NEXT IAS

Writing Mains (2023).

(To be filled by candidate)

Name of Candidate : RUHANI T-7|540

Roll No. : PTTp220870 (IGP 2022 Student)

Registration Number : ..... Date of Examination : 30.08.2023

Exam Centre : Old Rajinder Nagar ☐ Bhopal ☐ Online ☑

CSE (MAINS) TEST SERIES - 2023

Test-07	ECONOMICS OPTIONAL
Dated : 27-08-2023	*Full Syllabus (Paper-I)*

Time Allowed : Three Hours

Maximum Marks: 250

QUESTION PAPER SPECIFIC INSTRUCTIONS

(Please read each of the following instructions carefully before attempting questions)

*There are **EIGHT** questions divided in **Two sections** and printed in ENGLISH.*

*Candidate has to attempt **FIVE** questions in all.*

***Question No. 1 and 5** are compulsory and out of the remaining, any THREE are to be attempted choosing at least ONE question from each section.*

The number of marks carried by a question/part is indicated against it.

Answers must be written in the medium authorized in the Admission. Certificate which must be stated clearly on the cover of this Question-cum- Answer (QCA). Booklet in the space provided.

No marks will be given for answers written in a medium other than the authorized one.

Word limit in questions, wherever specified, should be adhered to.

Attempts of question shall be counted in sequential order. Unless struck off. Attempt of a question shall be counted even if attempted partly. Any page or portion of the page left blank in the Question cum Answer (QCA). Booklet must be clearly struck off.

(For filling by Examiners only)

Q. No.	Page No.	Max. Marks	Marks	Total	Signature
1. (a)	4	10			
1. (b)	6	10			
1. (c)	8	10			
1. (d)	10	10			
1. (e)	12	10			
2. (a)	14	20			
2. (b)	18	15			
2. (c)	21	15			
3. (a)	24	10			
3. (b)	26	20			
3. (c)	30	20			
4. (a)	34	20			
4. (b)	38	15			
4. (c)	41	15			
5. (a)	44	10			
5. (b)	46	10			
5. (c)	48	10			
5. (d)	50	10			
5. (e)	52	10			
6. (a)	54	15			
6. (b)	57	20			
6. (c)	61	15			
7. (a)	64	20			
7. (b)	68	15			
7. (c)	71	15			
8. (a)	74	15			
8. (b)	77	15			
8. (c)	80	20			
				Grand Total	

Remarks

Observations:

Candidates must not write on this margin

SECTION-A

Write notes on the following in about 150 words each: **(10 × 5 = 50)**

Q.1 (a) Use IS LM model to explain trade as an engine of growth.

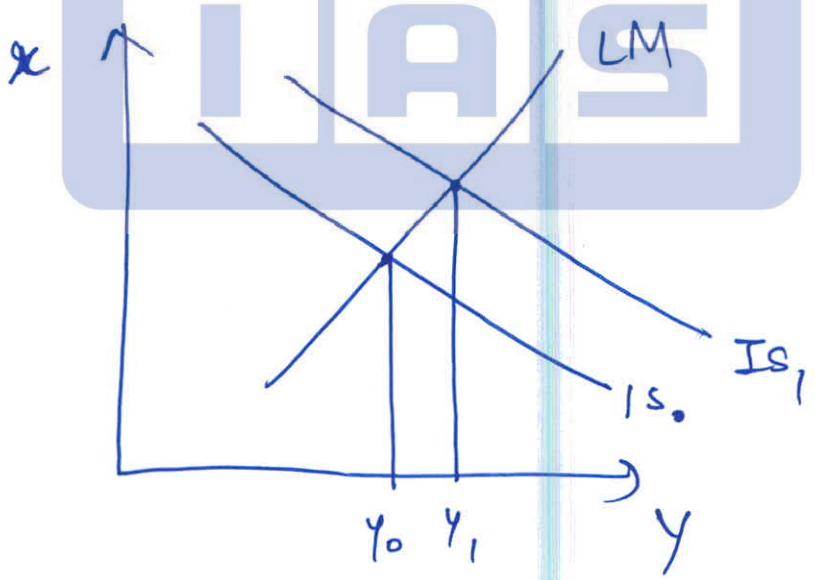
Trade helps a nation to sell its goods abroad. Thus, exports of a nation increase.

Since IS curve is given by

$$Y = \alpha(\bar{A} - bi),$$

thus $\bar{A} = \bar{C} + \bar{I} + \bar{X}$ increases as $\bar{X}$ increases,

thus IS curve shifts right.



Thus, output increases from Y_0 to Y_1.

Candidates must not write on this margin

Thus, trade acts as an engine of growth.

Q.1 (b) "Agriculture contributes to development and also gets contributed to by it". Discuss.

Candidates must not write on this margin

Agriculture contributes 15% to the GDP of India

CONTRIBUTION OF AGRICULTURE TO DEVELOPMENT :-

- Food security :- provides food
- Nutrition :- necessary to prevent undernutrition, anaemia.
- Raw materials for Industrial development
- Forex through exports
- Carbon sequestration, mitigation of climate change.

Candidates must not write on this margin

IMPACT OF DEVELOPMENT ON AGRICULTURE

→ Provision of machinery by industry

→ Provision of water through PM Krishi Sichai Yojana

→ Fertilizers, pesticides

→ Storage, warehousing

→ Technology, weather forecasting being provided to agriculture through development

→ Development leads to research, which ultimately benefits agriculture.

Q.1 (c) Explain the differences between Kaldor's and Kalecki's model of distribution.

Candidates must not write on this margin

~~Kalo~~

Kalecki	Kaldor
→ used the concept of monopoly power in macroeconomics.	→ used keynesian theory of multiplier
→ It says that more the monopoly power, less the welfare.	→ It says that Investment is directly proportional to profit of entrepreneur.

NEXT IAS

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Q.1 (d) "Monopoly power exists in all imperfect competition markets, only the degree is different." Do you agree?

Candidates must not write on this margin

Monopoly power exists in all imperfect competition markets as in monopolistic competition.

→ It can be seen that in long run equilibrium of monopolistic competition, ~~and~~ the firm charges monopoly price ($=P_m$) but does not make monopoly profits as it makes normal profits.

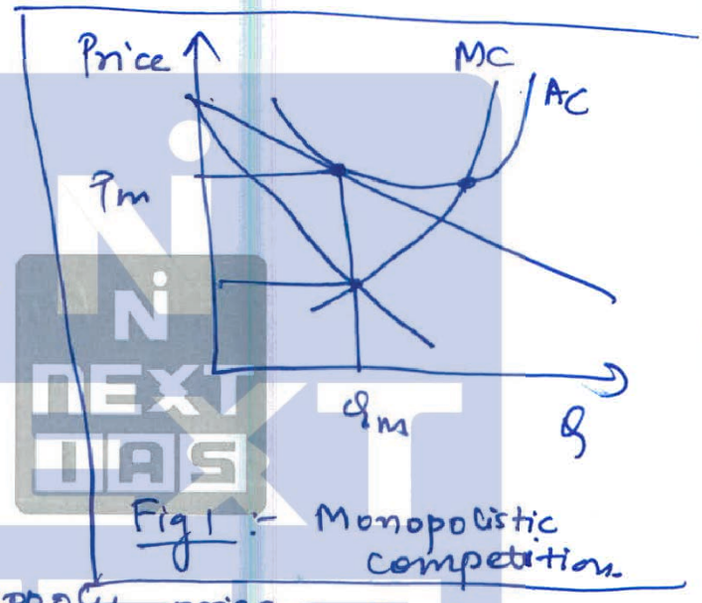


Fig 1 :- Monopolistic competition.

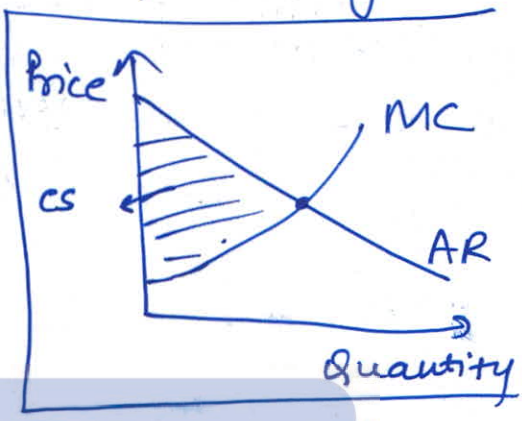
Degrees of monopoly power are determined by types of Price Discrimination :-

- First degree price discrimination :- The monopolist extracts the entire consumer surplus by charging a

Candidates must not write on this margin

price equal to the maximum price that the consumer is willing to pay.

Thus, entire consumer surplus (CS) goes to the monopolist.



- **Second-degree Price Discrimination** :-
  - ↳ Bulk goods can be sold at discount
  - ~~→ Di~~

- **Third Degree Price Discrimination**
  - ↳ A doctor can charge poor patients less and affluent patients more.
  - ↳ Airlines charge different prices depending on how advanced one books the ticket.

Thus, the degree of monopoly power can differ.

Q.1 (e) What is Tobin's q theory?

Candidates must not write on this margin

Tobin's q theory is a theory of residential investment.

A person invests only if future expected profits exceed the costs.

NEXT IAS

Candidates must not write on this margin

Q.2 (a) "Neo classical growth models didn't only focus on growth, but also standard of living." Elaborate using appropriate context. 20

Candidates must not write on this margin

Neoclassical growth model like the Solow model focused not only on growth but also standard of living.

Solow model showed how savings rate(s), population growth(n) and exogenous rate of technological progress(a) impact the level of capital and output produced in the economy as well as the growth.

Also, standard of living was maximized by maximizing consumption.

FOCUS ON GROWTH

Solow Model

Assumption :-

- Perfect competition
- Constant returns to scale
- Two inputs : Labour (L) and Capital (K)
- A = efficiency of labour
- Exogenous technological progress.

Candidates must not write on this margin

- Constant population growth (n), marginal propensity to save (s) and depreciation rate (δ)

MODEL :-

- **Supply of goods** is given by production function : $Y = F(K, AL)$

$$\frac{Y}{AL} = F\left(\frac{K}{AL}, 1\right)$$

$$y_i = F(k, 1)$$

where $\frac{Y}{AL}$ = output per effective worker.

- **Demand for goods** is given by

$$Y = C + I$$

$$Y = (1-s)y + I$$

$$\boxed{sy = i}$$

- **Steady state Condition** :

$$\Delta k = i - (\delta + n + a)k$$

$$\Delta k = sf(k) - (\delta + n + a)k$$

In steady state, $\Delta k = 0$, thus

$$sf(k^*) = (\delta + n + a)k^*$$

Candidates must not write on this margin

Long-run rate of growth (rog) :-

rog of $y = 0$

rog of $\left(\frac{Y}{AL}\right) = 0$

rog of Y
= rog of A + rog of L

$\therefore$ **rog of $Y = a + n$**

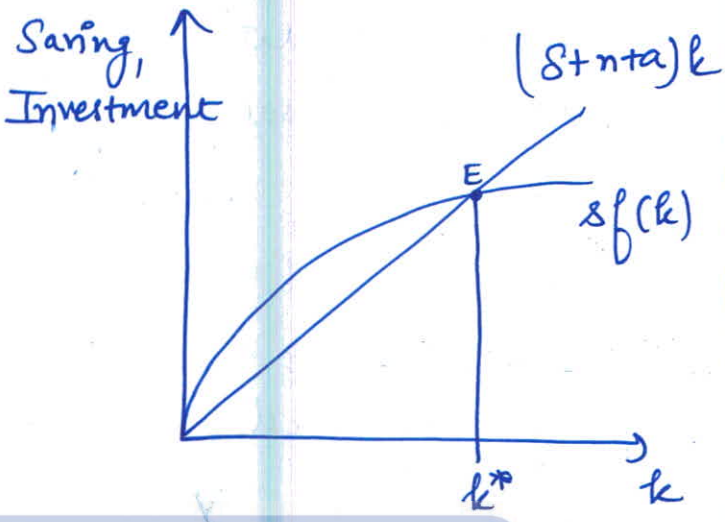


Fig 1 :- Steady state in Solow model

per capita income = rog of Y − rog of population

per-capita income $= a + n - n = a$

Thus, per-capita income grows at the exogenous rate of technological progress at a sustained rate

---

GOLDEN LEVEL OF CAPITAL is the capital in the steady state at which consumption is maximized.

$$Y = C + i$$

$$C = Y - i$$

At steady state

$$C^* = Y - sf(k^*) = Y - (\delta + n + a)k^*$$

Candidates must not write on this margin

$$\frac{\partial C^*}{\partial k^*} = f'(k^*) - (\delta + n + a) = 0$$

Thus, $\boxed{f'(k^*) = (\delta + n + a)}$

This occurs at point E.

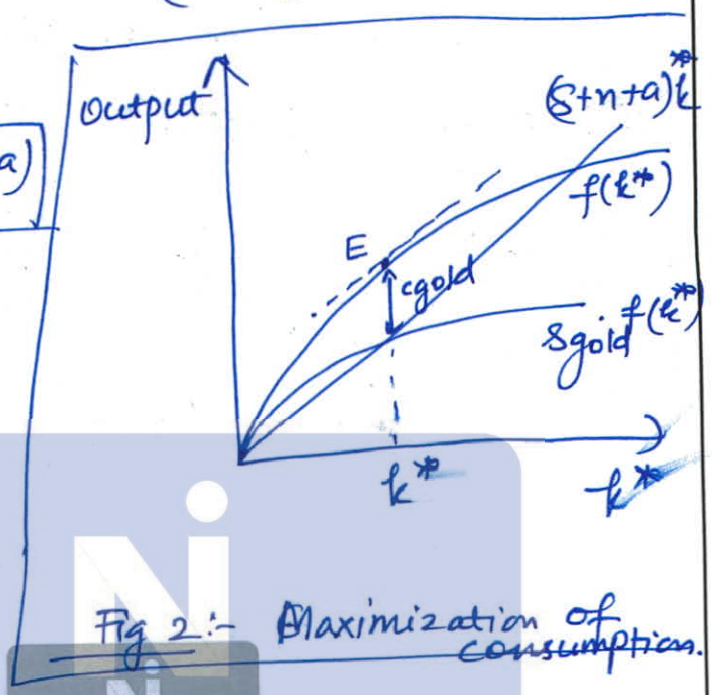


Fig 2:- Maximization of consumption.

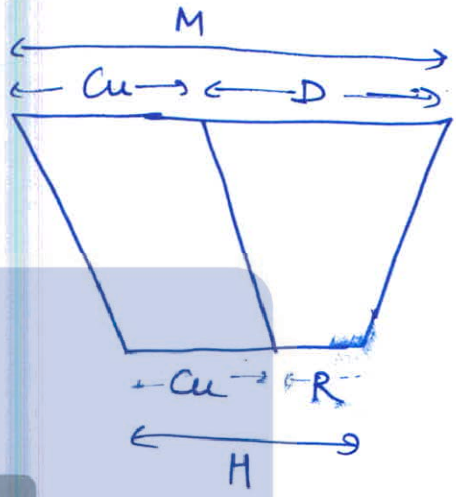
The savings rate at which consumption is maximized at steady state is called golden rate of savings (s_{gold})

Thus, Solow model explained both growth and also, standard of living through maximization of consumption.

Q.2 (b) Examine the behavior of endogenous money multiplier. 15

Candidates must not write on this margin

The money multiplier is the ratio of money supply (M) and the monetary base (H).



Thus, $$m = \frac{M}{H}$$ 1

Where $M = Cu + D$

$H = Cu + R$

where Cu = Currency in circulation,

D = Deposits,

R = Reserves.

Also, Currency - Deposit ratio $= cdr = \frac{Cu}{D}$

and Reserve Deposit ratio $= rdr = \frac{R}{D}$

Thus, $$m = \frac{M}{H} = \frac{Cu + D}{Cu + R}$$

$$m = \frac{cdr \cdot D + D}{cdr \cdot D + rdr \cdot D}$$

Thus, $$\boxed{m = \frac{1 + cdr}{cdr + rdr}}$$

Candidates must not write on this margin

m is thus the endogenous money multiplier as it depends on cdr and rdr.

BEHAVIOUR OF ENDOGENOUS MONEY MULTIPLIER :-

→ If cdr is high, then m is low

$\left(\text{as } \frac{\partial m}{\partial cdr} < 0\right)$.

cdr can be high because of following reasons:

1.) liquidity trap condition
2.) Too low rate of interest
3.) High transaction cost of going to bank
4.) War or pandemic may necessitate people to hold cash
5.) Situation of bank run.

→ If rdr is high, then also m is low.

rdr is determined by the Central Bank.

Candidates must not write on this margin

Thus, the endogenous multiplier's behaviour depends on the saving habits of the citizens, the economy's conditions and the decisions of the Central Bank.

NEXT IAS

Q.2 (c) Explain differentiated Cournot Model. 15

Candidates must not write on this margin

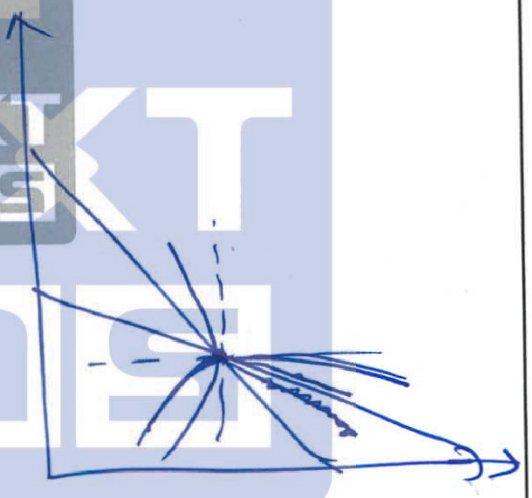
Cournot Model of Duopoly shows how 2 firms react to each other's action of production.

ASSUMPTIONS :-

→ 2 firms
→ Zero Conjectural Variation

MODEL:-

$P = 100 - q_1 - q_2$



Candidates must not write on this margin

Candidates must not write on this margin

Q.3 (a) What are the criticisms of Hecksher Ohlin model? 10

Candidates must not write on this margin

Candidates must not write on this margin

Q.3 (b) Examine a model of labor migration which assumed that structural change is reflected in the migration pattern. 20

Candidates must not write on this margin

Candidates must not write on this margin

Candidates must not write on this margin

Candidates must not write on this margin

Q.3 (c) Do you agree that natural capital can be valued in different ways? Elaborate using all possible methods. 20

Candidates must not write on this margin

Candidates must not write on this margin

Candidates must not write on this margin

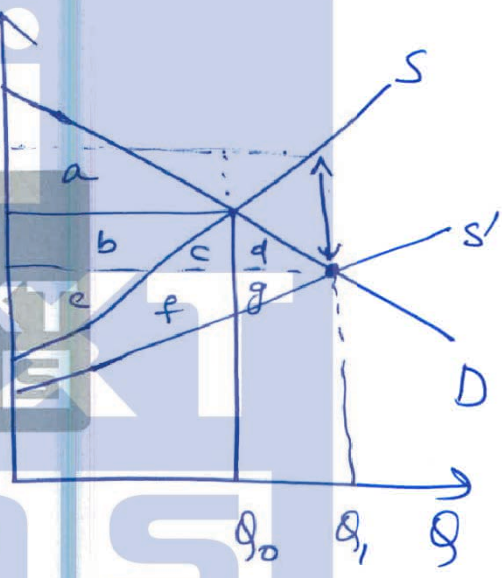
Candidates must not write on this margin

Q.4 (a) How does per unit subsidy create dead weight loss? Do you think a direct subsidy is better? 20

Candidates must not write on this margin

Subsidy is a payment given to a producer to lower his marginal cost.

Per-Unit Subsidy



Before subsidy,

CS = a

PS = b+c+d+e+f+g

After subsidy,

CS = a+b+c+d

PS = e+f+g.

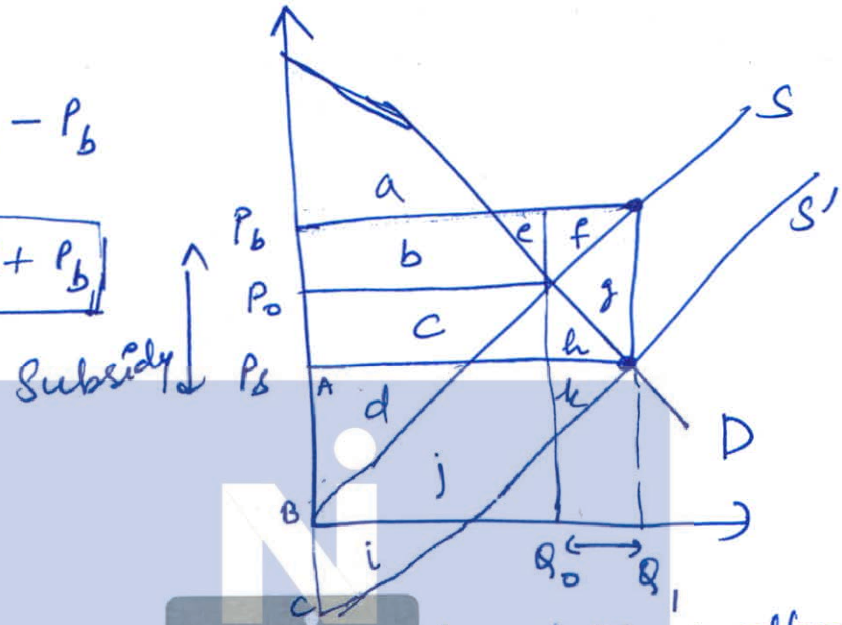
Cost to government

Candidates must not write on this margin

Direct Subsidy :-

$S = P_S - P_b$

$\boxed{P_S = S + P_b}$



	CS	PS	Govt.	Total welfare
Before subsidy	a+b	c+d	0	a+b+c+d
After subsidy	a	~~d+e+f+j+k~~ d	-f-g -h	~~a+d~~-f-g-h

change = -f-g-h
-b-c.

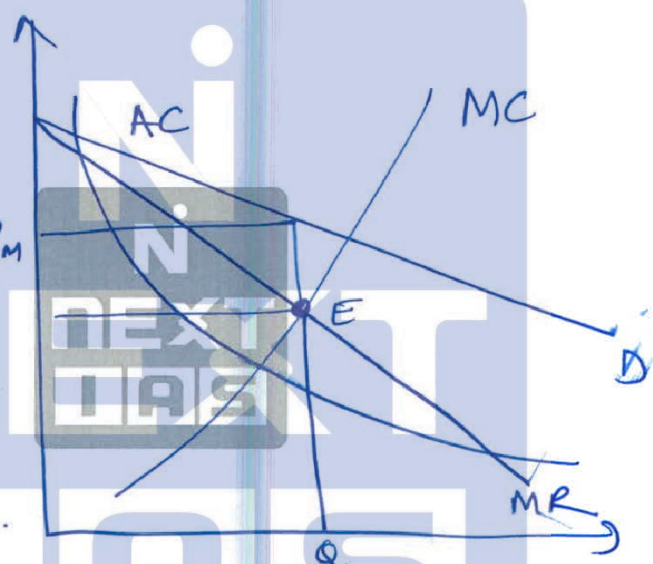
Candidates must not write on this margin

Candidates must not write on this margin

Q.4 (b) How will a monopoly reach equilibrium if government regulates pricing? 15

Candidates must not write on this margin

If government regulates pricing, then such a monopoly is called natural monopoly, where average cost (AC) curve is falling.



Thus, E is the point of equilibrium where MR intersects MC.

Thus, Price set = P_M.

Candidates must not write on this margin

Candidates must not write on this margin

Q.4 (c) Explain the concept of NAIRU. 15

Candidates must not write on this margin

NAIRU is the non-accelerating rate of unemployment. This concept was given by Milton Friedman and Edmund Phelps. They argued that Phillips curve holds only in short run and thus, there is only a temporary tradeoff between inflation and unemployment.

They argued that in long run, the Phillips curve is vertical and is given by :-

$$\pi_t - \pi_t^e = -\alpha(u_t - u_N)$$

when $u_t = u_N$ = Natural rate of unemployment

then $\pi_t = \pi_t^e$ = Expected Rate of inflation

and this $u_t = u_N$ is called Non-accelerating rate of unemployment as At this unemployment rate, the inflation rate does not change.

Candidates must not write on this margin

Friedman gave expectations-augmented Phillips Curve.

Assumption :- Adaptive Expectations i.e. people form expectations about future inflation by looking at inflation rate in the previous period.

MODEL :-

→ Assume SRPC, (Short-run Phillips Curve) where expected inflation rate = $P^e = I_1$ and the economy is at U_N (Natural rate of unemployment)

→ Suppose, AD increases in the economy, thus prices increase and new inflation rate = I_2. Thus, producers produce more and unemployment reduces as we move from point A to B.

→ At point B, workers realize that inflation has reduced their real wages, hence they demand higher wages due to which the cost of the firm increases and it reduces

Candidates must not write on this margin

its production due to which unemployment rises as we move from point B to point C.

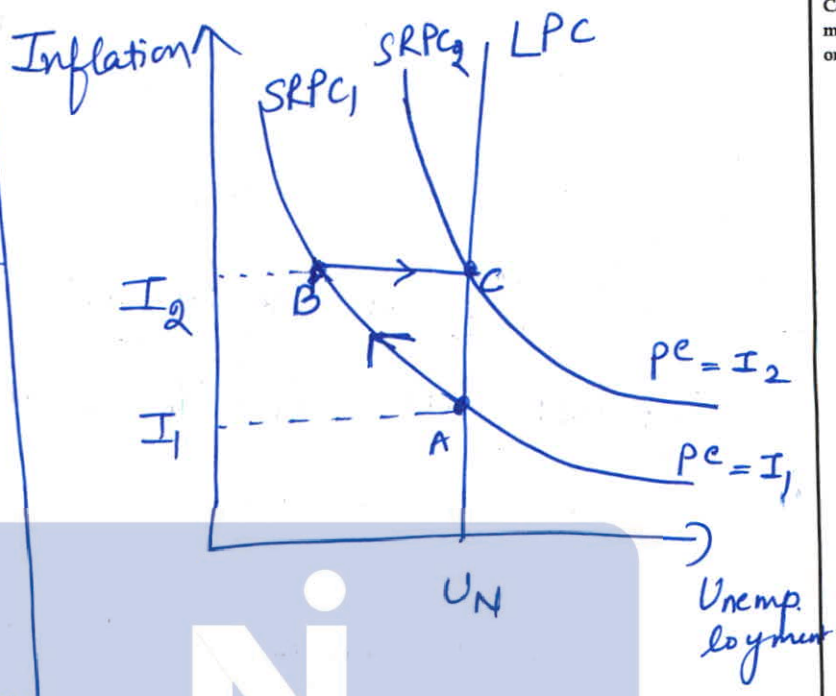


Fig 1 :- Long run Phillips Curve is vertical at U_N = NAIRU.

→ At point C, workers form new expectations and thus, expect the price level to continue at I_2. Thus, a new $SRPC_2$ is drawn at point C.

→ Joining points A and C gives us a Long-run phillips curve.

→ Thus, ~~Inflate~~ in the long run, the economy gravitates towards the NAIRU i.e. U_N (natural rate of unemployment)

Candidates must not write on this margin

SECTION-B

Write notes on the following in about 150 words each: **(10 × 5 = 50)**

Q.5 (a) "Baumol and Keynes included interest rate as a factor affecting money demand, but treated it differently." Discuss.

Keynes assumed that interest rate is inversely proportional to money demand.

Keynes assumed that bonds are not risky.

However, Baumol assumed that bonds are risky assets and thus, he assumed risk. (Portfolio Balance Model)

In Tobin-~~Arrow~~ Baumol Model,

Baumol assumed rate of interest as returns on savings in a bank.

But Keynes assumed rate of interest as rate of return on a bond.

Candidates must not write on this margin

Q.5 (b) What is the role of public expenditure in development?

Candidates must not write on this margin

Public expenditure refers to the spending by government for public welfare.

Public expenditure (PE) has the following role in development:

1.> ALLOCATION ROLE :- Through the budgetary process, government allocates resources to different sectors.

→ Provision of public goods like defence, is also done by government (Fig 1)

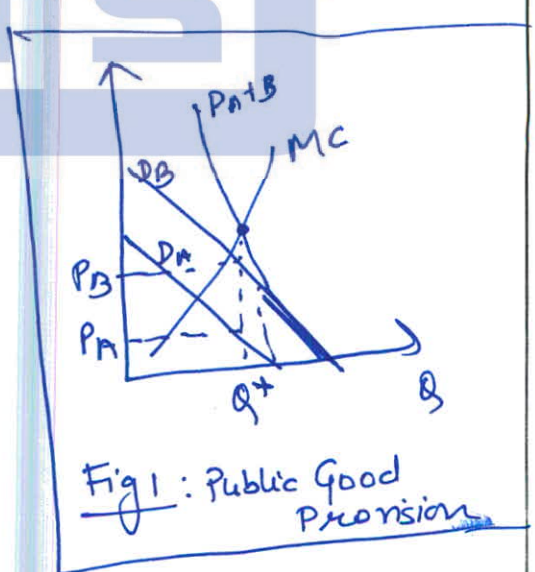


Fig 1 : Public Good Provision

2.> DISTRIBUTIVE ROLE

→ Redistribution of income is done through P.E.

→ Instruments used: Taxes and subsidies.

Candidates must not write on this margin

3.) DEVELOPMENT :-

→ To correct market externalities, government provides facilities for health and education

→ Thus, the government provides subsidy to correct the positive externality created due to health (as in Fig 2)

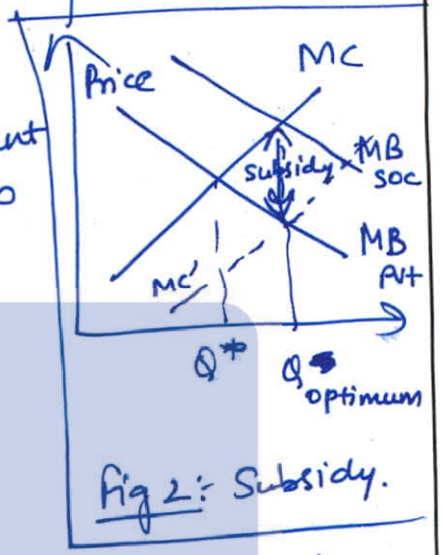


Fig 2: Subsidy.

→ P.E. also is used for preventing pollution and conserving environment. Thus,

4.) STABILIZATION OF ECONOMY is done by PE.

→ Thus, inflation, output, exchange rates, fiscal deficits are controlled through PE.

Thus, PE plays an important role in development.

Q.5 (c) Explain how Neo Keynesian solutions will emerge for underemployment situation?

Candidates must not write on this margin

Neo Keynesians assumed that prices and wages are sticky. Hence, there is hysteresis due to which underemployment exists.

Candidates must not write on this margin

Q.5 (d) Explain Schumpeter's theory of development.

Candidates must not write on this margin

Schumpeter believed in creative destruction. Thus, there are ~~cycles of~~ 2 waves

Primary wave

Secondary wave

Thus, business cycles keep on occurring

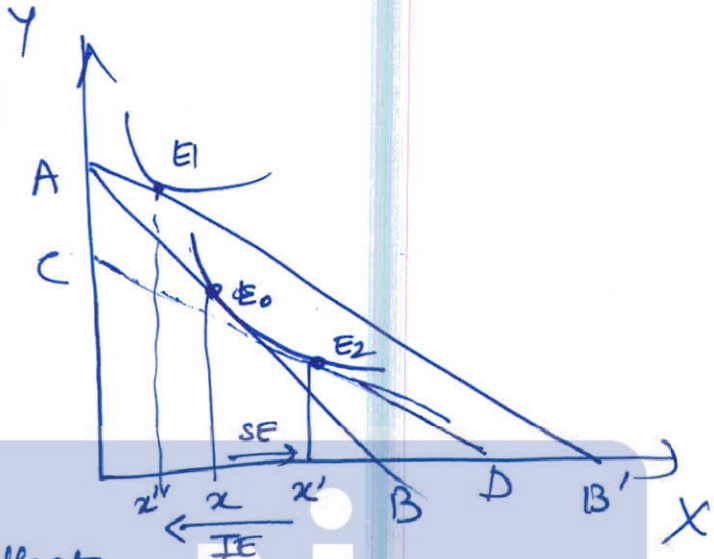
and innovation leads to entry of new firms and old firms are replaced by new innovative firms. That is creative destruction.

Candidates must not write on this margin

Q.5 (e) Derive Hicksian demand curve using price rise in case of a Giffen good.

Candidates must not write on this margin

Giffen good is an inferior good, where Income effect dominates Substitution effect.



Suppose Price of x falls. Thus, Budget line shifts from AB to AB'

A dotted line CD is drawn parallel to AB'.

Movement from x to x' represents Substitution effect.

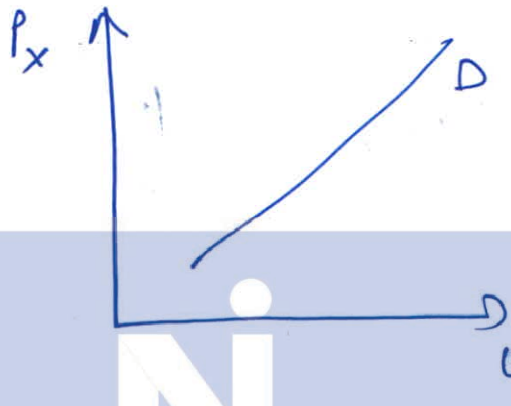
$P_x \downarrow$ ses

	X	Y
SE	↑	
IE	↓	
	↓	

Candidates must not write on this margin

Movement from x' to x'' represents Income effect.

Thus, when P_x ↓ses, Quantity of X ↓s

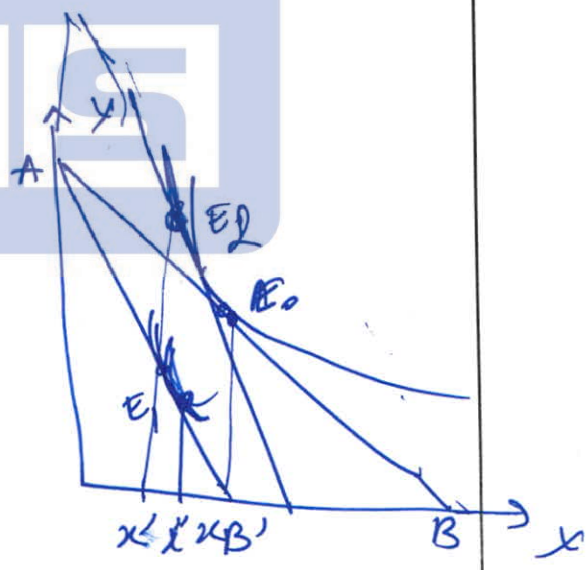


Thus, the schedule D represents the upward sloping demand curve for giffen good.

If Price ↑ses, then

S.E → X ↓ (x to x')

IE → X ↑ (x' to x'')



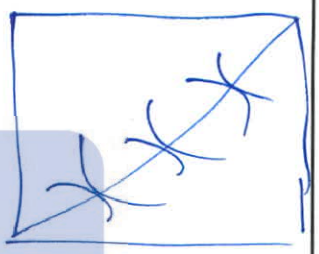
Thus, demand curve for giffen good is upward sloping.

Q.6 (a) How is general equilibrium solution reached in an economy with two people, two commodities and one factor of production? 15

Candidates must not write on this margin

General equilibrium solution is reached in an economy when

$$MRS_{xy} = \frac{P_1}{P_2}$$



Where x = Commodity 1

y = Comodity 2

P_1 = Price of Commodity 1

P_2 = Price of Commodity 2.

and

$$MRTS_{LK} = \frac{w}{r}$$

Candidates must not write on this margin

Candidates must not write on this margin

Q.6 (b) Explain the quantitative and qualitative methods of credit control. Which one is better for inflation targeting? 20

Candidates must not write on this margin

The Central Bank uses a number of methods to control credit.

QUANTITATIVE METHODS :-

- Liquidity Adjustment Facility :-

i) Repo Rate :- The higher the repo rate, the lower is the ~~money~~ loan supply.

ii) Reverse Repo :- It is the rate at which RBI borrows from the banks.

→ The higher the reverse repo rate, the more the banks park their funds with RBI, thus the ~~is~~ lower is the credit supply.

- Marginal Standing Facility (MSF) is used to absorb the excess liquidity and hence, reduces availability of credit.

- Standing Deposit Facility (SDF) is used to absorb liquidity without banks providing collateral. The higher the SDF,

Candidates must not write on this margin

the lower is the credit availability.

- CRR is Cash Reserve Ratio is the share of deposits that banks are required to ~~to~~ keep as cash reserves. Higher the CRR, lower is credit.
- SLR is ~~ratio~~ share of deposits that banks are required to keep in form of gold, securities with RBI. Higher the SLR, lower is the credit.
- OMO (Open-Market Operations) ~~are~~ means buying and selling of bonds, through RBI affects money supply and thus, Credit availability in market.

Moral Suasion

Qualitative methods of Credit Control. → Loan to value Ratio

Credit Rationing

Candidates must not write on this margin

INFLATION TARGETING

→ For inflation targeting, RBI can use a combination of methods (both qualitative and quantitative) to ensure that inflation rate remains within the tolerance band.

Candidates must not write on this margin

Q.6 (c) Explain Taylor's rule. 15

Candidates must not write on this margin

Taylor's Rule is a rule given by the economist Taylor to help central Banks to conduct monetary policy by rule rather than by discretion.

It is given by:

$$i = r^* + \pi_t + 0.5(\pi^t - \pi^*) + 0.5(y_t - y^*)$$

Where i = repo rate

π_t = Inflation rate at time t.

π^* = Target inflation rate

y^* = Target output

r^* = real rate of interest when inflation is at its target level and output gap is zero

→ For USA, its value is 2.

Thus, the Taylor Rule prescribes that:

- The Central Bank should raise the repo rate or policy rate by one percentage point (ppt) when inflation

Candidates must not write on this margin

rate rises by 1 ppt.

→ Further, if the inflation rate rises by 1 ppt relative to the target inflation rate, then the Central bank must raise the repo rate by 0.5 ppt.

→ Further if the output gap rises by ~~0.5~~ 1 ppt, then the Central Bank must raise repo rate by 1 ppt.

Thus, the Taylor rule guides the Central Bank so that:

- it can control inflation effectively,
- anchor inflationary expectations,
- avoids time-inconsistency; and
- ~~xxxx~~ retains credibility of market on the Central Bank and monetary policy.

Candidates must not write on this margin

Q.7 (a) Examine the impact of favorable supply shock when expectations adjust gradually in an adaptive manner. 20

Candidates must not write on this margin

Candidates must not write on this margin

Candidates must not write on this margin

Candidates must not write on this margin

Q.7 (b) Monopolist has more power if elasticity of demand is low but it has its limit. Discuss. 15

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Q.7 (c) Explain trade adjustments and protectionism if one country has advantage due to external economies of scale and first mover advantage. 15

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Q.8 (a) Explain using components of BOP why it is always in balance. Comment on policies that can be used to assure that BOP position remains healthy. 15

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Q.8 (b) How does price consumption curve reflect price elasticity? 15

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Q.8 (c) Discuss the role of infrastructure improvement in development. 20

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SPACE FOR ROUGH WORK