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ECONOMICS

(P3 & P4)

(TOPICAL)

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 Period	2017 to 2025
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 Form	Topic By Topic
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 special features	HELPS to MCQs

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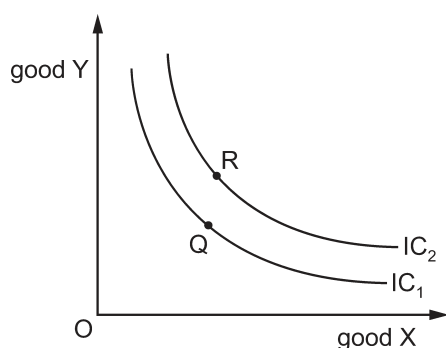
Revision June / November **2025** Paper 3 & 4, All Variants

TOPIC 1.1

Law of Diminishing Marginal Utility, Indifference Curves and Budget Lines.

MCQ Section

1. The diagram shows two indifference curves for a consumer.



What can be concluded if the consumer's equilibrium moves from Q to R?

- A The consumer is acting rationally.
- B The consumer's money income is unchanged.
- C The opportunity cost of good Y is constant.
- D The price of good X has risen.

[J17/P3/Q4]

2. 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.

[J17/P3/Q5]

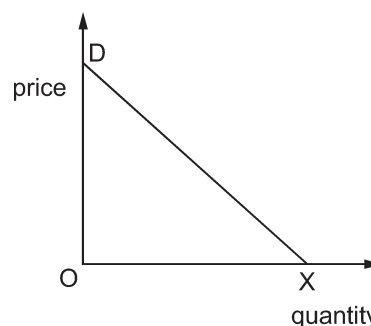
3. What would **not** affect the budget line of an individual consumer?

- A the individual's preference for various goods
- B the level of income tax

- C the money prices of goods
- D the wages earned by the individual

[J18/P3/Q5]

4. The diagram shows the demand curve for a product.

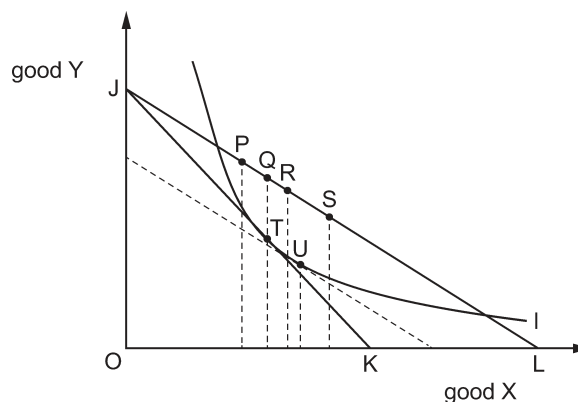


What is maximised at X?

- A marginal revenue
- B total revenue
- C marginal utility
- D total utility

[J18/P3/Q6]

5. The diagram shows budget lines and an indifference curve. The consumer's initial position is T. The price of good X then falls.

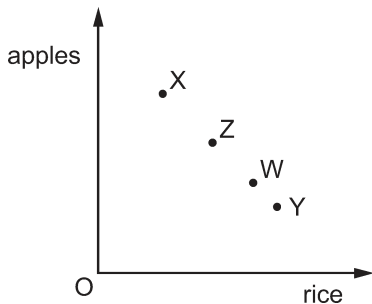


Which combination of statements about the movements in this diagram is correct?

- A T to Q represents perfect elasticity; T to P represents a Giffen good
- B T to R represents an income effect; R to S represents a substitution effect
- C T to U represents a substitution effect; T to Q represents a normal good
- D T to U represents a substitution effect; U to P represents an income effect

[N18/P3/Q4]

6. The diagram shows various combinations of apples and rice which are potentially available to a consumer.



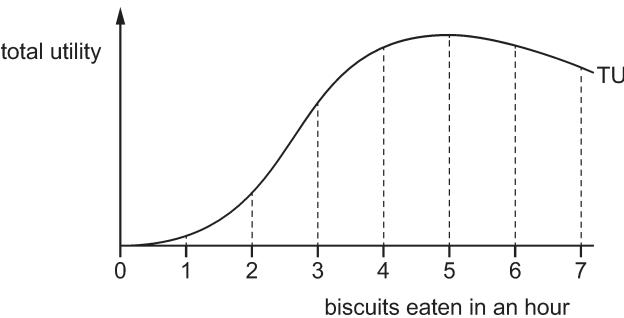
If standard indifference curves were added to the diagram they would show that the consumer is indifferent between combination X and combination W.

What can be concluded?

- A The consumer is indifferent between combination Y and combination Z.
- B The consumer is indifferent between combination Z and combination W.
- C The consumer prefers combination Y to combination X.
- D The consumer prefers combination Z to combination W.

[N18/P3/Q5]

7. The graph shows the total utility (TU) obtained by a consumer from eating biscuits over a period of one hour.

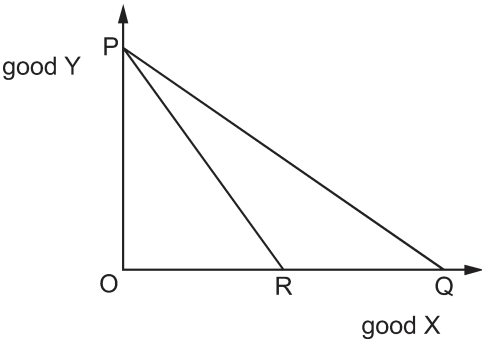


After eating how many biscuits does the consumer's marginal utility begin to diminish?

- A 3
- B 4
- C 5
- D 6

[J19/P3/Q4]

8. The diagram shows budget lines for normal goods X and Y.

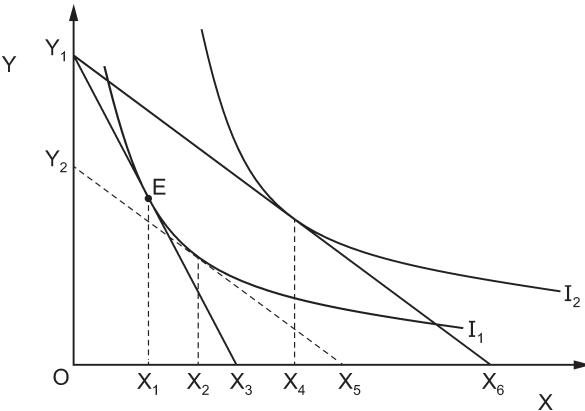


What could cause a budget line to shift from PQ to PR?

	price of X	price of Y	level of consumer incomes
A	fall	rise	fall
B	no change	rise	no change
C	rise	no change	no change
D	rise	no change	rise

[J19/P3/Q5]

9. A consumer spends all of their income on two goods, Y and X, and is at position E. The price of X falls and the price of Y remains constant. The graph shows indifference curves and budget lines which are used to determine the price, income and substitution effects that are related to this price change.



Which distance gives the income effect of this price change?

- A** X_1X_2 **B** X_1X_4 **C** X_2X_4 **D** X_5X_6

[J19/P3/Q6]

- 10.** A consumer has \$3 to spend each day on chocolate bars or toffee bars, which all cost \$1 each. The table below shows the units of additional satisfaction she gets from consuming each bar.

1 st chocolate bar 16	2 nd chocolate bar 13	3 rd chocolate bar 10
1 st toffee bar 14	2 nd toffee bar 12	3 rd toffee bar 9

What should she buy to maximise her total utility?

- A** 1 chocolate bar and 2 toffee bars
B 2 chocolate bars and 1 toffee bar
C 3 chocolate bars
D 3 toffee bars

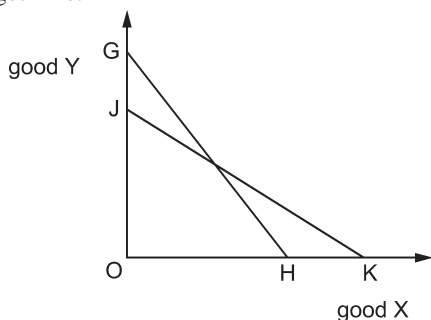
[N19/P3/Q5]

- 11.** What is it called when a consumer's marginal utility is greater than the price paid for the good?

- A** a Giffen good **B** an inferior good
C consumer surplus **D** producer surplus

[N19/P3/Q4]

- 12.** The curve JK in the diagram is a consumer's initial budget line.

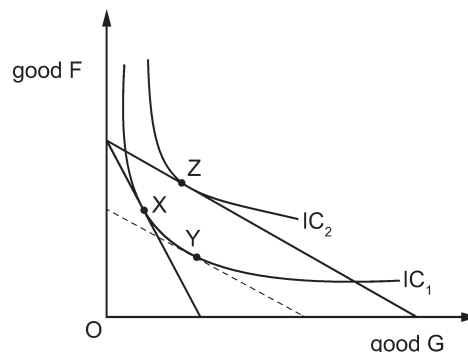


Which combination could cause the budget line to shift to GH?

	price of good X	consumer's money income
A	increase	increase
B	decrease	decrease
C	increase	decrease
D	decrease	increase

[N19/P3/Q6]

- 13.** The diagram shows a consumer's indifference curves (IC) for goods F and G together with the consumer's budget lines.



What could explain the movement from X to Z on the diagram?

- A** a fall in the price of G when G is an inferior good
B a fall in the price of G when F is a Giffen good
C a fall in the price of G when G is a normal good
D a fall in the price of G when G is a Giffen good

[N19/P3/Q7]

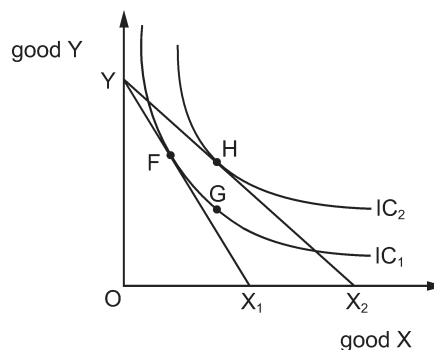
- 14.** On a diagram the slope of a consumer's budget line becomes steeper.

What can definitely be concluded from this?

- A** The consumer's income has fallen.
B The consumer's income has risen.
C The price has decreased for the product on the horizontal axis.
D The price has increased for the product on the horizontal axis.

[J20/P3/Q5]

- 15.** The diagram shows two indifference curves and two budget lines for goods X and Y.



The consumer's initial position is at point F. The consumer's preferred final position becomes point H.

What does the movement from F to G represent?

- A the income effect of a price fall for X
- B the price effect of a price change for X
- C the substitution effect of a price fall for X
- D the substitution effect of a price rise for X

[J20/P3/Q6]

16. A rational consumer chooses what quantities of two products Y and Z to purchase with a given income.

MU_Y and MU_Z are the additions to total utility that would result if the consumer were to purchase an additional unit of each product.

P_Y and P_Z are the current prices of the two products.

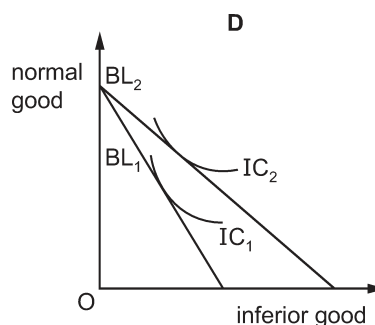
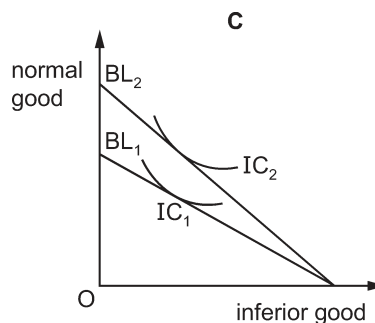
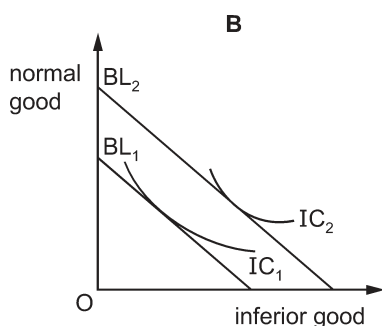
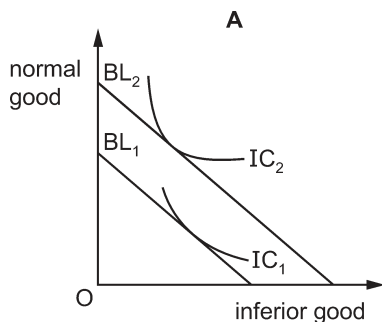
Which outcome would represent consumer equilibrium?

- A when $MU_Y = MU_Z$
- B when $MU_Y \times P_Y = MU_Z \times P_Z$
- C when $MU_Y \times P_Z = MU_Z \times P_Y$
- D it is not possible to tell from the information available

[N20/P3/Q4]

17. The diagrams show a consumer's indifference curves (IC) and budget lines (BL) for an inferior good and a normal good.

Which diagram shows the effect of a cut in income tax on the consumer's choice?



[N20/P3/Q5]

18. Donald maximises his utility when buying paperback books and audio books. The price of a paperback book = \$3 and the price of an audio book = \$6.

If the marginal utility of the last paperback book was 12 units of utility (utils), what was the marginal utility of the last audio book purchased?

- A 2 utils
- B 12 utils
- C 16 utils
- D 24 utils

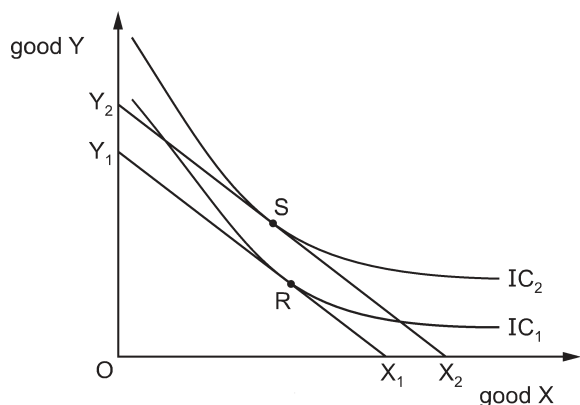
[J21/P3/Q4]

19. Which statement correctly describes the result of a price increase for an inferior good?

- A Both the substitution effect and the income effect cause the consumer to buy less of the good.
- B Both the substitution effect and the income effect cause the consumer to buy more of the good.
- C The substitution effect causes the consumer to buy less of the good and the income effect causes the consumer to buy more of the good.
- D The substitution effect causes the consumer to buy more of the good and the income effect causes the consumer to buy less of the good.

[J21/P3/Q5]

20. The diagram shows two indifference curves and two budget lines for goods X and Y. The consumer's initial equilibrium is point R.



There is a shift in the budget line from Y_1X_1 to Y_2X_2 and the new equilibrium for the consumer is point S.

What can definitely be concluded about good X?

- A It is a Giffen good.
- B It is an inferior good.
- C It is a normal good.
- D It is a public good.

[N21/P3/Q5]

21. A consumer currently consumes 10 units of good X and 10 units of good Y at point Z on an indifference curve.

The consumer's marginal utilities from consuming both good X and good Y are positive.

Which combination of good X and good Y could be on the same indifference curve as point Z?

	units of good X	units of good Y
A	9	11
B	10	11
C	11	10
D	12	12

[N21/P3/Q4]

22. What does a budget line show?

- A the behaviour of a utility-maximising consumer
- B the difference between an individual's consumption and saving
- C the monetary value of the disposable income of a consumer

- D the maximum combinations of two products that a consumer can buy with a given level of income

[J22/P32/Q5]

23. When the price of a good falls, the overall effect on the quantity demanded can be separated into income and substitution effects.

Which statement describes a Giffen good?

- A The income effect is irrelevant for a Giffen good.
- B The income effect works in the same direction as the substitution effect.
- C The income effect works against the substitution effect and is of a greater magnitude.
- D The income effect works against the substitution effect but is of a smaller magnitude.

[J22/P32/Q6]

24. The table shows the levels of total and average utility at different levels of a consumer's weekly consumption of a product.

number consumed per week	total utility	average utility
1	4	4.0
2	9	4.5
3	15	5.0
4	20	5.0
5	24	4.8
6	27	4.5

After which level of weekly consumption does the diminishing marginal utility first occur?

- A 3
- B 4
- C 5
- D 6

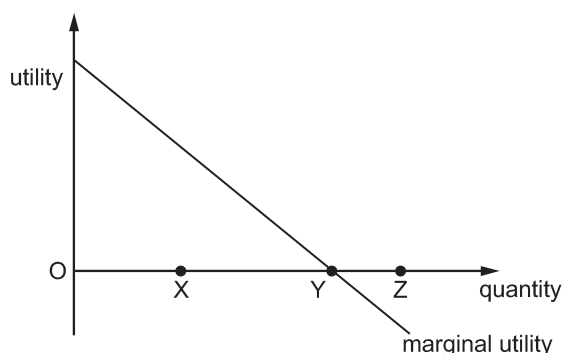
[N22/P32/Q4]

25. Which statement about a budget line in consumer behaviour theory is correct?

- A It illustrates consumer preference between two goods.
- B It illustrates combinations of two goods that consumers are able to purchase with a given income.
- C It illustrates the least cost combination of goods that yield the same level of utility.
- D It illustrates the income effect of a price change.

[N22/P32/Q5]

26. What does the marginal utility diagram show?



- A Total utility becomes negative if the quantity consumed increases from Y to Z.
- B Total utility decreases if the quantity consumed increases from X to Y.
- C Total utility decreases if the quantity consumed increases from Y to Z.
- D Total utility is maximised at X.

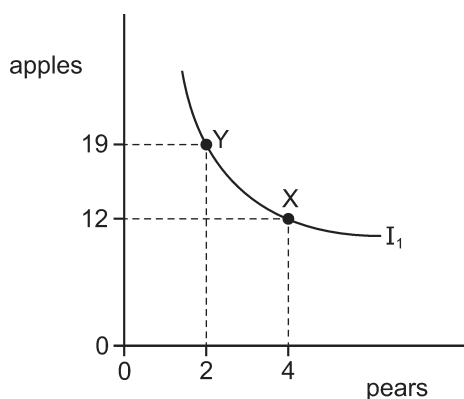
[J23/P31/P33/Q1]

27. Which assumption in relation to an indifference theory diagram is **not** correct?

- A The consumer's income may change.
- B The consumer may change their satisfaction-maximising objective.
- C The consumers may change their tastes and preferences.
- D The relative prices of products may change.

[J23/P31/P33/Q3]

28. The diagram shows an individual's indifference curve, I_1 , for apples and pears.



What can be concluded from the movement from point X to point Y on this curve?

- A The individual can afford more apples than pears.
- B The individual has not changed their total utility.
- C The individual prefers apples to pears.
- D The individual has gained more utility by moving from point X to point Y.

[J23/P32/Q2]

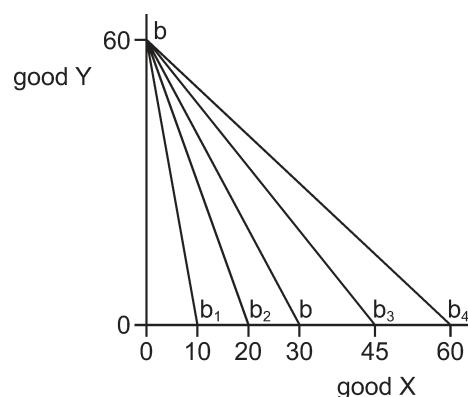
29. Economists normally assume that the marginal utility from consuming additional goods is positive and diminishing.

What is the effect on total satisfaction of consuming extra units of the good?

- A Total satisfaction falls at a decreasing rate.
- B Total satisfaction falls at an increasing rate.
- C Total satisfaction rises at a decreasing rate.
- D Total satisfaction rises at an increasing rate.

[N23/P31/Q1]

30. A budget line ($b - b$) shows the combinations of two goods, X and Y, that a consumer can obtain within a fixed income of \$60 per week, when the price of Y = \$1 and X = \$2.

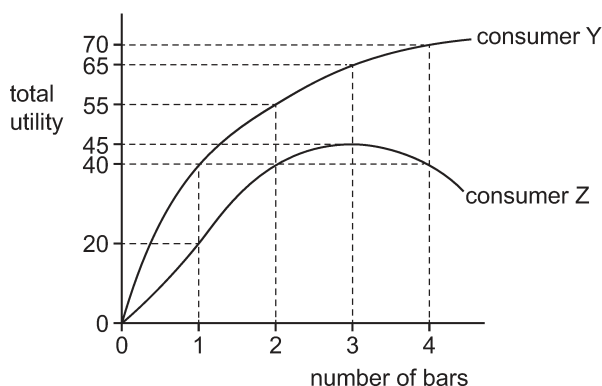


If the price of X rises to \$3, what will be the new budget line?

- A $b - b_1$
- B $b - b_2$
- C $b - b_3$
- D $b - b_4$

[N23/P31/Q2]

31. The diagram shows the total utility of consumers Y and Z when each consumes bars of chocolate.



What is the difference in the marginal utility of consumers Y and Z when each consumes four bars of chocolate?

- A 0 B 5 C 10 D 30

[N23/P32/Q1]

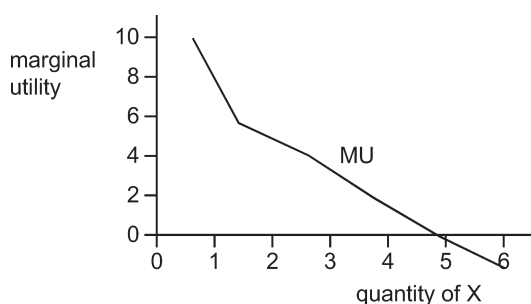
32. When choosing to buy two products, the satisfaction gained by the consumption of different combinations of these two products can be represented by an indifference curve.

Which statement about such an indifference curve diagram is correct?

- A The range of indifference curves shows the combination of products a consumer can purchase with a given income.
 B If an indifference curve is a downward-sloping straight line, the principle of diminishing marginal utility must be operating.
 C Indifference curves never cross, because this means that a consumer would be indifferent between combinations of two goods, even when one combination provides more of each good.
 D The gap between indifference curves is always constant.

[N23/P32/Q2]

33. The diagram shows the marginal utility (MU) from the consumption of quantities of good X.



What happens to the total utility as consumption of X rises from 1 to 6 units?

- A It falls continuously.
 B It falls and then rises.
 C It rises continuously.
 D It rises and then falls.

[N23/P33/Q1]

34. An indifference curve is typically drawn with a convex shape.

Which economic concept explains the reason for this convex shape?

- A allocative efficiency
 B diminishing marginal rate of substitution
 C Pareto optimality
 D the equi-marginal principle

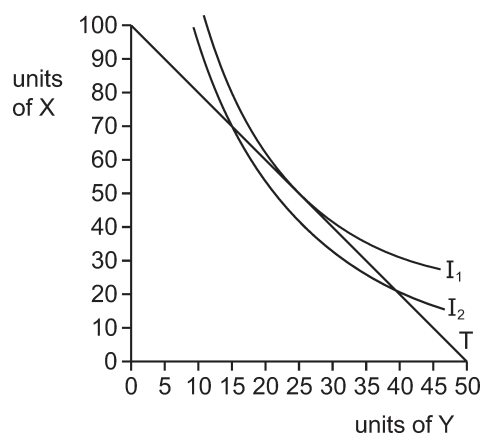
[N23/P33/Q2]

35. Which statement about the concept of utility is correct?

- A Diminishing marginal utility means that producers become less efficient the more they produce.
 B If marginal utility is above average utility, average utility must be rising.
 C The equi-marginal principle says that a consumer gets equal total satisfaction from each item purchased.
 D Total utility continually rises as the level of consumption rises.

[J24/P31/P33/Q1]

36. The diagram shows indifference curves I_1 , I_2 and a budget line T.



Which combination of X and Y gives the consumer maximum satisfaction?

	units of X	units of Y
A	100	0
B	70	15
C	50	25
D	20	40

[J24/P31/P33/Q2]

37. The table shows the total utility gained by a consumer from the consumption of water.

quantity consumed / bottles	total utility
0	0
1	30
2	40
3	48
4	54
5	58

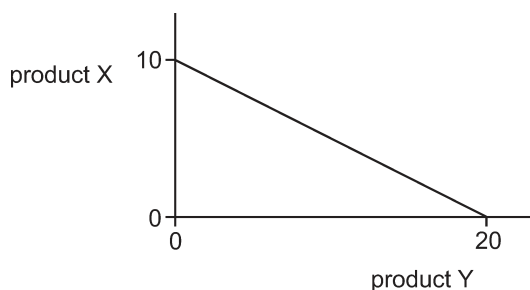
What can be concluded from this table?

- A** Marginal utility increases as consumption increases.
- B** The consumer cannot switch expenditure to another product to increase total utility.
- C** The marginal utility of the 3rd unit is 8.
- D** The marginal utility of the 5th unit is 2.

[J24/P32/Q1]

38. A consumer has \$100 to spend on two products, X and Y.

The budget line shows the different possible combinations of products X and Y that can be purchased when all the consumer's income is spent.



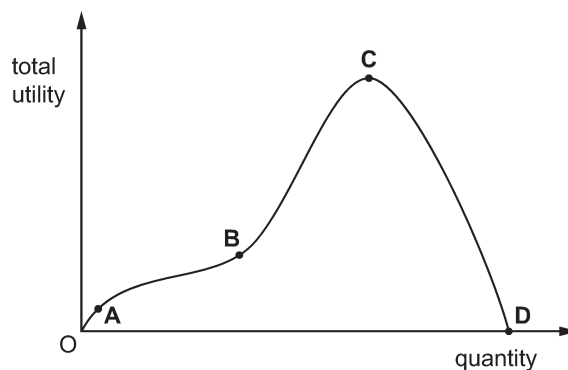
If the price of product Y increases to \$10, what will be the maximum number of units of product X and product Y that the consumer can now purchase?

	product X	product Y
A	5	10
B	5	20
C	10	10
D	20	10

[J24/P32/Q2]

39. The diagram shows a total utility curve for a consumer.

At which point does marginal utility equal zero?



[N24/P31/Q1]

40. What is a characteristic of an indifference curve?

- A** It will remain concave to the origin of the diagram.
- B** It will remain convex to the origin of the diagram.
- C** It can intersect other indifference curves at any point.
- D** The lower the indifference curve, the greater the satisfaction attainable.

[N24/P31/Q2]

41. If consumers aim to maximise their utility, how will they arrange their spending?

- A** to obtain the same total utility from each commodity
- B** to obtain the same total utility per \$ spent on each commodity
- C** to obtain the same utility from the last unit of each commodity
- D** to obtain the same utility from the last \$ spent on each commodity

[N24/P32/Q1]

42. Which feature of indifference curve theory is most likely to apply in reality?

- A The consumer can express preferences between all possible combinations of goods.
- B The consumer has a limited income to spend.
- C The consumer will always behave rationally.
- D The consumer will always get positive utility from having more of the goods.

[N24/P32/Q2]

43. A rational consumer chooses what quantities of two products Y and Z to purchase with a given income.

MU_Y and MU_Z are the additions to total utility that would result if the consumer were to purchase an additional unit of each product.

P_Y and P_Z are the current prices of the two products.

Which outcome would represent consumer equilibrium?

- A when $MU_Y = MU_Z$
- B when $MU_Y \times P_Y = MU_Z \times P_Z$
- C when $MU_Y \times P_Z = MU_Z \times P_Y$
- D it is not possible to tell from the information available

[N24/P33/Q1]

44. Which statement about indifference curves is **not** correct?

- A Indifference curves are usually convex to the origin of the diagram.
- B Indifference curves can intersect each other.
- C The consumer always prefers a higher indifference curve to a lower one.
- D The slope of the indifference curve represents the marginal rate of substitution.

[N24/P33/Q2]

1.1 - ANSWERS to MCQ

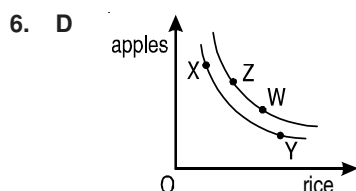
1. **A** Further an IC drawn from the origin, the higher the level of satisfaction. Consumer, therefore, acts rationally when he shifts the equilibrium to the highest possible IC.

2. **C** For an inferior good substitution effect outweighs income effect thus all other options are incorrect.

3. **A** A budget line shows real income because it is drawn with the assumptions that money income and prices of the goods remain unchanged. Therefore, changes in either of the two or both would shift the budget line. Thus options **B**, **C** & **D** are cancelled. However a change in consumer's preferences is indicated by a change in combination of two goods on the same budget line, therefore it does not affect the budget line.

4. **D** Consumer is willing to obtain quantity 'x' at zero price, therefore it would reduce both TR & MR to zero. Thus options **A** & **B** are cancelled. A consumer is willing to pay as much as the MU he derives from each unit and the graph suggests that he is willing to obtain the last unit of quantity 'x' at zero price that makes MU to fall to zero hence option C is incorrect. TU is the sum of MU that the consumer derives from all individual units he consumes up to quantity 'x' hence it is maximized.

5. **D** Movement along the same indifference curve from T to U suggests positive substitution effect for all goods. Thus options **A** & **B** are ruled out. Income effect of normal goods is also positive and it is indicated by a movement from U to S. Hence option **C** is cancelled. Giffen goods have a negative income effect that outweighs positive substitution effect. Thus a movement from T to U on the new budget line is due to income effect indicating a fall in Q that is more than a rise caused by substitution effect.



Consumer is indifferent between two combinations only on the same indifference curve. This rules out all other options.

7. **A** $MU = \frac{\Delta TU}{\Delta \text{Unit}}$. On the graph it is measured by the slope between two successive points on a TU curve that shows an increase in MU up to the 3rd unit before it starts to decrease.

8. **C** A rise in price of good X, with all else remaining unchanged, would shift the budget line pivotal inward because it signifies a decrease in consumer's real income in terms of good X only.

9. **C** Following a fall in price of good X, the consumer first moves along the same indifference curve and increases his purchase from X_1 to X_2 due to the substitution effect. However, decrease in price of good X also increases consumer's real income that enables him to reach a higher indifference curve I_2 where his new equilibrium point indicates a further increase in quantity of good X to X_4 , hence the increase from X_2 to X_4 is attributed to the income effect.

10. **B** Since prices of each of the two goods = \$1, therefore she only needs to compare MU of the prospective units of both goods. For example she should spend her 1st \$ on the 1st bar of chocolate because it gives a higher satisfaction than the 1st toffee bar. Similarly, She should spend her 2nd \$ on the 1st toffee bar than the 2nd chocolate bar and then her third and last \$ should be spent on the 2nd chocolate bar than the 2nd toffee bar.

11. **C** By definition.

12. **A** An increase in P_x , that more than offsets an increase in income could shift the budget line pivotal inward while a rise in consumer's income with no change in P_y could shift the budget line upward on y-axis.

13. **A** A pivotal outward shift on x-axis signifies a fall in price of good G and the resulting increase in quantity caused by the movement from point X to Y suggests a positive substitution effect. However, the subsequent movement from Y to Z suggests a fall in quantity of G due to the negative income effect. These changes are typical of an inferior good which is not a Giffen good because positive substitution effect outweighs negative income effect.

14. **D** Change in consumer's income shifts the budget line parallel, hence options **A** & **B** are ruled out. Option **C** shifts it pivotal outward on horizontal axis that makes it less steep.

15. **C** A fall in price of good X causes a pivotal outward shift in the budget line on X-axis and movement along the IC suggests substitution effect of price fall.

16. **C** By cross multiplying $\frac{MU_Y}{P_Y} = \frac{MU_Z}{P_Z}$
we obtain, $MU_Y \times P_Z = MU_Z \times P_Y$.

17. A A cut in income tax increases consumer's after tax income that shifts the budget line parallel outward. So, we eliminate options **C** & **D** while **B** is invalid because the negative income effect on an inferior good decreases its quantity demanded.

18. D Donald maximizes utility when

P ratio = MU ratio.

$$\frac{3}{6} = \frac{12}{24}$$

Alternatively,

$$P_{\text{paper book}} \times MU_{\text{audio book}} = P_{\text{audio book}} \times MU_{\text{paper book}}$$

$$3 \times 24 = 6 \times 12$$

19. C A fall in real income resulting from the rise in price causes consumers to buy more due to the negative income effect while QD decreases due to the substitution effect because the good is now relatively expensive. Option **D** is valid when price falls whereas both **A** & **B** apply to a normal good.

20. B A parallel outward shift of budget line suggests a rise in money income while new equilibrium point 'S' indicates a fall in QD of good X. This negative income effect is associated with inferior good.

21. A Since an IC is drawn negatively sloped from left to right, therefore an increase in Qx implies a decrease in Qy and vice versa. Options **B** & **C** are invalid because they give an increase in Q of one good without decreasing the other while **D** indicates increase in quantities of both goods.

22. D By definition

23. C A large negative income effect outweighs relatively small positive substitution effect.

24. A

Unit	total utility	Marginal utility = $\frac{\Delta TU}{\Delta \text{units}}$
0	0	
1	4	4
2	9	5
3	15	6
4	20	5
5	24	4
6	27	3

25. B By definition.

None of the other options defines the budget line.

26. C Negative MU decreases TU. Hence option **A** is eliminated while **C** is incorrect because a positive value of MU increases TU. Option **D** is incorrect because TU is maximized when MU = 0.

27. B Indifference theory pivots around the satisfaction-maximizing-objective even when income, taste & relative prices change.

28. B By definition an IC reveals different combinations of two goods with the same total utility.

29. C Positive and diminishing satisfaction from an extra unit (MU) adds to the total satisfaction (TU), making TU to increase at a decreasing rate.

30. B $\text{Quantity} = \frac{\text{income}}{\text{Price}},$

Hence, QX = 30 & QY = 60.

After the change in PX, QX = 20, & QY = 60

31. C At 3 units, $TU_y - TU_z = 20$

At 4 units, $TU_y - TU_z = 30$

$$\text{So, } \frac{30 - 20}{4 - 3} = 10$$

32. C Each IC represents a different level of satisfaction therefore all ICs are necessarily drawn as non-intersecting. Option **A** is incorrect because instead of an IC actually the budget line shows how much a consumer can purchase. Option **D** is not necessarily required while **B** is incorrect because a negatively sloped straight line IC measures a constant MRS i.e., a constant MU.

33. D Decreasing positive MU increases TU at a decreasing rate. MU = 0 suggests the highest value of TU while negative MU decreases TU.

34. B The decreasing rate at which one good is substituted with another (MRS) makes an IC convex to the origin. Options **A** & **C** are unrelated while **D** suggests consumer equilibrium.

35. B Mathematically the rising marginal utility pulls the average utility up. Option **A** is incorrect because MU applies to consumption while **C** gives a wrong definition of equi-MU and **D** is invalid because negative MU decreases TU.

36. C Maximum satisfaction point is reached when budget line makes tangent to one of the given indifference curves.

37. C

Unit	TU	MU = $\Delta \frac{TU}{\Delta Q}$
0	0	
1	30	30
2	40	10
3	48	8
4	54	6
5	58	4

Option **B** is inconclusive while **A** & **D** are incorrect.

38. C Income = \$100 = 10x × \$10

$$\text{Hence, } \frac{\$100}{\$10} = 10x$$

39. **C** Highest point of a TU curve indicates $MU = 0$.

40. **B** Decreasing MRS makes an IC to convex. This eliminates option **A** while **C** & **D** contradicting the characteristics of non-intersection and higher satisfaction on a higher IC.

41. **D** By definition.

42. **B** Of all the given features only limited income is realistic. Other features are more of theoretical nature.

43. **C** Mathematically, we can change the format of equilibrium equation:

$$\frac{MU_Y}{P_Y} = \frac{MU_Z}{P_Z} \text{ as } MU_Y \times P_Z = MU_Z \times P_Y.$$

44. **B** Each IC represents specific but different level of satisfaction hence they are drawn as nonintersecting. Other choices are correct in the context of IC theory.

TOPIC 1.1

Law of Diminishing Marginal Utility, Indifference Curves and Budget Lines.

ESSAY Section

LIST OF QUESTIONS

Q1 (N23/P42/Q2)

Evaluate the use of indifference curve analysis to derive the demand curve for a normal good and the demand curve for an inferior good.

[20]

Q2 (J24/P41/P43/Q3)

With the help of an indifference curve diagram, assess the extent to which a rise in price would affect the demand for a normal good differently from the demand for a Giffen good.

[20]

Q3 (N24/P42/Q2)

Evaluate whether marginal utility theory can fully explain the link between the changing price of a good and quantity demanded of that good.

[20]

Question 1

Evaluate the use of indifference curve analysis to derive the demand curve for a normal good and the demand curve for an inferior good. [20]

[N23/P42/Q2]

Essay

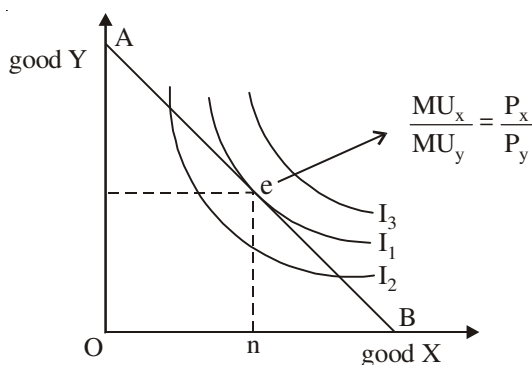
An indifference curve (IC) represents several combinations of two goods that can be substituted in a way so that the total utility along the entire curve remains the same. Therefore the consumer is indifferent in his choice of combination for they all yield the same satisfaction. Typically an IC is negatively sloped and it gets shallower because the marginal

rate of substitution $\left(\text{MRS} = \frac{\Delta x}{\Delta y} \right)$, i.e., the rate at

which the consumer is willing to exchange one good for another, decreases. This is attributed to the law of diminishing marginal utility, hence the

MRS reflects the marginal utility ratio $\left(\frac{\text{MU}_x}{\text{MU}_y} \right)$.

Indifference curve analysis assumes that the consumer has perfect knowledge and acts rationally i.e., he prefers more to less of both goods for higher utility. The graph below depicts a map of several ICs where each one of them further out to the right shows a higher level of satisfaction. Hence they are drawn as non-intersecting because each one of them represent different levels of satisfaction from different quantities of both goods.

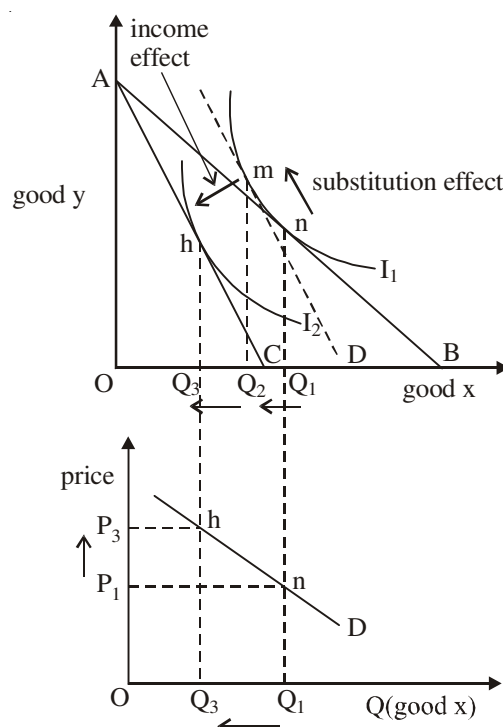


While ICs represent consumer's preferences, but his rational choice depends on the budget. So, we draw the budget line (AB) reflecting the current

price ratio $\left(\frac{P_x}{P_y} \right)$. In effect the budget line shows

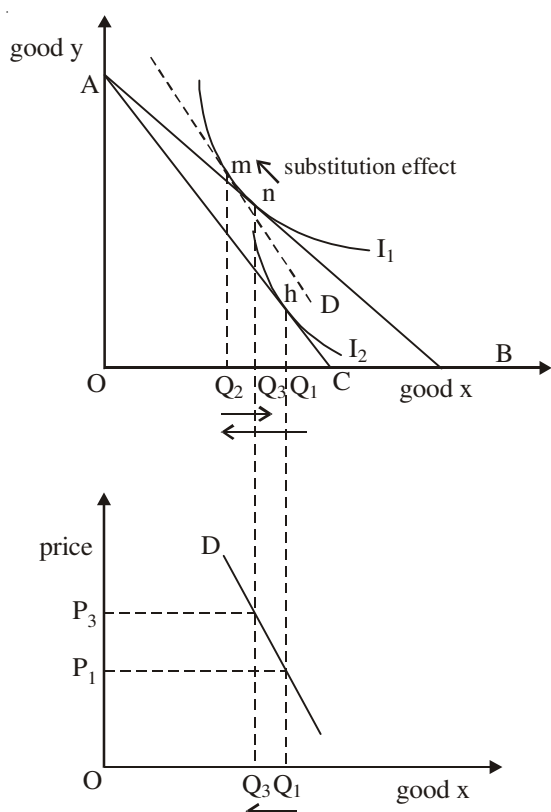
how much of good X and Y the consumer can purchase with the given money income and prices. Therefore, changes in either money income or prices will shift the budget line. For instance, a change in money income alone will effect a parallel shift while a change in price of either of the two goods with the same budget will pivot the budget line. The analysis predicts that a rational consumer prefers to consume along the highest possible indifference curve. In this case his budget allows him to reach point 'e' at I_1 . Of course, he prefers I_3 for a higher utility, but I_3 cannot be afforded with his current budget. He could also consume along I_2 but it is not a rational choice because it gives him less utility than I_1 . Hence, the optimum consumption point is where the marginal utility ratio equals the price ratio i.e. where the budget line is 'tangential to' I_1 .

Now it is possible to derive the demand curve for normal and inferior goods by relating price and quantity via income and substitution effect. For instance, when price of a normal good increases the consumer buys less of it for two reasons: Firstly he cannot afford to buy so much due to a fall in his real income. Secondly, the good is now relatively expensive; therefore, he substitutes good X for Y. Consider the following graph;



A rise in price of good X pivots the budget line to AC and hence it moves the consumption point from n to h. The overall fall in quantity from Q_1 to Q_3 is the combine result of substitution and income effect. In order to separate them we draw a new budget line D which is parallel to AC but tangential to the original indifference curve I_1 at point m. Being higher but parallel to AC, it represents the new price ratio with the same real income as before. So, the consumer obtains the same utility simply by substituting good X for relatively less expensive good Y leading to a decrease in quantity from Q_1 to Q_2 due to the positive substitution effect. However, the shift of his budget line to AC suggests that in reality consumer's real income has fallen i.e., he cannot buy so much, therefore he must shift to a lower I_2 . Hence, the decrease in consumption from Q_2 to Q_3 is due to the income effect. So, the positive income and substitution effect of a price rise give us a normal downward sloping demand curve.

In case of an inferior good substitution effect remains positive because the rise in price decreases quantity demanded just the same as for a normal good. This is illustrated in the Figure below;



The negative income effect, however, increases quantity from Q_2 to Q_3 . Over all, the QD decreases from Q_1 to Q_3 because positive substitution effect outweighs negative income effect. Again it confirms an inverse relation between price and quantity demanded that produces a downward sloping demand curve. While indifference analysis can be used to derive an individual's demand curve for both normal and inferior goods, but the assumptions such as two-good model, consumer rationality and perfect knowledge undermine its practical application. The real world, for instance, is much more complex where consumers buy not just two but a large number of goods to satisfy their innumerable wants. Also, in practice it is virtually impossible to derive indifference curves, since it would involve a consumer having to imagine a whole series of different combinations of goods and deciding in each case whether a given combination gave more, equal or less satisfaction than other combinations.

In addition, indifference curves are based on the satisfaction that consumers believe they will gain from a good. This belief may well be influenced by advertising. Consumers may be disappointed or pleasantly surprised when they actually consume the good. In other words, consumers are not perfectly knowledgeable.

A particular problem arises when we assume that consumers make rational choices. In real life they may not always behave 'rationally', and hence may not give careful consideration to the satisfaction they believe they will gain from consuming goods. They may behave impetuously and hence the 'optimum consumption' point may not in practice give them the maximum satisfaction for their money. Also, the assumption that marginal increases in one good can be traded off against marginal decreases in another cannot be applied to consumer durables such as cars, televisions and washing machines because they are purchased only now and again, and then only one at a time. Lastly, just by looking at the demand curves it is not possible to know whether a good is normal or inferior because the effect of a reduction in price is an increase in quantity demanded for both.

To sum up, indifference curve analysis gives a detailed insight of consumer behavior and, of course, it can be used to derive the demand curve but only under the static conditions for it does not provide room to accommodate the dynamics of real world.

Question 2

With the help of an indifference curve diagram, assess the extent to which a rise in price would affect the demand for a normal good differently from the demand for a Giffen good. [20]

[J24/P41/P43/Q3]

Essay

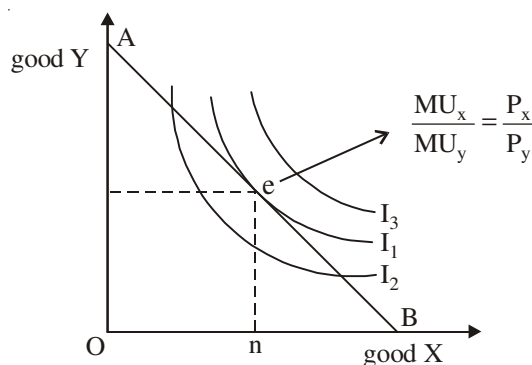
An indifference curve consists of various combinations of two goods with the same total satisfaction. A typical IC slopes downward from left to right. However, the slope gets shallower due to the decreasing marginal rate of substitution. MRS is consumer's willingness to substitute goods in a way so that the overall satisfaction remains unchanged. Hence, in effect MRS represents marginal

utility ratio $\left(\frac{MU_x}{MU_y}\right)$.

We can draw more than one indifference curve where each one of them further out to the right would show a higher level of satisfaction. So, a map showing various indifference curves reflects people's preferences, but their rational choices depend on their budget. Hence, we need a budget line to quantify combinations of two goods that the consumer can buy with the given money income and prices. Therefore, budget line reflects price ratio

ratio $\left(\frac{P_x}{P_y}\right)$. Now by combining IC and budget line

we can show how a rational consumer maximizes total satisfaction. The graph below illustrates this;



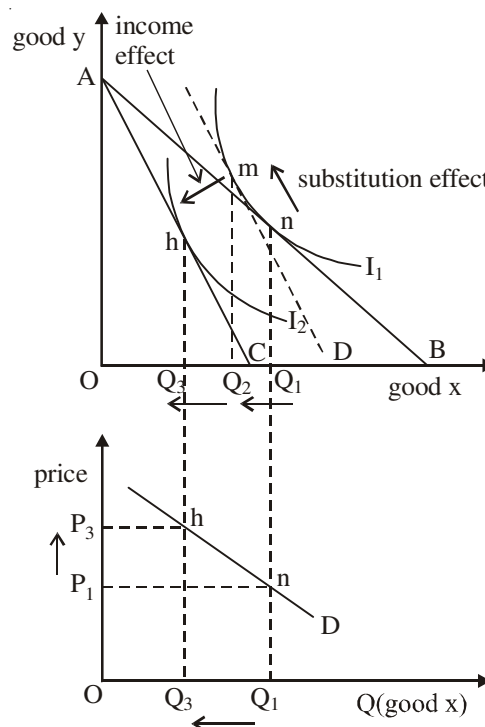
Assuming the consumer would like to be on the highest possible indifference curve. In this case his budget allows him to reach I_1 and that too at point 'e' only. Of course, he prefers I_3 to I_1 but I_3 is beyond his current budget. He can also consume along I_2 but then he will not maximize satisfaction.

So, his optimum consumption point is where the budget line is 'tangential to' the highest possible IC because only at that point his marginal utility

ratio $\left(\frac{MU_x}{MU_y}\right)$ equals price ratio $\left(\frac{P_x}{P_y}\right)$ — a neces-

sary condition for consumer equilibrium.

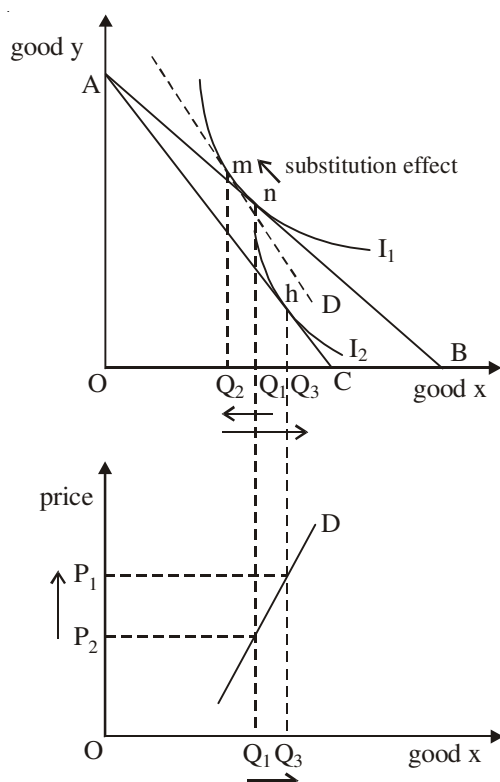
Now we extend our analysis to show the effect of price change on quantity demanded of one of the two goods with the help of income and substitution effects. To begin with, let's assume that good X is normal and its market price increases. Consumer will purchase less of it for two reasons: Firstly, a rise in price decreases real income that forces him to buy less of the good due to the income effect. Secondly, the good is now relatively expensive; hence, he substitutes good X with relatively less expensive alternatives. The resulting fall in quantity is attributed to the substitution effect. Consider the following graph;



A rise in price of good X pivots the budget line inward from AB to AC that moves the consumption point from n to h, effecting an overall fall in quantity from Q_1 to Q_3 . In order to separate income and substitution effects of a price rise we draw a new budget line (D) which is parallel to AC but tangential to the original indifference curve I_1 at point m. Being parallel but higher than AC, it represents the same real income but facing new price ratio. Hence the consumer obtains the same utility

as before simply by substituting relatively expensive good X with its cheaper alternative. The fall in quantity from Q_1 to Q_2 , therefore, is due to the substitution effect. However, the shift of budget line to AC suggests that in reality consumer's real income has fallen that forces him to fall back on a lower I_2 . Hence, it further decreases his consumption to Q_3 due to the income effect. So, for a normal good both income and substitution effects of a price change produce a normal downward sloping demand curve because they reinforce each other.

A Giffen good, however, defies this inverse relation between price and quantity demanded. Being staple and inferior a Giffen good takes a large proportion of consumers' expenditure. Hence, a rise in price of such a good causes a significant fall in consumer's real income leading to a large negative income effect that outweighs positive substitution effect. Following graph illustrates this exception.



A rise in price of good x, decreases consumption from Q_1 to Q_2 due to the positive substitution effect that is more than offset by a rise in consumption from Q_2 to Q_3 due to the negative income effect; hence it produces an upward sloping demand curve.

To assess the extent to which a rise in price would affect demand differently for normal and Giffen goods, it is important to consider the price elasticity of demand (PED). The price elasticity of demand for a normal good is typically negative, meaning that as the price rises, the quantity demanded decreases. However, the magnitude of this decrease depends on how responsive consumers are to price changes, which is captured by the elasticity. If demand is elastic, the decrease in quantity demanded will be relatively larger; if it is inelastic, the decrease will be proportionately smaller.

For Giffen goods, the elasticity of demand can be positive in certain cases, particularly when the income effect is very strong and outweighs the substitution effect. This implies that a price increase could lead to an increase in quantity demanded, a phenomenon that is contrary to the usual law of demand. However, Giffen goods are rare, and this behavior is only observed under specific circumstances where the good is inferior and the consumer's real income is significantly reduced.

Another factor influencing the extent of the change in demand is the slope of the indifference curve. If the indifference curve is steep, indicating a high marginal rate of substitution, the consumer will be more willing to substitute one good for another in response to a price change. Conversely, a flatter indifference curve implies that the consumer values both goods more equally, which would result in a smaller substitution effect.

Hence, it is clear that the response will depend on the relative strength of the substitution and income effects. For a normal good, the substitution effect will lead to a decrease in demand, while for a Giffen good, the income effect may lead to an increase in demand, despite the price rise. The extent of the change in demand will also be influenced by factors like the price elasticity of demand and the specific preferences of the consumer, which determine the strength of the substitution and income effects.

In conclusion, a rise in price affects demand for normal and Giffen goods differently due to the contrasting roles of the substitution and income effects. However, the magnitude of these changes is influenced by the elasticity of demand, the slope of the indifference curve, and the specific characteristics of the goods involved.

Question 3

Evaluate whether marginal utility theory can fully explain the link between the changing price of a good and quantity demanded of that good. [20]

[N24/P42/Q2]

Essay

Utility is the satisfaction that people derive from consumption of goods and services. Total utility (TU) and Marginal utility (MU) are two important measures of utility. Marginal utility is the additional satisfaction that a person obtains from the consumption of one more unit of a good while total utility is the cumulative satisfaction obtained from all units consumed.

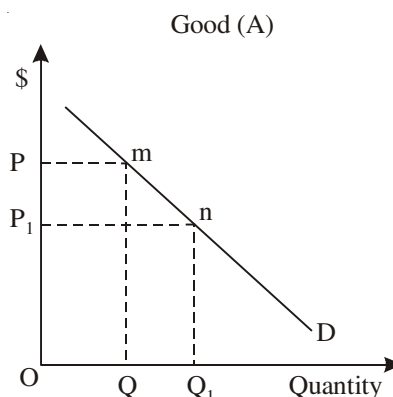
The cornerstone of MU theory is the law of diminishing marginal. The law states that as a person consumes additional units of a good in succession, the satisfaction gained from each new unit (MU) tends to decrease. For instance, the second bar of chocolate gives less additional satisfaction than the first bar and the third gives even less than the second bar and so on.

Law of diminishing marginal utility provides the basis for consumer equilibrium that explains the link between changing price of a good and quantity demanded. Consumer equilibrium is important for it is where a rational consumer allocates his income in such a way that maximizes total utility. The underlying principle is called equi-marginal utility. The law states that a consumer is in equilibrium when he obtains the same utility from the last money unit spent on each good. Mathematically this is expressed as;

$$\frac{MU_A}{P_A} = \frac{MU_B}{P_B} \dots\dots\dots = \frac{MU_N}{P_N}$$

Where MU denotes marginal utility and P represents price while A, B,N are various goods consumed.

Let's assume that the consumer is in equilibrium, purchasing good A along with many other goods. This gives us point m on his demand curve for good A, indicating OQ quantity demanded at OP price.



Subsequently, a change in price of good A disrupts his equilibrium, prompting the consumer to adjust his consumption to restore equilibrium. For instance, if price of good A decreases to OP_1 , the ratio

$\frac{MU_A}{P_A}$ increases relative to those of all other

goods. Hence it leads the consumers to increase his quantity purchased to OQ_1 that decreases the

ratio $\frac{MU_A}{P_A}$ until the equilibrium is reestablished.

This equilibrium adjustment illustrates the link between changing price of a good and its quantity demanded through the lens of marginal utility.

While marginal utility theory offers a framework for understanding the link between changes in price & quantity demanded, it does not, however, fully account for various complexities of real-world. One primary limitation is the assumption of rationality. The theory presumes that consumers have perfect information and make decisions solely to maximize utility. In reality, consumer choices are often influenced by imperfect information, cognitive biases, and external factors such as advertising. Hence there may be numerous instances where consumers deviate from rational behavior, making choices that do not necessarily align with utility maximization.

Another critical aspect that marginal utility theory overlooks is the distinction between income and substitution effects of a price change. Marginal utility theory does not adequately separate these effects, making it challenging to explain the link between price and quantity demanded. For example, in case of Giffen goods — a distinct type of inferior goods for which an increase in price leads to an increase in quantity demanded — the negative income effect outweighs positive substitution effect, a scenario that marginal utility theory struggles to explain.

The theory also relies heavily on the *ceteris paribus* assumption, holding all other factors constant while examining the effect of a price change. In practice, numerous variables such as consumer preferences, income levels, and prices of related goods are in constant flux. Each of these changes requires a reevaluation of the link between price and quantity demanded, complicating the straightforward application of marginal utility theory.

Furthermore, marginal utility theory assumes that the utility of money remains constant across different income levels. This implies that an additional unit of currency holds the same value for an individual. However, the marginal utility of money tends to decrease as an individual's income increases. For instance, someone earning \$10,000 annually, an extra \$100 can significantly impact his consumption choices then if he was earning \$100,000. This variation affects purchasing decisions and challenges the assumption of a uniform marginal utility of money.

Also, the theory is less applicable to significant, infrequent purchases such as houses or cars. These decisions involve considerations beyond immediate marginal utility, including long-term benefits, investment potential, and personal preferences. The one-off nature and substantial financial commitment of such purchases do not align with the framework proposed by marginal utility theory.

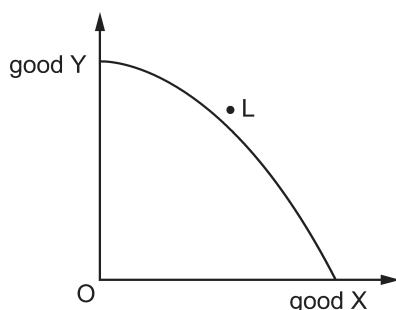
In summary, while marginal utility theory provides a valuable insight into the relationship between price changes and quantity demanded, it falls short of fully explaining the complexities of consumer behavior. A more comprehensive understanding of demand dynamics necessitates integrating all of the above considerations into economic models, acknowledging that human behavior often diverges from the rational, utility-maximizing paradigm.

TOPIC 5

Government Macro Policy Aims Inter-connectedness of Problems Effectiveness of Policy Options to Meet All Macroeconomic Objectives

MCQ Section

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



What might make it possible for consumers in this economy to consume the combination of goods X and Y indicated by the point L?

- A a reduction in unemployment
- B the achievement of productive efficiency
- C the elimination of a monopoly in the production of good X
- D trade with other economies

[J17/P3/Q3]

2. In 2015, the World Bank agreed to give a loan of \$650 m to Angola to help stabilise the economy. The Bank said Angola needed to have a fiscal policy that would encourage the diversification of its economy.

Which policy would be consistent with this requirement?

- A the lowering of interest rates to encourage investment in solar power
- B the relaxing of regulations to allow the development of a new hydro-power project
- C the spending of the loan supporting its oil industry after oil prices collapsed
- D the subsidising of a partnership with a French company to establish a chain of tourist hotels

[J17/P3/Q27]

3. A country with demand-pull inflation decides to fix its exchange rates against other currencies above the purchasing power parities.

What is likely to happen to the macroeconomic indicators shown?

	interest rate	inflation rate	current account balance
A	decrease	decrease	improve
B	decrease	increase	worsen
C	increase	decrease	worsen
D	increase	increase	improve

[J17/P3/Q28]

4. In the short run, which policy measure would tend to reduce a country's balance of payments deficit but increase its inflation rate?

- A a decrease in the level of import tariffs
- B an appreciation of the country's currency
- C an increase in the level of indirect taxes
- D a reduction in government spending

[J17/P3/Q29]

5. Which combination of circumstances is most likely to lead to an increase in a country's budget deficit?

	total GDP	unemployment	discretionary government spending
A	decreases	rises	decreases
B	decreases	rises	no change
C	increases	falls	increases
D	increases	falls	no change

[N17/P3/Q20]

6. Which policy is most likely to raise the level of total demand in an economy?
- A an increase in direct taxation matched by a reduction in indirect taxation
 - B a relaxation of import controls
 - C cuts in public expenditure matched by tax cuts
 - D devaluation of the currency

[N17/P3/Q27]

7. The government cuts taxes and increases its spending in order to create jobs during a recession.

When will a resulting budget deficit be **least** likely to cause a permanent reduction in unemployment?

- A when households expect higher inflation rates in the future
- B when households spend their extra disposable incomes on domestic products
- C when the government's extra spending is on new infra-structure projects
- D when the government's extra spending is on the salaries of public sector workers

[N17/P3/Q28]

8. In 2011, the global money supply, narrowly defined, rose 11% and broadly defined money increased roughly 8%, as central banks continued efforts to keep interest rates low.

What type of policy does this statement illustrate?

- A contractionary fiscal
- B contractionary monetary
- C expansionary fiscal
- D expansionary monetary

[N17/P3/Q29]

9. What is likely to follow if a central bank sets negative interest rates?

- A an increase in government revenue
- B an increase in the rate of inflation
- C a reduction in bank lending
- D deflation in the economy

[J18/P3/Q28]

10. The Consumer Prices Index (CPI) fell by 3% in a year. Unemployment was regarded as unacceptably high.

Which combination of policies would a government be most likely to adopt in such circumstances?

- A an appreciation of the currency, together with an increase in the rate of interest
- B increased government expenditure on education, together with an increase in taxes to pay for it
- C increased indirect taxes, together with a depreciation in the exchange rate
- D reduced income taxes, together with a cut in the rate of interest

[J18/P3/Q29]

11. Other things being equal, what is most likely to result from an increase in a country's interest rates?

- A a capital inflow
- B a depreciation of the currency
- C an increase in consumption
- D an increase in investment

[J18/P3/Q30]

12. The table identifies pairs of possible government aims.

In which case is achievement of aim 1 likely to be consistent with the achievement of aim 2?

	aim 1	aim 2
A	higher foreign exchange rate	lower rate of unemployment
B	low rate of inflation	balance of payments surplus
C	more even distribution of income	higher rate of saving
D	rapid economic growth	sustainable economic development

[N18/P3/Q29]

13. What is most likely to result from the discovery of oil reserves in a developing economy?

- A a more equal distribution of income and wealth
- B an increase in the competitiveness of commercial agriculture
- C an increase in the exchange rate
- D a reduction in the volume of imports of manufactured goods

[N18/P3/Q30]

14. What is **most** likely to increase in the short run following a rise in an economy's rate of inflation caused by a demand-side shock?

A the current account deficit on the balance of payments
 B the price of government bonds
 C the purchasing power of the currency
 D the rate of unemployment

[J19/P3/Q29]

15. In which exchange rate regime would the central bank of a country be best able to pursue an independent monetary policy to control the rate of inflation?

A a freely floating exchange rate system
 B a system where the country's currency has a targeted value in relation to the US\$
 C a system where the central bank buys and sells foreign currency at a fixed rate
 D where the country participates in a monetary union with other countries

[N19/P3/Q28]

16. In 1936 Keynes explained how economic policy can be used to increase aggregate demand and prevent an economic depression.

Which policy supports Keynes' theory?

A Central banks should raise interest rates and decrease liquidity.
 B Governments should increase expenditure and decrease taxation.
 C Governments should encourage consumer savings rather than expenditure.
 D Trading policy should prevent the free movement of capital.

[J20/P3/Q27]

17. To stimulate economic growth the government increases the size of its budget deficit and funds this by increasing the money supply.

What is most likely to reduce the effectiveness of these measures in achieving their aim?

A a floating exchange rate
 B a high marginal propensity to import
 C a low marginal propensity to save
 D an interest-inelastic demand for money

[J20/P3/Q30]

18. The table provides data on the Gross National Income (GNI) and the foreign aid expenditure of selected countries in 2016.

country	GNI (US\$ billion)	foreign aid expenditure (US\$ billion)
Belgium	468.9	2.10
Germany	3612.1	23.84
Sweden	532.7	5.38
South Korea	1403.6	2.10

What can be concluded from the table?

A Countries with a higher GNI always spend more on foreign aid.
 B Germany has the world's highest expenditure on foreign aid.
 C South Korea and Belgium spent an equal proportion of GNI on foreign aid.
 D Sweden spent the highest proportion of GNI on foreign aid.

[N20/P3/Q19]

19. In an economy, the elasticity of demand for imported raw materials is 0.3 and the elasticity of demand for exports is also 0.3.

Following a depreciation of the economy's currency, what will be the impact on inflation?

	change in cost push factors will cause inflation to	change in demand pull factors will cause inflation to
A	decrease	decrease
B	decrease	increase
C	increase	decrease
D	increase	increase

[N20/P3/Q29]

20. Which combination of macroeconomic policies will most likely be successful if the aim were to reduce unemployment and reduce inflation?

A contractionary supply-side policies and higher interest rates
 B expansionary supply-side policies and reduced indirect taxes
 C increased direct taxes and reduced indirect taxes
 D reduced rates of interest and depreciation of exchange rate

[N20/P3/Q30]

21. The government of Lesotho introduces a programme to promote exports and to encourage firms to expand by subsidising local entrepreneurs.

Which effect is this likely to have on incomes, the balance of payments current account deficit and government expenditure in Lesotho?

	incomes	balance of payments current account deficit	government expenditure
A	fall	reduce	rise
B	fall	uncertain	rise
C	rise	reduce	no change
D	rise	uncertain	rise

[J21/P3/Q29]

22. What would encourage industrial expansion in a region of high unemployment?

- A a rationing system for building development in that region
- B an increase in taxes on investment
- C a requirement that only local labour may be employed
- D an end to nationally negotiated wage rates

[N21/P3/Q22]

23. The bank cash deposit ratio changed from 5% to 10%.

What will be the result?

- A Bank deposits will fall by 10%.
- B Banks deposits will rise by 5%.
- C The credit multiplier will fall by 50%.
- D The credit multiplier will increase by 5%.

[N21/P3/Q27]

24. Which policy is most likely to conflict with a government's aim of price stability in the short run?

- A increasing spending on education and health
- B increasing the basic rate of income tax
- C limiting wage increases in the public sector
- D preventing mergers of large companies

[N21/P3/Q29]

25. What is most likely to be an appropriate government action to reduce both a balance of payments current account surplus and the rate of inflation?

- A decrease the rate of interest
- B devalue the currency
- C increase direct taxes
- D remove tariffs on imports

[N21/P3/Q30]

26. Which combination of policies is most likely to increase output?

	fiscal policy	monetary policy
A	decrease budget deficit	decrease interest rates
B	decrease budget deficit	increase interest rates
C	increase budget deficit	decrease interest rates
D	increase budget deficit	increase interest rates

[J23/P31/P33/Q23]

27. A country is a net importer of oil. World oil prices have risen over the year.

Assuming that all other factors remain the same, how is this likely to affect inflation, trade balance and unemployment in this country?

	inflation	trade balance	unemployment
A	decrease	no change	increase
B	increase	improve	decrease
C	increase	worsen	increase
D	decrease	no change	decrease

[J23/P31/P33/Q24]

28. What would reduce the effectiveness of a supply-side stimulus to the economy?

- A an imposition of maximum hours in a working week
- B an increase in public sector spending
- C the provision of new training schemes
- D the relaxation of import controls on raw materials

[J23/P31/P33/Q25]

29. Increased borrowing by the government results in higher interest charges and this leads to less private investment expenditure.

Of what is this an example?

- A an automatic stabiliser
- B crowding out

- C the accelerator
D the substitution effect

[J23/P32/Q23]

30. Governments set economic policy aims.

What will be **least** likely to occur if all these aims are achieved?

- A a decrease in the average standard of living
B a decrease in the currency's foreign exchange rate
C an increase in the level of frictional unemployment
D an increase in the rate of inflation

[J23/P32/Q24]

31. The government decides to raise the rate of value added tax (general sales tax).

What does this suggest is the government's main macroeconomic objective?

- A to reduce the budget deficit
B to reduce the inequality of income distribution
C to reduce the level of unemployment
D to reduce the rate of inflation

[J23/P32/Q25]

32. What shows the correct outcome for the policy option?

	policy option	outcome
A	depreciation of the exchange rate	encourages more exports, which also means greater employment
B	higher interest rates	attracts hot money inflows, and is an incentive for more consumer spending
C	decreased government spending	more workers will be employed, and more imports will be bought
D	reduction in income taxes	increases consume spending, with increased demand for exports

[N23/P31/Q23]

33. What is likely to be the effect of an increase in the budget deficit?

- A an increase in effective demand
B an increase in unemployment
C a reduction in inflation
D a reduction in the volume of spending

[N23/P32/Q20]

34. The table gives some economic indicators for four countries.

Which country is closest to achieving the principal aims of government economic policy?

	change in GDP (%)	rate of inflation (%)	unemployment (%)	balance of payments (% of GDP)
A	0.47	0.8	3.4	+ 3.3
B	1.13	0.9	10.5	– 0.1
C	1.18	1.1	6.9	– 3.3
D	1.45	0.1	4.6	+ 8.5

[N23/P33/Q25]

35. What is a government macroeconomic aim?

- A a fall in the general price level of goods and services
B an increase in monopoly regulation
C lower taxes on consumer goods
D a minimum wage for low paid agricultural workers

[N23/P33/Q26]

36. An economy has a sudden increase in inflation caused by a large rise in energy prices. It also enters a recession with rising unemployment.

A decrease in which policy variable is most likely to reduce the impact of the recession without increasing the price level further?

- A direct taxation
B government spending
C indirect taxation
D interest rate

[J24/P31/P33/Q22]

37. Which combination of policies would be most likely to bring a country out of recession?

- A expansionary fiscal and monetary policy as well as supply-side policies
B expansionary fiscal policy and tight monetary policy
C tight fiscal and monetary policy
D supply-side policies alone

[J24/P32/Q22]

38. A government uses monetary policy and fiscal policy to solve a problem of deflation.

Which policy combination is likely to be the most successful?

	monetary policy	fiscal policy
A	increasing interest rates	contractionary
B	increasing interest rates	expansionary
C	reducing interest rates	contractionary
D	reducing interest rates	expansionary

[J24/P32/Q24]

39. The macroeconomic objective of a government is to move the current account of the balance of payments from deficit to surplus. To achieve this, it devalues the currency.

Under which condition would a devaluation of the currency achieve this objective?

- A if the combined price elasticity of demand for exports and imports is greater than 1
- B if the combined price elasticity of demand for exports and imports is less than 1
- C if the income elasticity of demand is less than 1
- D if other countries decide to impose tariffs on all imported goods and services

[J24/P32/Q27]

40. What is **not** an aim of macroeconomic policy?

- A economic development
- B exchange rate stability
- C Pareto optimality
- D satisfactory balance of payments

[N24/P31/Q21]

41. A country experiences an increase in unemployment due to deficiency of aggregate demand.

What will be the effect of this on tax revenue and government expenditure, assuming that tax rates and rates of unemployment benefit remain unchanged?

	tax revenue	government expenditure
A	decrease	increase
B	decrease	no change
C	increase	decrease
D	no change	increase

[N24/P32/Q20]

42. A government is successful in raising the rate of economic growth.

As a result, which other macro-economic aim would it most likely have achieved in the short run?

- A balance of payments surplus
- B higher employment
- C lower inflation
- D stronger exchange rate

[N24/P32/Q21]

43. Which argument for lowering income tax rates is **always** valid?

- A It boosts economic activity.
- B It promotes the incentive to work.
- C It reduces the budget deficit.
- D It reduces the incentive to evade taxes.

[N24/P32/Q22]

44. A government decides to cut the rate of interest in order to stimulate aggregate demand and increase employment.

Why might this policy **not** work in a recession?

- A Business confidence is low.
- B It leads to deflation.
- C It leads to an appreciation in the exchange rate.
- D It leads to a decrease in the money supply.

[N24/P33/Q18]

45. How would decreasing interest rates be most likely to reduce unemployment?

- A by decreasing the borrowing costs of business
- B by decreasing the government's budget deficit
- C by increasing the foreign exchange rate of the currency
- D by increasing the opportunity cost of spending

[N24/P33/Q20]

46. An economy experiences falling incomes and rising unemployment. The central bank decides to reduce the rate of interest to stimulate economic activity.

When would such a policy be most likely to succeed?

- A when spending by consumers on goods and services is income elastic
- B when spending by firms on capital goods is interest rate elastic
- C when the leakage on additional national income is high
- D when the overseas demand for exports is price inelastic

[N24/P33/Q23]

47. Monetary policy does not usually work immediately.

Which time lag is likely to be the **least** concern to a government whose priority is a rapid domestic impact?

- A the time it takes for policymakers to recognise the cause of a problem
- B the time it takes for the economy to respond to the introduction of the policy
- C the time it takes for the foreign exchange rate to respond to the effect of the policy
- D the time it takes to put the chosen policy measure into place

[N24/P33/Q24]

5 - ANSWERS to MCQ

1. **D** Options **A** & **C** would only help the economy to reach its PPC while productive efficiency is achieved at any point on the PPC. The only way an economy can consume beyond its PPC is through international trade.
2. **D** Interest rate is a tool of monetary policy while relaxing the regulation is a supply side measure, therefore options **A** & **B** are incorrect. Spending on an existing industry will not help diversification therefore **C** is incorrect.
3. **C** An increase in interest rate would reduce spending leading to a fall in inflation. Exchange rate that is above purchasing power parity means over-valued currency that will result in higher imports that worsens current balance.
4. **C** Options **A** & **B** would lead to higher imports therefore it would increase BOP deficit. Option **D** would reduce both BOP deficit and inflation. Indirect taxes usually raise prices; therefore they cause inflation to rise but they are likely to reduce spending on imports.
5. **B** A fall in GDP and a rise in unemployment will result in a fall in revenues and if government spending remains unchanged it will result in a budget deficit.
6. **D** Devaluation increases prices of imports, therefore it encourages people to buy more of local goods. Options **B** & **C** will increase imports while **A** is uncertain.
7. **A** Higher spending raises AD and if firms prefer to increase prices of goods instead of hiring more people and raising output, unemployment is less likely to fall. All other options are likely to increase output and hence employment.
8. **D** MS and interest rate are the tools of monetary policy and an increase in MS and / or fall in interest rate are expansionary measures.
9. **B** It is likely to encourage borrowing and hence higher spending that would eventually cause price level to rise. Thus options **C** & **D** are ruled out. Government revenue would remain uncertain, therefore '**A**' cannot be concluded.
10. **D** Reduced income taxes would increase spending and hence AD via increasing disposable income. Lower interest rate would discourage saving and hence encourage consumption causing AD to rise and employment to increase. Option **A** would reduce AD and **C** would reduce AS hence both would decrease employment. Outcome of option **B** is uncertain.
11. **A** A relatively higher interest rate attracts a short term capital inflow that appreciates country's currency. Thus option **B** is incorrect. However it reduces both investment and consumption that cancels options **C** & **D**.
12. **B** A relatively low rate of inflation encourages people to switch from imported goods to local goods. It is also likely to increase exports. It therefore improves country's BOP. A higher ER increases unemployment by increasing imports. Thus aim 2 is inconsistent in option **A**. Option **B** is incorrect because a more equal distribution is likely to reduce savings and increase consumption. Sustainable economic development usually slows down the rate of growth, therefore **D** is incorrect.
13. **C** Oil discovery will reduce country's oil imports leading to a fall in supply of its currency in the forex market and hence an increase in its exchange rate. Other options are cancelled because they do not necessarily result from oil discovery.
14. **A** A higher rate of inflation decreases exports by increasing their prices in foreign currencies while it increases imports by making imports relatively cheaper in local currency, thus it is likely to result in a current account deficit. We eliminate option **C** because inflation reduces the purchasing power of money, also it causes interest rate to increase and bond prices to fall because these two are believed to be inversely related, thus option **B** is also ruled out. Demand side inflation causes unemployment to decrease because it results from an increase in AD, hence option **D** is also eliminated.
15. **A** In such a system a central bank can change MS and interest rate independent of its consequences on exchange rate. Otherwise central bank has to factor in the likely changes in exchange rate because it is required to eliminate pressures on its currency through a direct intervention.
16. **B** Keynes' theory suggests expansionary fiscal measures (increase government spending and/or decrease taxation) in order to increase AD. Option **A** refers to monetary policy while **C** & **D** are likely to decrease AD.

17. B Most part of increased MS will leak out of the economy through a rise in imports. Hence these measures will have little impact on domestic output and growth. A rise in MS decreases rate of interest and hence it causes exchange rate to fall that is likely to increase AD by increasing both net exports and domestic consumption. This cancels options **A** & **C** while **D** is likely to increase the effectiveness for it helps reduce interest rate by a relatively greater margin.

18. D Of all four countries Sweden gives the

highest $1.009\% = \left(\frac{5.38}{532.7} \times 100 \right)$ of its GNI as foreign

aid Option **A** is incorrect for South Korea while **B** & **C** are numerically incorrect.

19. C Depreciation will increase cost push inflation by increasing prices of imported raw material. Furthermore, it will increase import bill and decrease export earnings because demand for both imports and exports are price inelastic. So, by decreasing net exports (X-M) it will decrease AD followed by a decrease in demand pull inflation.

20. B Reduced indirect taxes help reduce prices by increasing supplies that increases employment. Similarly expansionary supply side policies reduce inflationary pressure along with a decrease in unemployment by increasing AS. So, we eliminate option **A** while **C** would reduce inflation along with a rise in unemployment and **D** would worsen both.

21. D Subsidy will increase both government expenditure and incomes. While effect on current account is uncertain because it depends on the resulting changes in exports and imports.

22. D It will allow wage rate to fall below the national minimum wage. So an availability of relatively cheap labour should encourage industrial expansion.

23. C Credit multiplier = $\frac{1}{\text{cash deposit ratio}}$

so, $\frac{1}{0.05} = 20$, while, $\frac{1}{0.1} = 10$

24. A A higher government spending raises AD and hence it causes an increase in general price level. Other choices are more likely to support price stabilization.

25. D It is likely to decrease inflation because a rise in imports resulting from a decrease in their prices will reduce current account surplus.

26. C A budget deficit, fueled by increased government spending and reduced taxes, typically injects more money into the economy. This surge in spending leads to higher aggregate demand (AD), which in turn can boost real output. Furthermore, lower interest rates act as an incentive for both consumers and businesses to spend and invest, again pushing AD upwards leading to an increase in overall output.

27. C Rise in oil price will increase cost of production leading to a rise in both cost push inflation and unemployment. Since the demand for oil is inelastic therefore a rise in oil price will increase import payment leading to a worsening trade balance.

28. A This is likely to reduce LRAS. Other choices are more likely to increase LRAS.

29. B By definition. Other options are unrelated.

30. A Policy aims such as full employment, growth etc. are more likely to improve living standard. Option **B** refers to a policy instrument while **C** & **D** suggest the failure of policy aims.

31. A It will increase revenues that should reduce budget deficit. Other choices are ruled out because increasing the rate of VAT is likely to increase income inequality, inflation and unemployment.

32. A Depreciation decreases price of exports in foreign currency leading to a rise in exports that generates employment. Option **B** is incorrect because higher interest rate reduces consumption while **C** is incorrect because less government spending decreases employment and **D** is incorrect because lower income tax is likely to increase imports.

33. A Budget deficit implies a higher government spending than its revenues. So, it increases AD that is more likely to decrease unemployment along with an increase in inflation.

34. D Government economic policy is most successful when it achieves highest possible % increase in GDP by compromising the least on inflation rate with the lowest possible unemployment and favourable trade balance.

35. A Control of inflation is one of the main macroeconomic aims of the government. Other choices refer to micro economic policies.

36. C Fall in indirect taxation increases short run AS which is likely to decrease price level along with an increase in output. Other choices are more likely to increase AD leading to a rise in price level.

- 37. A** Combination of expansionary fiscal & monetary policies would stimulate AD that is likely to increase output and employment. At the same time supply side policies would help increase capacity output. This makes all other choices invalid.
- 38. D** Lowering interest rate is likely to stimulate consumption & investment expenditures that raises AD. This is reinforced by reducing tax rate and increasing government spending as part of expansionary fiscal policy.
- 39. A** Marshall-Lerner condition states that devaluation improves current account only when $PED_x + PED_m > 1$.
- 40. C** Of all the given choices only pareto optimality is a micro economic objective.
- 41. A** Increase in unemployment suggests loss of incomes and hence a fall in tax revenue while government is required to spend more to support the rising number of unemployed.
- 42. B** Growth & employment are achieved in combination at the expense of rising inflation & worsening balance of payment both of which are likely to decrease exchange rate.
- 43. D** Higher tax rate causes tax evasion, therefore lowering tax rate will always reduce incentive to evade tax. Other choices suggest arguments that could be valid only in the given circumstances.
- 44. A** It assumes that lower interest rate encourages businesses to invest, however if businesses are low in confidence they might decide against investment. Low interest rate is achieved by increasing money supply, therefore **D** is incorrect while **B** is inaccurate because it might reflate the economy. Option **C** is incorrect because lower interest rate is likely to depreciate exchange rate.
- 45. A** Lower cost of borrowing encourages businesses to invest that increases employment. Other options are incorrect because interest rate is the tool of monetary policy and a fall in interest rate decreases both the exchange rate and the opportunity cost of spending.
- 46. B** It implies that investment is more sensitive to changes in interest rate therefore the proportionate increase in investment will be greater than a given decrease in interest rate. Other choices are more likely to restrict stimulation.
- 47. C** ER usually have a limited impact on the economy compared to the conditions given in other options.

TOPIC 5

Government Macro Policy Aims Inter-connectedness of Problems Effectiveness of Policy Options to Meet All Macroeconomic Objectives

ESSAY Section

LIST OF QUESTIONS

Q1 (J23/P42/Q5)

Evaluate the effectiveness of using monetary policy to reduce the rate of inflation and how this policy may affect a government's ability to achieve its other macroeconomic aims. [20]

Q2 (N23/P41/Q4)

Assess the extent to which monetary policy can be used effectively to solve the problem of unemployment. [20]

Q3 (J24/P41/P43/Q4)

In many countries increased government spending is regarded as a cause of economic growth. It is sensible, therefore, for a government to spend more to increase economic growth as it is good for its country.

To what extent do you agree with this argument? [20]

Q4 (J24/P42/Q4)

In 2022, many countries experienced a high rate of inflation caused by disruptions to the supply of goods and services arising from the Covid-19 pandemic and the conflict between Russia and Ukraine. In one country, the government cut taxes and the central bank raised interest rates.

Evaluate the likely impact of these policies on that government's ability to control inflation. [20]

Q5 (N24/P41/Q4)

In periods of rising and persistent inflation, consumers and workers change their expectations of the future rate of inflation.

Evaluate, with the help of a diagram(s), the consequences of these changes of expectations for fiscal policy. [20]

Q6 (N24/P42/Q5)

Between 2010 and 2020, very low interest rates encouraged low-income countries to borrow money from foreign investors and governments to finance long-term economic growth.

Evaluate this approach to promoting long-term economic growth. [20]

Question 1

Evaluate the effectiveness of using monetary policy to reduce the rate of inflation and how this policy may affect a government's ability to achieve its other macroeconomic aims. [20]

[J23/P42/Q5]

Essay

Inflation is defined as a persistent increase in general price level over a period of time. Controlling inflation is one of the main macroeconomic aims of government policy because if inflation gets out of control, it brings macroeconomic instability. Other aims include the achievement of full employment, maximum possible economic growth and balance of payments equilibrium. While all of these aims are important for macroeconomic stability, but there are potential conflicts between them. Therefore, governments attach differing priorities in different times.

When controlling inflation is the main priority, the authorities usually choose a deflationary monetary policy that can have a powerful effect on consumers and businesses through changes in the rate of growth of money supply, interest rate and exchange rate. A deflationary monetary policy aims at decreasing the rate of growth in AD through a contraction of money supply and / or an increase in interest rate and exchange rate. It influences prices and output via changing aggregate demand in several different ways. For instance, central bank can increase its lending rate, sell government securities and tighten regulations on reserve ratios and special deposits. All controls on mortgage, deferred payments and hire purchases can be tightened. These measures operate through what is known as the transmission mechanism of monetary policy. One of those channels operates via increasing the lending and borrowing rates charged in the financial markets. When, for instance, central bank's base rate goes high, commercial banks typically increase how much they charge on loans and the interest that they offer on savings. This discourages businesses for taking out loans for investment and encourages consumers to spend less and save more. Less spending decreases aggregate demand and hence it helps control inflation.

Another channel operates through exchange rate where a rise in relative rate of interest increases net capital inflows that causes a rise in exchange rate. Higher exchange rate decreases net export that

causes AD to fall. However the effect on AD and hence on the rate of inflation depends on the combine price elasticity of exports and imports. AS the Marshall-Lerner condition suggests that a rise in exchange rate increases net inflows in the short run when $PED_x + PED_m < 1$. In the long run, however, the $PED_x + PED_m > 1$, therefore it is likely to decrease net exports and hence it dampens inflationary pressure in the economy. So, it helps reduce inflation but the country's balance of payment position is likely to worsen.

The critics of monetary policy argue that it is not an exact science – what happens in the macroeconomy is the result of millions of decisions taken by households and businesses. We cannot predict with great accuracy the extent to which a rise in interest rate will achieve the desired rate of inflation. For instance, when demand for money is infinite elastic i.e. the economy is operating in a liquidity trap, any contraction in MS will fail to increase interest rate and hence it will fail to have an impact on inflation. Similarly a monetary stimulus would fail to achieve the desired results if investment and consumer spending is largely interest inelastic. Furthermore, when it comes to addressing inflation there are many factors that are outside of the central bank's direct control e.g., optimism of consumers and businesses and changes in international commodity prices. Lastly, the time lags should always be considered when analyzing the effects of changes in monetary policy.

A real problem arises when at higher interest rate consumers stop borrowing to spend and firms also reduce borrowing to invest. Exports become less competitive and the economy may well drop into a recession leading to a slowdown of economic growth and a rise in unemployment.

Growth and low inflation have always been important. Without growth, peoples' standard of living cannot increase, and if inflation is too high then the value of money falls negating any improvement in living standards. So, these two aims present a classic conflict that leads to a trade-off. When the government uses tight monetary measures for reducing inflation, the resulting fall in consumer spending and investment slows down economic growth that causes job losses. However, if the government tries to increase the growth rate through reflationary measures, such as lower interest rates, the resulting increase in consumer spending and investment leads to a rise in the rate of inflation.

Similarly the aim of keeping unemployment levels as low as possible is important because high unemployment is detrimental to the macroeconomic

stability and economic growth. Deflationary monetary policy has the effect of reducing AD that causes output to fall and unemployment to rise. However, if the government tries to increase employment through reflationary measures, such as lower interest rates, the resulting fall in unemployment pushes wages higher, as employers try to attract workers from a diminishing pool of the unemployed. This leads to a higher rate of inflation.

This trade-off between inflation and unemployment is illustrated by the famous Philips curve. The traditional PC suggests that a rise in money wages encourages people to spend and producers hire more workers to increase their output. However, controlling high rate of inflation leads to a fall in consumer spending that decreases levels of profit across many parts of the economy. So, the producers revise their output plans downward that increases unemployment.

Hence it follows that effectiveness of monetary policy to reduce inflation is subject to how quickly and to what extent AD responds to changes in monetary tools. However, the resulting decrease in inflation is likely to slow down economic growth, increase unemployment and possibly worsen the balance of payment position.

Question 2

Assess the extent to which monetary policy can be used effectively to solve the problem of unemployment.

[20]

[N23/P41/Q4]

Essay

Monetary policy, through the use of interest rate adjustments, changes in the money supply, and, at times, exchange rate interventions, is a crucial tool for governments and central banks seeking to manage economic conditions, including unemployment. Unemployment represents an under-utilization of national resources, with various causes ranging from cyclical to structural factors.

Monetary policy typically influences aggregate demand in an economy. By adjusting interest rates, a central bank can influence borrowing and spending decisions. Lowering interest rates makes borrowing cheaper for consumers and firms, thereby encouraging spending and investment. This increased demand can stimulate job creation, especially during periods of economic downturn when

unemployment is primarily cyclical. In the case of cyclical unemployment, where demand deficiencies cause businesses to cut back on hiring, lowering interest rates can be particularly effective. The increased demand can lead to higher output, and as businesses expand production to meet this demand, they are more likely to hire additional workers, thus reducing unemployment.

Similarly, changes in the money supply can also influence employment. An increase in the money supply, typically through measures such as quantitative easing, can lower interest rates by boosting liquidity in the economy. The higher money supply increases the availability of credit, again stimulating consumption and investment. This, in turn, can lead to higher employment as firms respond to higher demand for goods and services. Additionally, changes in the exchange rate can impact unemployment. A depreciation of the currency, often achieved through monetary policy measures, can make a country's exports cheaper and more competitive internationally, potentially boosting demand for exported goods and leading to increased employment in export-oriented industries.

However, the effectiveness of monetary policy in addressing unemployment is highly dependent on the type of unemployment being experienced. Cyclical unemployment, resulting from a decrease in overall demand due to economic recessions or slowdowns, is the most responsive to monetary policy. Lowering interest rates or increasing the money supply can help stimulate demand, leading to increased production and hiring. In this context, monetary policy is a powerful tool for reducing unemployment.

On the other hand, structural unemployment, which arises when workers' skills do not match the demands of the job market, is less responsive to changes in monetary policy. Structural unemployment is often linked to changes in the economy that require workers to adapt to new industries or technological advancements. For example, if a country transits from an industrial-based economy to a service-based economy, workers in declining industries might not have the skills necessary to transition into new sectors. In such cases, monetary policy would have limited effectiveness, as it cannot address the root causes of structural unemployment. For this type of unemployment, supply-side policies such as vocational training, education reforms, or incentives for labor mobility might be more effective in improving workers' employability and reducing unemployment.

Moreover, the impact of monetary policy can be limited by other economic factors. For instance, reducing interest rates to stimulate demand might lead to inflationary pressures, especially if the economy is near full capacity. Demand-pull inflation can occur if an increase in demand leads to price rises, making goods and services more expensive. This can erode the purchasing power of consumers, potentially offsetting some of the positive effects of monetary policy on employment. Furthermore, if businesses face higher costs due to inflation, they might choose to cut back on hiring or even lay off workers, thus exacerbating unemployment in the long run.

Additionally, the effectiveness of monetary policy is influenced by the response of businesses and consumers to changes in interest rates and the money supply. In times of economic uncertainty, firms may be reluctant to invest, even if borrowing costs are low, or consumers might be unwilling to spend due to concerns about their future financial situation. In such cases, the transmission mechanism of monetary policy could be weakened, and the desired increase in demand and employment may not materialize.

There are also sectorial concerns. For example, while lower interest rates may stimulate demand in general, they might disproportionately benefit specific sectors of the economy, such as housing or construction, leading to imbalances. A housing boom, driven by cheap credit, might lead to an overheating in the housing market, while other sectors might see little improvement in employment. This can create economic distortions, and in the worst-case scenario, it could lead to asset bubbles, which can collapse and lead to increased unemployment when they burst.

Furthermore, while monetary policy can provide short-term relief during periods of economic downturn, it may not be a sustainable solution to persistent unemployment, particularly in cases where unemployment is driven by long-term structural changes in the economy. In such situations, relying solely on monetary policy could result in diminishing returns. An approach that incorporates fiscal policies and supply-side reforms, might be necessary to address the deeper causes of unemployment.

Monetary policy can be effective in reducing unemployment during periods of cyclical downturns, where aggregate demand is insufficient. By adjusting interest rates and money supply, central banks can stimulate demand and encourage firms to hire more workers. However, when unemployment is

structural or when inflationary pressures arise, monetary policy has more limited effectiveness. In such cases, supply-side policies that focus on improving the skills of the workforce, increasing labor market flexibility, and reducing barriers to employment may be more appropriate.

Question 3

In many countries increased government spending is regarded as a cause of economic growth. It is sensible, therefore, for a government to spend more to increase economic growth as it is good for its country.

To what extent do you agree with this argument? [20]

[J24/P41/P43/Q4]

Essay

The argument that increased government spending is a cause of economic growth is rooted in the idea that government expenditure stimulates demand within an economy, which can lead to higher production, employment, and overall economic activity. In theory, when a government spends more, it injects money into the economy, which boosts demand for goods and services, potentially leading to economic growth. Economic growth is classified as actual and potential growth where actual growth is typically measured by an increase in real Gross Domestic Product (GDP), which reflects the total value of goods and services produced in a country.

The basic mechanism through which increased government spending might lead to economic growth is through boosting aggregate demand. When a government spends money, either on infrastructure projects, public services, or subsidies, it directly increases the demand for goods and services. This can lead to increased business activity, as firms ramp up production to meet this higher demand. For example, increased government investment in infrastructure can lead to the creation of new jobs, higher demand for materials, and a ripple effect where workers spend their income, stimulating further demand in the economy. The multiplier effect explains how an initial increase in spending leads to a greater overall increase in economic output. Essentially, each dollar spent by the government leads to more than one dollar worth of economic activity as the spending circulates through the economy, creating a cycle of increased demand and production.

However, the impact of government spending on economic growth is not always straight forward, and its effectiveness depends on various factors. One crucial distinction is between actual growth and potential growth. Actual growth refers to an increase in the output of an economy, whereas potential growth refers to the increase in an economy's productive capacity over time. In the short run, increased government spending may lead to actual growth as it boosts demand and employment. But for long-term, sustainable growth, government spending must also focus on factors like improving productivity, investing in technology, education, and infrastructure, which increase the economy's capacity to produce more goods and services over time.

In some cases, however, the effect of increased government spending on economic growth may be limited. If an economy is already operating near full capacity, when most of the resources are already being fully utilized, then additional government spending may not lead to an increase in output but instead could result in inflation. In such situations, demand outstrips the economy's ability to produce goods and services, causing prices to rise. This could undermine the purchasing power of consumers and businesses, thus reducing the potential positive effects of the government's increased expenditure. Additionally, if the government's spending is directed towards consumption rather than investment, the long-term benefits may be minimal because consumption does not contribute to an increase in the economy's productive capacity.

Another potential drawback of increased government spending is its impact on the balance of payments. If a government increases spending in ways that lead to higher demand for imports, the country could experience a deterioration in its trade balance, which could further undermine the benefits of the increased spending. For example, if government spending boosts domestic demand for goods that are not produced locally, the increase in demand might be met by imports, which could weaken the domestic economy in the long run.

The effectiveness of government spending also depends on how efficiently it is allocated. For instance, investments in education, research, and infrastructure can yield long-term productivity gains, whereas unproductive or poorly targeted spending may have limited effects on economic growth. The skills and education of the workforce, the availability of capital, and the degree of access to new technology and foreign investment all play

a role in determining how much additional government spending contributes to growth. In developing economies, a lack of infrastructure or access to finance may limit the effectiveness of government spending, while in more developed economies, the focus may be on innovation, technological advancement, and human capital.

In terms of economic growth, excessive government spending, especially if it is financed by borrowing, can lead to higher public debt. Over time, high levels of debt may lead to higher interest payments, diverting resources away from other areas such as public services or investment in future growth. Additionally, higher government spending may contribute to income inequality, as the benefits of spending are not always evenly distributed. For example, if government spending is concentrated in specific sectors or regions, it may exacerbate inequalities within society.

Environmental degradation is another potential consequence of increased government spending. If government spending is directed towards projects that rely heavily on natural resources, such as infrastructure development or industrial projects, it could lead to environmental harm. In the long run, this could undermine the sustainability of economic growth and reduce the well-being of future generations. Additionally, overconsumption of scarce resources driven by excessive spending could create bottlenecks that stifle future growth and cause long-term damage to the economy.

In conclusion, while increased government spending has the potential to stimulate economic growth, its effectiveness depends on the economic context and how the spending is managed. In the short term, especially when there is slack in the economy, increased spending can boost demand and lead to growth. However, if the economy is already operating at or near full capacity, additional spending may lead to inflation rather than real growth. Furthermore, the effectiveness of government spending in promoting long-term growth depends on factors such as the efficiency of the spending, the availability of skilled labor, and the level of technological development. Thus, while government spending can be a powerful tool for stimulating economic growth, its use must be carefully balanced to ensure that the benefits outweigh the potential costs.

Question 4

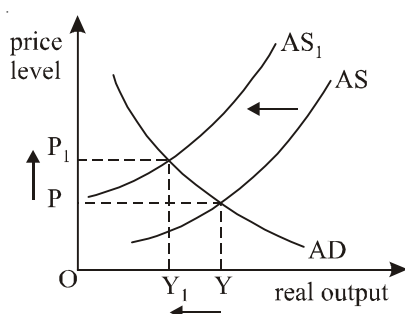
In 2022, many countries experienced a high rate of inflation caused by disruptions to the supply of goods and services arising from the Covid-19 pandemic and the conflict between Russia and Ukraine. In one country, the government cut taxes and the central bank raised interest rates.

Evaluate the likely impact of these policies on that government's ability to control inflation. [20]

[J24/P42/Q4]

Essay

Inflation experienced in 2022 was primarily cost-push, stemming from supply-side factors. The Covid-19 pandemic disrupted global supply chains, causing shortages of key inputs and raising production costs. Simultaneously, the Russia-Ukraine conflict exacerbated these pressures by reducing the supply of essential commodities such as oil, gas, and wheat. These disruptions led to supply shortages, pushing up production costs and, consequently, consumer prices. This phenomenon differs from demand-pull inflation, where excessive demand leads to rising prices. Following graph illustrates the mechanism of cost push inflation.



These supply shocks shifted the aggregate supply (AS) curve to the left from AS to AS₁, leading to higher prices and lower output. In such a scenario, traditional demand-side policies, such as tax cuts and interest rate adjustments, may have limited effectiveness, as they do not directly address the root cause of inflation. However, they can influence aggregate demand (AD) and inflationary expectations, which play a role in shaping economic outcomes.

Tax cuts are a fiscal policy tool designed to stimulate economic activity by increasing disposable income for consumers and retained profits for businesses. When taxes are reduced, households have more money to spend, which can boost consump-

tion and aggregate demand. Similarly, lower corporate taxes can encourage investment by increasing firms' after-tax profits. In the short term, this can help mitigate the negative impact of supply shocks on economic growth and employment. For example, if consumers spend their additional income on domestically produced goods and services, it can support local businesses and reduce the risk of a recession. However, the impact of tax cuts on inflation is ambiguous. While they can stimulate demand, they may also exacerbate inflationary pressures if the economy is already operating near full capacity. In the context of cost-push inflation, where supply constraints are the primary issue, tax cuts risk further increasing demand without addressing the underlying supply shortages, potentially leading to higher prices.

Raising interest rates, on the other hand, is a monetary policy tool aimed at reducing inflation by dampening demand. Higher interest rates increase the cost of borrowing for consumers and businesses, discouraging spending and investment. This can help cool down an overheated economy and bring inflation under control. For example, if consumers face higher mortgage payments due to increased interest rates, they may reduce discretionary spending, leading to lower demand for goods and services. Similarly, businesses may delay or cancel investment projects due to higher financing costs, reducing overall demand in the economy. By shifting the AD curve to the left, higher interest rates can help alleviate inflationary pressures. However, this approach also carries risks, particularly in the context of cost-push inflation. If the primary cause of inflation is supply-side constraints, reducing demand may not fully address the problem and could lead to lower output and higher unemployment, creating a stagflationary environment.

The effectiveness of these policies depends on several factors, including the accuracy of their implementation and the time lags involved. Fiscal and monetary policies operate with different time horizons, and their impacts may not be immediately felt. For instance, tax cuts can take time to influence consumer behaviour, as households may choose to save rather than spend their additional income. Similarly, the effects of higher interest rates may be delayed, as existing loans and contracts take time to adjust to the new rates. These time lags can make it difficult for policymakers to fine-tune their responses to inflation, particularly in a rapidly changing economic environment. Additionally, the success of these policies depends on the accuracy

of the government's and central bank's assessments of the economy. If policymakers misjudge the extent of the inflationary pressures or the state of the economy, their actions could exacerbate rather than alleviate the problem.

Another critical consideration is the role of expectations in shaping economic outcomes. If consumers and businesses expect inflation to persist, they may adjust their behaviour in ways that reinforce inflationary pressures. For example, workers may demand higher wages to keep up with rising prices, leading to a wage-price spiral. Similarly, businesses may raise prices in anticipation of higher costs, further fuelling inflation. In this context, raising interest rates can help anchor inflationary expectations by signalling the central bank's commitment to price stability. However, if the public perceives the government's tax cuts as contradictory to this goal, it may undermine the credibility of the anti-inflationary policy stance.

The combination of tax cuts and higher interest rates also raises questions about their impact on other macroeconomic objectives, such as economic growth, unemployment, and income inequality. While tax cuts can stimulate growth and reduce unemployment in the short term, higher interest rates may have the opposite effect, potentially leading to a slowdown in economic activity and job losses. This trade-off highlights the challenge of balancing multiple policy objectives in the face of complex economic conditions. Moreover, the distributional effects of these policies must be considered. Tax cuts may disproportionately benefit higher-income households, while higher interest rates can increase the burden on borrowers, including low-income families with mortgages or small businesses with loans. These inequities can exacerbate social and economic disparities, undermining the broader goals of sustainable and inclusive growth.

In conclusion, the government's ability to control inflation through tax cuts and higher interest rates is influenced by the nature of the inflation, the timing and accuracy of policy implementation, and the broader economic context. Hence, a comprehensive approach that combines demand-side measures with targeted supply-side interventions, such as investments in infrastructure and technology, may be necessary to achieve sustainable price stability and economic growth.

Question 5

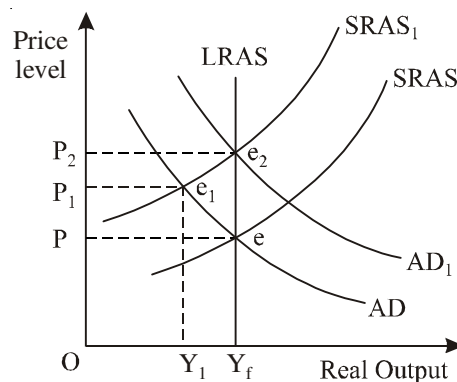
In periods of rising and persistent inflation, consumers and workers change their expectations of the future rate of inflation.

Evaluate, with the help of a diagram(s), the consequences of these changes of expectations for fiscal policy. [20]

[N24/P41/Q4]

Essay

Inflation is the persistent rise in the general price level of goods and services in an economy over time. During periods of rising and persistent inflation, consumers and workers change their expectations about future inflation rates according to their past experiences of inflation. These expectations have important consequences for fiscal policy, fundamentally altering its effectiveness in managing unemployment and inflation. Using aggregate demand and aggregate supply (AD–AS) analysis, inflation can be shown through either a rightward shift of the AD curve (demand-pull inflation) or a leftward shift of the short-run aggregate supply (SRAS) curve (cost-push inflation). Following diagram illustrates the effects of rising expectations of future rate of inflation.



In the context of rising inflation expectations, workers begin to demand higher wages to compensate for the anticipated increase in the cost of living. Employers, facing higher wage bills, pass these increased costs onto consumers in the form of higher prices as shown by the shift in SRAS to the left. Consumers, expecting prices to continue rising, accelerate their spending, further fuelling aggregate demand (AD) and reinforcing inflationary pressures as indicated by a rise in AD to AD₁. Thus it leads to a wage-price spiral where a rise in wages lead to cost push inflation and higher wages resulting in demand pull inflation.

So far as unemployment is concerned the Phillips Curve suggests an inverse relationship between % of unemployment and rate of inflation, implying that lower unemployment could be achieved at the cost of higher inflation. However, this trade-off is only temporary. In the long run when expectations adjust, the Phillips curve shifts upwards, and any short-term gains in employment are offset by expectations of higher inflation known as non-accelerating inflation rate of unemployment (NAIRU).

So, fiscal policy that aims to reduce unemployment by increasing government spending or cutting taxes becomes less effective in this environment. Expansionary fiscal policy initially boosts AD, reducing unemployment and increasing output. However, as inflation expectations rise, the resulting higher wages and costs shift SRAS leftward, nullifying gains in employment and leading to even higher inflation.

The impact of changing expectations on fiscal policy is significant. If consumers and workers expect inflation to continue rising, they behave in ways that bring about that inflation. Fiscal policy, therefore, can no longer be reliably used to reduce unemployment without worsening inflation. Governments attempting to use fiscal stimulus in these conditions will find that any reductions in unemployment are temporary and that inflation becomes more deeply embedded, making it harder to control. Moreover, the shape of the AS curve matters greatly. Keynesians argue that in the short run, the AS curve is relatively elastic or flat, meaning that increases in AD can raise output without much inflation. However, when the economy approaches full capacity, the AS curve becomes steep, and further increases in AD only cause higher inflation with little to no increase in output.

Furthermore, in historical context, some economies experienced stagflation — high inflation and high unemployment simultaneously — which contradicted the traditional Phillips Curve model. This was partly due to oil price shocks and strong trade unions, which allowed workers to negotiate wage increases effectively, thereby fuelling the wage-price spiral. In contrast, during the 2000s, many economies experienced low unemployment and low inflation at the same time. This shift can be attributed to factors such as globalization, the weakening of union power, and improvements in technology and productivity. Globalization has expanded the supply of labor beyond national borders, reducing the bargaining power of domestic workers and making wages less responsive to domestic inflation pressures.

Given these changes, relying solely on fiscal policy to manage inflation and unemployment is no longer sufficient. To achieve low inflation and low unemployment simultaneously, governments must implement policies that stimulate economic growth and address supply-side constraints. Supply-side policies, such as improving education and training, investing in infrastructure, promoting technological innovation, and reducing regulatory barriers, can shift the LRAS curve to the right. By increasing the productive capacity of the economy, these policies help to moderate inflationary pressures while supporting higher levels of employment.

Furthermore, credible fiscal and monetary policies are essential to anchor inflation expectations. If governments and central banks are seen as committed to maintaining low and stable inflation, they can influence expectations and behavior. For instance, inflation targeting by central banks has been successful in many countries in maintaining low inflation despite fluctuations in output and employment.

In conclusion, changes in inflation expectations significantly undermine the effectiveness of fiscal policy aimed at reducing unemployment. In periods of rising and persistent inflation, expansionary fiscal policies are likely to lead to higher inflation rather than lower unemployment. Therefore in order to manage inflation and unemployment effectively, governments must focus on supply-side reforms that enhance the economy's productive potential and maintain credible fiscal and monetary policies to anchor expectations and avoid embedding inflation.

Question 6

Between 2010 and 2020, very low interest rates encouraged low-income countries to borrow money from foreign investors and governments to finance long-term economic growth.

Evaluate this approach to promoting long-term economic growth. [20]

[N24/P42/Q5]

Essay

Historically low interest rates in high-income countries created an environment where low-income countries were encouraged to borrow from foreign investors and governments to finance long-term economic growth. This approach aimed to address

the chronic under-investment in infrastructure, technology, and human capital that often hinders development in these nations. While borrowing to fund growth-oriented projects can yield significant benefits, it also carries risks, particularly when global economic conditions change.

Economic growth is typically defined as an increase in real GDP, driven by greater investment in labor, land, and capital, leading to an outward shift of the production possibility curve. For low-income countries, achieving sustained growth is often constrained by limited domestic savings and insufficient investment. Borrowing from foreign sources, including governments, international agencies, and private investors, can provide the necessary funds to overcome these constraints. For example, China's Belt and Road Initiative has financed infrastructure projects in numerous low income countries, such as roads, railways, and ports, which are critical for economic growth. Similarly, multinational corporations (MNCs) like Toyota and Intel have invested in factories and machinery, directly increasing productive capacity and creating jobs. These investments can enhance a country's infrastructure, boost productivity, and stimulate economic activity, laying the foundation for long-term growth.

Foreign borrowing can also complement domestic resources, enabling low-income countries to undertake large-scale projects that would otherwise be unaffordable. International financial institutions like the World Bank and the International Monetary Fund (IMF) provide loans and grants for development projects, often with favorable terms. These funds can be used to invest in education, healthcare, and technology, which are essential for building human capital and fostering innovation. For instance, investments in education can improve workforce skills, while healthcare projects can enhance productivity by improving population health. By addressing these fundamental drivers of growth, foreign borrowing can help low-income countries break the cycle of poverty and achieve sustainable development.

However, the success of this approach depends on the quality and efficiency of the investments. Not all projects financed by foreign borrowing yield the intended economic benefits. Some investments may be directed toward "vanity projects," such as poorly planned infrastructure or prestige developments, which generate little long-term value. For example, roads or airports built in remote areas with low traffic volumes may fail to stimulate economic activity, leaving countries with debt but no corre-

sponding increase in productive capacity. Additionally, the terms of foreign borrowing can sometimes favor the lender rather than the borrower. If a significant portion of the funds is used to purchase materials and services from the lender's country, the benefits to the borrowing country's economy may be limited, and the current account of the balance of payments may deteriorate.

Another critical consideration is the cost of borrowing, particularly in a changing global interest rate environment. Between 2010 and 2020, low interest rates made borrowing attractive for low-income countries, as the cost of servicing debt was relatively low. However, rising interest rates in high-income countries, particularly the United States, have increased the cost of borrowing for developing nations. This is especially problematic for countries with dollar-denominated debt, as a stronger U.S. dollar raises the local currency cost of debt servicing. For example, if a country's currency depreciates against the dollar, the real burden of its debt increases, straining public finances and diverting resources away from productive investments. This can lead to a vicious cycle of rising debt, currency depreciation, and economic instability, as seen in countries like Argentina and Turkey.

Moreover, low-income countries are often vulnerable to external shocks, such as fluctuations in commodity prices, which can exacerbate the challenges of foreign borrowing. Many developing economies rely heavily on commodity exports for revenue, and a slump in prices can reduce export earnings, weaken the currency, and increase the cost of debt repayment. For instance, a decline in oil prices can severely impact oil-exporting countries, forcing them to cut public spending or borrow more to meet their obligations. This vulnerability underscores the importance of diversifying the economy and ensuring that borrowed funds are used for projects that generate sustainable returns.

The impact of foreign borrowing also depends on the proportion of funding sourced domestically versus internationally. While foreign investment can fill critical gaps, overreliance on external financing can create dependency and reduce incentives for domestic resource mobilization. Encouraging domestic savings and investment is essential for building a self-sustaining economy. Policies that promote financial inclusion, improve tax collection, and create a favorable business environment can help low-income countries reduce their reliance on foreign borrowing and achieve more balanced growth.

In conclusion, borrowing from foreign investors and governments can be an effective strategy for promoting long-term economic growth in low-income countries, provided the funds are used efficiently and sustainably. However, the risks associated with foreign borrowing, such as rising interest rates, currency depreciation, and vulnerability to external shocks, must be carefully assessed. To maximize the benefits of this approach, low-income countries should combine foreign borrowing with sound economic policies and governance for achieving sustainable and inclusive growth.