two goods and money income have not changed. So the change in combination must have resulted from a change in factors such as preferences, taste etc.

40 D An inward shift reflects lower quantities of both X and Y possibly due to fall in consumer's money income. However, the effect is more on good X, that signifies a greater rise in the price of good X than good Y.

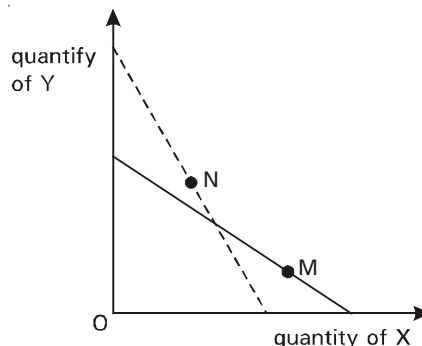
41 A



A reduction in the price good Y causes a pivotal outward shift in the budget line on y-axis. A simultaneous increase in price of good X shifts the budget line pivotal inward on x-axis. The consumer buys more Y for it is relatively cheaper.

42 A $P_X = \frac{30}{20} = \$1.50$, $P_Y = \frac{30}{12} = \$2.50$

43 B



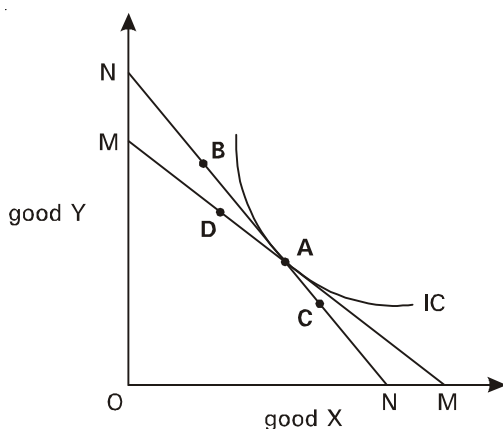
A pivotal inward shift on x-axis suggests an increase in P_X while a pivotal outward shift on y-axis suggests a fall in P_Y . Point N indicates that the consumer buys more Y after it has become relatively cheaper.

44 C With all else remaining unchanged, a move from point G to H shows a fall in quantity of good Y. Thus Y can be classified as an inferior good because a rise in income results in a fall in quantity of Y (negative income effect).

45 B $P_X = \frac{120}{12} = \$10$, $P_Y = \frac{120}{20} = \$6$

46 A A fall in price of good X shifts the budget line pivotal outward from M_1 to M_2 . Initially, the consumer substitutes good Y with good X as indicated by a movement along IC_1 from point P to R that causes an increase in quantity of good X. Since his real income has also increased, therefore his preferred position is on a higher IC curve at point S that causes a fall in QD of good X due to the income effect. This movement suggests that X is a Giffen good because the negative income effect outweighs positive substitution effect and hence it causes a fall in QD when price of good X falls.

47 B



By substituting good X (that is now relatively expensive) with good Y (now relatively cheaper), the consumer prefers to remain at the same IC curve and moves from point A to point B. Points C & D would lower his level of satisfaction as both are likely to be on the lower IC curves.

48 A For a Giffen good negative income effect (N to A) outweighs positive substitution effect (M to N).

49 C A fall in price of good X shifts the budget line pivotal outward from M_1 to M_2 . As a result first the consumer substitutes good Y with good X as shown by a movement along IC_1 from point P to R. Since his real income has also increased, therefore he shifts to a higher IC curve at point S. We can mark that both income and substitution effects result in a rise in QD of good X as its price falls. Hence good X is normal for it has a positive substitution effect and a positive income effect. No other good shares these features hence we cancel other choices.

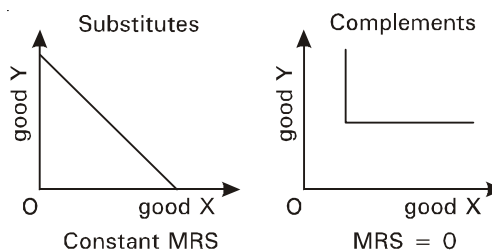
50 D All points on an indifference curve represent the same level of satisfaction (TU).

51 B Slope of an indifference curve measures (MRS) marginal rate of substitution of one good with the other and a straight line downward sloping IC curve indicates a constant MRS that is only possible in case of perfect substitutes.

52 C Movement along the same IC due to a fall in price of one of the two goods implies substitution effect.

53 B An indifference curve for a normal good is drawn on the assumption that the rate at which one good is substituted with another (MRS) diminishes. Option A is incorrect because in all cases higher satis-

faction lies on higher IC curves. Following graphs show why options C & D are incorrect.



54 A Pivotal outward shift of the budget line from X_1 to X_2 signifies a fall in price of good X and the resulting movement along IC_1 curve from point F to G suggests substitution effect. Since consumer's real income has also increased, therefore consumer's preferred position is on IC_2 curve is point H. Thus movement from G to H refers to the income effect of a price fall for X.

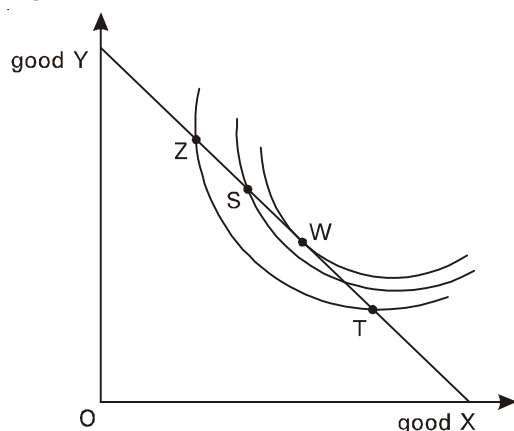
55 B A pivotal outward shift on X-axis suggests a decrease in price of good X only. As a result consumer's preferred position shows no change in quantity of good X but a higher quantity of good Y. Therefore, diagram B is consistent with this explanation and hence it makes option A incorrect. Since Y's quantity has increased without a decrease in its price, therefore options C & D are invalid.

56 A Further an IC drawn from the origin, the higher is the level of satisfaction. Hence the consumer acts rationally when he shifts the equilibrium to the highest possible IC.

57 A A decrease in consumer income first shifts the budget line to the left parallel to QR. At the same time a decrease in price of good X shifts the budget line pivotal outward on X-axis and hence it determines SR as the new budget line.

58 B An IC reflects a certain level of satisfaction and the higher an IC is drawn the greater is the satisfaction it yields.

59 D A shift from point R to S is attributed to a positive substitution effect of a fall in price of good X leading to a rise in its quantity while a shift from point S to T refers to a decrease in quantity of good X due to the negative income effect. Note that decrease in quantity of good X resulting from the negative income effect is less than the increase in quantity due to the positive substitution effect. Hence the overall quantity of good X increases and we identify the good as inferior.

60. **C**

The higher the indifference curve drawn the more preferable it is because it yields a higher level of satisfaction. This makes option **A** incorrect. Consumer is indifferent between the points on the same IC curve, thus options **A** & **D** are invalid.

67. **B** According to the theory a change in price of a good causes movement along its **D** curve. This rules out option **D**. A higher consumption causes MU to fall but TU to rise; therefore **A** & **C** are incorrect.

68. **C** For an inferior good substitution effect outweighs income effect, hence we eliminate other choices.

69. **C** For a normal good both income and substitution effect increase the QD as its price falls. This signifies that both these effects are positive in nature for a normal good, thus option **D** is invalid. In case of an inferior good positive substitution effect outweighs negative income effect, thus combinations **A** & **B** are incorrect.

6.3 Income and Substitution Effects

61. **B** The demand curve for a good slopes downward from left to right because substitution effect of a change in price arises from the consumer switching to or from substitute products and in no situation it is completely offset by any opposing force.

62. **A** In case of inferior goods income and substitution effects of a price change result in QD of the product to change in opposite directions. However, the theory suggests that the substitution effect outweighs the income effect.

63. **B** In case of inferior goods income and substitution effects of a price change result in QD of the product to change in opposite directions. However, the theory suggests that the substitution effect outweighs the income effect.

64. **C** Income effect of a price change is positive on a normal good and negative on inferior goods. However, goods with zero income elasticity of demand will have zero income effect. Thus **A** & **B** are incorrect. **D** is incorrect because the effects are the same only in case of normal goods but move in opposite direction in case of inferior goods.

65. **D** A change in price causes a change in real income assuming everything else is constant.

66. **A** A normal goods is associated with positive substitution and income effect.