STUDENT SUPPORT MATERIAL
Class XII
Economics

Session 2016-17

Kendriya Vidyalaya Sangathan
New Delhi
A WORD TO MY DEAR STUDENTS

It gives me great pleasure in presenting the Students' Support Material to all KV students of class XII.

The material has been prepared keeping in mind your needs when you are preparing for final exams and wish to revise and practice questions or when you want to test your ability to complete the question paper in the time allotted or when you come across a question while studying that needs an immediate answer but going through the text book will take time or when you want to revise the complete concept or idea in just a minute or try your hand at a question from a previous CBSE Board exam paper or the Competitive exam to check your understanding of the chapter or unit you have just finished. This material will support you in any way you want to use it.

A team of dedicated and experienced teachers with expertise in their subjects has prepared this material after a lot of exercise. Care has been taken to include only those items that are relevant and are in addition to or in support of the text book. This material should not be taken as a substitute to the NCERT text book but it is designed to supplement it.

The Students' Support Material has all the important aspects required by you; a design of the question paper, syllabus, all the units/chapters or concepts in points, mind maps and information in tables for easy reference, sample test items from every chapter and question papers for practice along with previous years Board exam question papers.

I am sure that the Support Material will be used by both students and teachers and I am confident that the material will help you perform well in your exams. Happy learning!

Santosh Kumar Mall
Commissioner, KVS
FOREWORD

The Students' Support Material is a product of an in-house academic exercise undertaken by our subject teachers under the supervision of subject expert at different levels to provide the students a comprehensive, yet concise, learning support tool for consolidation of your studies. It consists of lessons in capsule form, mind maps, concepts with flow charts, pictorial representation of chapters wherever possible, crossword puzzles, question bank of short and long answer type questions with previous years' CBSE question papers.

The material has been developed keeping in mind latest CBSE curriculum and question paper design. This material provides the students a valuable window on precise information and it covers all essential components that are required for effective revision of the subject.

In order to ensure uniformity in terms of content, design, standard and presentation of the material, it has been fine tuned at KVS Hqrs level.

I hope this material will prove to be a good tool for quick revision and will serve the purpose of enhancing students' confidence level to help them perform better. Planned study blended with hard work, good time management and sincerity will help the students reach the pinnacle of success.

Best of Luck.

U.N. Khaware
Additional Commissioner (Acad.)
STUDENT SUPPORT MATERIAL

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# BLUE PRINT FOR CLASS XII ECONOMICS

**SUBJECT: ECONOMICS**

**CLASS: XII**

Time – 3 Hours

Maximum Marks – 100

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<td>1</td>
<td>Remembering- (Knowledge based Simple recall questions, to know specific facts, terms, concepts, principles, or theories; identify, define, or recite, information)</td>
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<td>1</td>
<td>2</td>
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<td>2</td>
<td>Understanding- (Comprehension to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase, or interpret information)</td>
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<td>2</td>
<td>1</td>
<td>25</td>
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<td>3</td>
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<td>3</td>
<td>1</td>
<td>2</td>
<td>20</td>
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<td>4</td>
<td>High Order Thinking Skills- (Analysis &amp; Synthesis- Classify, compare, contrast, or differentiate between different pieces of information, organize and/or integrate unique pieces of information from a variety of sources)</td>
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<td>1</td>
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<td>5</td>
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<td>1</td>
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<td><strong>Total</strong></td>
<td><strong>10x1= 10</strong></td>
<td><strong>6x3=18</strong></td>
<td><strong>6x4=24</strong></td>
<td><strong>8x6=48</strong></td>
<td>100(30)</td>
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**Note:** There will be Internal Choice in questions of 3 Marks, 4 Marks and 6 marks in both sections (A and B). (Total 3 internal choices in section A and total 3 internal choices in section B).
LATEST CBSE QUESTION PAPER -2016
FOR CLASS – XII ECONOMICS

Series ONS

Roll No. ____________

Code No. 58/1

Candidates must write the code on the title page of the answer-book

Time allowed : 3 hours

Maximum Marks : 100

Please check that this question paper contains 12 printed pages.

Please check that this question paper contains 30 questions.

Please write down the Serial Number of the question before attempting it.

15 minute time has been allotted to read this question paper. The question paper will be distributed at 10.15 a.m. from 10.15 a.m. to 10.30 a.m., the students will read the question paper only and will not write any answer on the answer-book during this period.
(i) दोनों खण्डों के सभी प्रश्न अनिवार्य हैं।

(ii) प्रत्येक प्रश्न के सामने उनके अंक दर्शाए गये हैं।

(iii) प्रश्न संख्या 1–5 और 16–20 अति लघु उत्तरीय प्रश्न हैं, प्रत्येक प्रश्न 1 अंक का है। सभी प्रश्नों के उत्तर एक वाक्य में देना है।

(iv) प्रश्न संख्या 6–8 और 21–23 लघु उत्तरीय प्रश्न हैं, प्रत्येक प्रश्न 3 अंक का है। सभी प्रश्नों के उत्तर सामान्यतः 60 शब्दों से अधिक न हों।

(v) प्रश्न संख्या 9–11 और 24–26 यह भी लघु उत्तरीय प्रश्न हैं, प्रत्येक प्रश्न के 4 अंक है। सभी प्रश्नों के उत्तर सामान्यतः 70 शब्दों से अधिक न हों।

(vi) प्रश्न संख्या 12–15 और 27–30 दीर्घ उत्तरीय प्रश्न हैं, प्रत्येक प्रश्न के 6 अंक है। सभी प्रश्नों के उत्तर सामान्यतः 100 शब्दों से अधिक न हों।

(vii) उपरोक्त प्रश्नों के उत्तर संक्षिप्त एवं सही होने चाहिए तथा यथासंभव निर्देशानुसार शब्द सीमा के भीतर उत्तर दिया जाना चाहिए।

Instructions

(i) All questions in both section are compulsory.

(ii) Marks for questions are indicated against each question.

(iii) Question No.1-5 and 16-20 are very short answer questions carrying 1 mark each. They are required to be answered in one sentence.

(iv) Question No.6-8 and 21- 23 are short answer questions carrying 3 marks each. Answers to them should not normally exceed 60 words each.

(v) Question No.9-11 and 24-26 are also short answer questions carrying 4 marks each. Answers to them should not normally exceed 70 words each.

(vi) Question No. 12-15 and 27-30 are long answer questions carrying 6 marks each. Answers should not normally exceed 100 words each.

(vii) Answers should be brief and to the point and above word limit be adhered to as far as possible.
SECTION-A

1. What is the relation between average variable cost and average Total cost, if Total fixed cost is Zero?

2. A firm is able sell any quantity of a good at given price. The firm's marginal revenue will be; (Choose the correct alternative):
   (a) Greater than Average Revenue
   (b) Less than Average Revenue
   (c) Equal to Average Revenue
   (d) Zero

3. When does change in demand, take place?

4. Differentiated products is a characteristic of: (Choose the correct alternative):
   (a) Monopolistition Competition only
   (b) Oligopoly only
   (c) Both monopolistic and oligopoly
   (d) Monopoly
Demand curve of a firm is perfectly elastic under: (Choose the correct alternative)

(a) Perfect competition
(b) Monopoly
(c) Monopolistic competition
(d) Oligopoly

6. एक उपभोक्ता केवल दो वस्तुओं X और Y का उपयोग करता है। X और Y की सीमांत उपयोगिता क्रमशः 3 और 4 है। X और Y दोनों की कीमत ₹4 प्रति इकाई है। क्या उपभोक्ता संतुलन में है? उपभोक्ता की आगे प्रतिक्रिया क्या होगी? कारण दीजिए।

A consumer consumes only two goods X and Y. Marginal utilities of X and Y are 3 and 4 respectively. Prices of X and Y are 4 per unit each. Is consumer in equilibrium? What will be further reaction of the consumer? Give reasons.

7. वस्तु की कीमत में 10 प्रतिशत वृद्धि का उसकी मौग पर क्या प्रभाव होगा यदि मौग की कीमत लोच (a) शून्य, (b) -1, (c) -2 हो।

What will be the effect of 10 percent rise in price of a good on its demand if price elasticity of demand is (a) Zero, (b) -1, (c) -2

8. न्यूनतम कीमत सीमा से क्या अभिव्याप्तता है? इसके परिणाम समझाइए।

What is minimum price ceiling? Explain its implications.

OR

If the prevailing market price is above the equilibrium price, explain its chain effects.

9. मौग की परिभाषा दीजिए। बाजार मौग को प्रभावित करने वाले कारक बताइए।

Define demand. Name the factors affecting market demand.

10. अचल लागत की परिभाषा दीजिए। एक उदाहरण दीजिए। कारण बताते हुए समझाइए कि जैसे—जैसे उत्पादन में वृद्धि की जाती है औसत अचल लागत का व्यवहार क्या रहता है?

Define fixed cost. Give an example. Explain with reason the behaviour of Average fixed cost as output is increased.

OR

Define marginal product state the behaviour of marginal product when only one input is increased and other inputs are held constant.

11. जब एक उत्पाद की कीमत ₹12 प्रति इकाई से घटकर ₹9 प्रति इकाई हो जाती है, तो उत्पादक उत्पाद की पूर्ति 75 प्रतिशत कम करता है। पूर्ति की कीमत लोच ज्ञात कीजिए।
When price of a commodity falls from ₹ 12 per unit to ₹ 9 per unit, the producer supplies 75 percent less output. Calculate price elasticity of supply.

12. एक अर्थशास्त्र में केंद्रीय समस्याएं क्यों पैदा होती हैं? “किसके लिए उत्पादन किया जाय” केंद्रीय समस्या समझाइए।

Why do central problems of an economy arise? Explain the central problem of "for whom to produce"?

13. अन्तर्विषयवस्तुओं की तीन विशेषताओं की व्याख्या कीजिए।

Explain three properties of indifference curves.

14. (a) वस्तु X की अपनी कीमत गिरने और

(b) वस्तु X पर कर की दर बढ़ने का पूर्ति वक्र पर पड़ने वाला प्रभाव समझाइए। रेखाचित्रों का प्रयोग कीजिए।

Examine the effect of a fall in the own price of good X and (b) rise in tax rate on good X, on the supply curve. Use diagrams.

15. For blind candidates in lieu of Q. No 14.

Examine the effect of (a) fall in the own price of good X and (b) rise in tax rate on good X on supply of a good. Use schedule.

(a) विक्रेताओं की बढ़ी संख्या

(b) समरूप उत्पाद

अथवा

एक अत्यधिकार बाजार में निम्नलिखित के परिणामों की व्याख्या कीजिए:

(a) नई फर्मों के प्रवेश में रुकावटें

(b) केवल कुछ या कुछ बड़े उत्पादक

Explain the implications of the following in a perfectly competitive market.

(a) Large number of sellers

(b) Homogeneous products.

OR

Explain the implications of the following in an oligopoly market:

(a) Barriers to entry of new firms

(b) A few or a few big sellers.
16. Define flows

17. National income is the sum of factor incomes accruing to: (Choose the correct alternative)
   (a) Nationals
   (b) Economic territory
   (c) Residents
   (d) Both residents and non-residents

18. What are revenue receipts in a government budget?

19. Primary deficit equals: (Choose the correct alternative)
   (a) Borrowings
   (b) Interest payments
   (c) Borrowings less interest payments
   (d) Borrowings and interest payments both

20. What is the meaning of government bonds issued by a country to other countries that are not residents? (Choose the correct alternative)
   (a) Official bonds
   (b) Foreign bonds
   (c) Domestic bonds
   (d) Both official and foreign bonds

---

ECONOMICS

[ k M & c ]

SECTION - B
Foreign exchange transactions which are independent of other transactions in the Balance of Payments Account are called: (Choose the correct alternative)

(a) Current transactions
(b) Capital transactions
(c) Autonomous transactions
(d) Accommodating transactions

21. यदि वास्तविक आय ₹ 200 करोड़ है और कीमत सूचकांक 135 हो, तो मान्यक आय का परिकलन कीजिए।

Assuming real income to be ₹ 200 crore and price index to be 135, calculate nominal income.

22. समग्र मांग से क्या अभिव्रोध है? इसको घटक बताइए।

अथवा

समझाए कि मुद्रा आपूर्ति पर नियंत्रण रखने से अधिमांग के कौन से कम किया जा सकता है।

What is aggregate demand? State its components.

OR

Explain how controlling money supply is helpful in reducing excess demand.

23. एक अर्थव्यवस्था संतुलन में है। सीमांत उपभोग प्रवृत्ति का परिकलन कीजिए:

राष्ट्रीय आय = 1000
स्वतंत्र उपभोग व्यय = 200
विनेश व्यय = 100

An economy is in equilibrium calculate Marginal Propensity to Consume:

National income = 1000
Autonomous consumption expenditure = 200
Investment expenditure = 100

24. पेट्रोल और डीजल कारों की बिक्री, विशेषतः बड़े शहरों में निरंतर बढ़ रही है। इसके साक्षर जरूरत उत्पाद और कल्याण पर पड़ने वाले प्रभावों की व्याख्या कीजिए।

Sale of petrol and diesel cars is rising particularly in big cities. Analyse its impact on gross domestic product and welfare.

25. मुद्रा का 'विनियम का माध्यम' कार्य समझाई। इने वस्तु विनियम से संबंधित समस्या का समाधान कैसे किया है?

Explain the 'medium of exchange' function of money. How has it solved the related problem created by barter?
OR

Explain the 'standard of deferred payment' function of money. How has it solved the related problem created by barter?

26. समझाइए 'रेपो दर' किस प्रकार ऋण सुरु के नियंत्रण में सहायक हो सकती है।
Explain how can 'Repo Rate' be helpful in controlling credit creation.

27. राजस्व व्यय और धूपीजौतन व्यय में क्या अंतर है? समझाइए कर और सरकारी व्यय किस प्रकार समाज में आय के वितरण को प्रभावित करने में सहायक हो सकते हैं।
What is the difference between revenue expenditure and capital expenditure?

Explain how taxes and government expenditure can be used to influence distribution of income in the society.

OR

What is the difference between direct tax and indirect tax? Explain the role of government budget in influencing allocation of resources.

28. बचत वक्र से उपमोर वक्र प्राप्त कीजिए और ऐसा करने में लिए जाने वाले चरण बताइए। रेखाचित्र का प्रयोग कीजिए।

Given saving curve, derive consumption curve and state the steps in doing so. Use diagram.

29. भारतीय निवेशक विदेशों में उदार देते हैं। निम्नलिखित प्रश्नों का उत्तर दीजिए:
(a) भुगतान संतुलन लेखा के किस उपलेखा और किस पक्ष पर यह उदार दर्ज होगा? कारण दीजिए।
(b) इस उदार का बाजार विनियम दर पर प्रभाव समझाइए।

India investors lend abroad. Answer the following questions:
(a) In which sub-account and on which side of the Balance of Payment Account such lending is recorded? Give reasons.
(b) Explain the impact of this lending on market exchange rate.
30. ‘बाजार कीमत पर सकल राष्ट्रीय उत्पाद’ और निजी आय ज्ञात कीजिए।

(करोड़ ₹)

(i) निजी अंतिम उपभोग व्यय
(ii) विदेशों को निवल चालू हस्तांतरण
(iii) विदेशों को निवल कारक आय
(iv) सरकारी अंतिम उपभोग व्यय
(v) निवल अप्रत्यक्ष कर
(vi) निवल देशीय पूंजी निर्माण
(vii) सरकार द्वारा चालू हस्तांतरण
(viii) मूल्यांकन
(ix) निवल आयात
(x) सरकार को प्राप्त आय
(xi) राष्ट्रीय धन पर व्याज

Find Gross National Product at Market Price and Private Income:

(₹ crores)

(i) Private final consumption expenditure
(ii) Net current transfers to abroad
(iii) Net factor income to abroad
(iv) Government final consumption expenditure
(v) Net indirect tax
(vi) Net domestic capital formation
(vii) Current transfers from government
(viii) Depreciation
(ix) Net imports
(x) Income accruing to government
(xi) National debt interest
### MARKING SCHEME- CLASS-XII- 2016- ECONOMICS

<table>
<thead>
<tr>
<th>B1</th>
<th>Expected Answer / Value Points</th>
<th>Distribution of Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>SECTION - A</strong></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>$AVC = ATC$</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>(c) Equal to AR</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>When there is change in a factor affecting demand other than own price of the good.</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>(c) Both monopolistic competition and oligopoly</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>(a) Perfect Competition</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>The consumer is not in equilibrium because $\frac{MU_x}{P_x} = \frac{MU_y}{P_y}$</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Since per rupee $MU_x$ is lower than per rupee $MU_y$ the consumer will start buying less of $X$ and more of $Y$ till $MU_x$ rises and $MU_y$ fails enough to make $\frac{MU_x}{P_x} &lt; \frac{MU_y}{P_y}$ or $\frac{3}{4} &lt; \frac{4}{4}$</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>(a) Zero or no change (b) 10% fall (c) 20% fall</td>
<td>1x3</td>
</tr>
<tr>
<td>8</td>
<td>For certain goods &amp; services, govt. sets minimum price. This minimum price is called minimum price ceiling. This price is normally set at a level higher than the equilibrium price. This leads to excess supply. Since producers are not able to sell all they want to sell, they illegally sell the good or service below the minimum price.</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>OR It the prevailing market price is above the equilibrium price, there will be excess supply. Producers are not able to sell all they want to sell, resulting in competition among the sellers. Price starts falling. As a result demand starts rising and supply stars falling. These changes continue till the equilibrium is reached.</td>
<td>3</td>
</tr>
</tbody>
</table>
| 9 | Demand refers to the quantity of a good the consumer is willing to buy at a given price during a period of time.  
Factors affecting market demand:  
(i) Own price of the good  
(ii) Income of the buyers  
(iii) Prices of related goods  
(iv) Tastes and preferences of buyers  
(v) Number of consumers  
(vi) Distribution of income  
(Any three) | 1x3 |
|---|---|
| 10 | Fixed cost refers to the cost which does not change with change in output.  
Example: rent, interest etc.  
As output increases AFC goes on falling continuously because  
\[
\frac{TFC}{Output}
\]  
OR  
MP refers to increase in TP as one more unit of a variable input is increased.  
Behaviour: As only variable input is increased  
- Initially MP increases.  
- After a point MP decreases and remains positive.  
- Ultimately MP becomes negative | (1+1) |
| 11 | \[
ES = \frac{\% \text{ change in Quantity Supplied}}{\% \text{ change in Price}} = \frac{-75}{-3 \times 100} = \frac{-75}{-25} = 3
\] | 2 |
| 12 | There are three reasons:  
(1) Wants of the people are unlimited  
(2) Resources are limited  
(3) Resources have alternative uses  
'For whom to produce' means that how should output produced be distributed among people. How much each person will get will depend on income of the person. Therefore, the problem amounts to how should income be distributed in the society | 3 |
13. The three properties of ICs are:

1. An IC slope down, wards from left to right
   It is because to consume more quantity of one good, some quantity of the other goods must be reduced because the utility level remains the same.

2. An IC is convex towards origin
   It is because MRS declines as more is consumed of one good

3. An IC to the right represent higher level of satisfaction
   It is because an IC to the right shows more units of goods consumed and more units of goods consumed are assumed to have more utility

(No diagram is required)

14. (a) Fall, in own price reduces (contracts) supply and the producers moves along the same curve S from A to B when price falls from OP1 to OP2 and supply falls from OQ1 to OQ2

(b) Rise in tax rate increases the cost of the goods. So its Supply decreases. This shifts the supply curve Sl to S. Price remains unchanged at OP while quantity supplied decreases/falls from OQ1 to OQ2

For blind Candidates:

<table>
<thead>
<tr>
<th>(a) Price</th>
<th>Supply</th>
<th>(b) Price</th>
<th>Supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Rs.)</td>
<td>(units)</td>
<td>(Rs.)</td>
<td>(units)</td>
</tr>
<tr>
<td>10</td>
<td>120</td>
<td>10</td>
<td>120</td>
</tr>
<tr>
<td>11</td>
<td>100</td>
<td>10</td>
<td>100</td>
</tr>
</tbody>
</table>

Any other correct schedule Explanation on the same lines as above
15  (a) **Large number of sellers** means that number of firms are large enough so that contribution to total output of the industry by any individual firm is negligible. So, no single firm is in a position to influence the market price on its own by changing its own output. Thus, Price remains unchanged.

(b) **Homogeneous products** means that buyers treat products of all the firms as same in all respect as homogeneous product. As such no firm can charge a higher price because no buyer is willing to pay the same. Then Market price remains the same for all the firms.

**OR**

(a) The main implication of barriers to entry is that such barriers allow only a limited number of firms into oligopoly industries. Such barriers may be in the form of huge capital requirements, patent rights, availability of crucial raw materials etc.

(b) A few or few big sellers has the implication that each big seller contributes a fairly large share of total output. This gives an individual seller the power of influencing the market price by changing its own output.

## SECTION - B

<p>| | |</p>
<table>
<thead>
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<tbody>
<tr>
<td>16</td>
<td>'Flows' are variables whose magnitude is measured over a period of time</td>
</tr>
<tr>
<td>17</td>
<td>(c) Residents</td>
</tr>
<tr>
<td>18</td>
<td>Revenue receipts are the receipts which neither reduce assets nor increase liabilities.</td>
</tr>
<tr>
<td>19</td>
<td>(c) Borrowings less interest payments</td>
</tr>
<tr>
<td>20</td>
<td>(c) Autonomous transactions.</td>
</tr>
</tbody>
</table>
| 21 | Nominal income  
Real income = \[
\frac{\text{Nominal income}}{\text{Price Index}} \times 100
\]  
200 = \[
\frac{200 \times 135}{135} \times 100
\]  
Nominal income = 270 Crore | 1½ |
<p>| | |</p>
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</table>
| 22 | Aggregate demand refers to the value of final goods and services which all sectors of an economy are planning to buy during a year.  
**Components:**  
(1) Private final consumption expenditure  
(2) Government final consumption expenditure  
(3) Investment expenditure  
(4) Net exports

OR

Less money supply i.e. stock of money with people leaves less purchasing power in their hands. Therefore, people demand less goods and services. AD falls  

| 23 | \[ Y = C + M \times PCY + I \]  
\[ 1000 = 200 + M \times PC (1000) + 100 \]  
\[ 1000 - 200 - 100 = 700 \]  
\[ MPC = \frac{1000 - 200 - 100}{1000} = 0.7 \]  
| 1½ |
| 24 | Final sales of cars raises GDP, because final sales are final products. Cars provide convenience in transportation but at the same time it causes traffic jams, air pollution and noise pollution reducing the welfare of the people. Pollution has bad effects on the health of the people.  
| 4 |
| 25 | Money serves as a medium of exchanging goods and services. People sell goods for money and use the money for buying goods they want. It has removed the problem of double coincidence of wants faced in the barter system.  
OR  
Deferred payments are postponed payments to be made in future. Such payments arise on account of borrowing and lending activities. It has removed the problem of absence of financial institutions in the barter system. It has also removed the problem of trading in wider areas.  
| 4 |
| 26 | **Repo Rate:** is the rate of interest at which central bank lends money to commercial banks for short period.  
Raising Repo Rate makes borrowings by commercial banks costlier. So these banks are forced to raise their lending rates. Since borrowing becomes costly for people, they borrow less. Banks therefore create less credit.  
| 4 |
27 **Revenue expenditure**: is expenditure that neither creates any assets nor reduces any liability while **capital expenditure** either creates assets or reduces liabilities.

**Taxes and expenditure** can be used to alter distribution of, income.

Government can impose higher taxes on incomes of the rich and goods and services consumed by them. The money so collected can be spent on providing free goods and services to the poorer sections of the society. This will reduce disposable income of the rich and raise that of the poor. This can alter distribution of income.

**OR**

Direct tax is the tax whose liability to pay and incidence lies on the same person on whom it is levied. Indirect tax is the tax whose liability to pay and incidence lie on different persons.

The govt. can influence allocation of resources for production of different goods and services through its budget. When the govt. wants that more resources be used in the production of some goods, it provides incentives to the producers in the form of tax concessions and subsidies.

28 **Given saving curve SS’**

(1) Draw a 45° line from the origin.
(2) Take OC equal to as on the Y-axis
(3) Draw a perpendicular line from B to B’ on OX-axis which intersect 45° line at point B.
(4) Join C and B and extend it to get consumption curve CC’
### For blind Candidates:

**Consumption function**

\[ C = C + \text{MPC}(Y) \]

**Derivation of Saving function for consumption**

Subtracting each side from \( Y \)

\[ Y - C = Y - [C + \text{MPC}(Y)] \]

\[ s = y - C - \text{MPC}(Y) \]

\[ = y - C + (1 - \text{MPC}) \]

\[ = y - C + \text{MPS}(Y) \]

| 29 | (a) Indians lending abroad is recorded in capital account of BOP account because it leads to creation of foreign exchange assets. It is recorded on the debit side because it leads to outflow of foreign exchange |
| 29 | (b) Lending abroad increases demand for foreign exchange. Supply of foreign exchange remains unchanged, exchange rate may rise. |

| 30 | \( GNP_{mp} = i + tv + (vi + viii) - ix - iii \) |
| 30 | = 800 + 300 + 200 + 100 - 30 - (-10) |
| 30 | = Rs. 1380 Crore |

Private Income = \((GNT;np - vii - v) - x - it + vii + xi\)

| 30 | = 1380 - 100 - 150 - 90 - 20 + 40 + 50 |
| 30 | = Rs. 1110 Crore |
IMPORTANT FORMULAE

UNIT I : INTRODUCTION

CALCULATION OF MRT/MOC:
MRT = ΔY/ΔX; implies that MRT = Amount of Y given up / Amount of good X gained.

UNIT II: THEORY OF CONSUMER EQUILIBRIUM & DEMAND

CALCULATION OF TU FROM MU:
TU = MU1 + MU2 + ……+ MUn = ∑MU

CALCULATION OF MU FROM TU:
MU = TU - TU-1; MU = ΔTU/ΔQ

Equilibrium Condition for Consumer Equilibrium (Cardinal Approach):-
> In case of one good:
    1. MUx (MU in terms of money) = Px (incase MUm is one) OR MUx/PX = MUm ORMUx/MUm = PX
    2. MU must fall

   In case of more than one good, say two goods:
    1. MUx/Px = MUy/Py OR MUx/MUy = Px/Py OR MUx = MUy (If Px = Py)
    2. Both MUx&MUy must fall.

Equilibrium Condition for Consumer Equilibrium (Ordinal Approach):-
1. MRS = MRE ie ΔY/ΔX = Px/Py; 2. MRS must fall

Budget Set = Px.Qx + Py.Qy ≤ M

Linear Demand Function: Q = a – bP; where Q is Demand Variable & P is Price Variable, ‘a’ is constant & X intercept & ‘b’ is slope which is also constant.

Price elasticity of demand:
1. Percentage/Proportionate Method:

Coefficient of price elasticity of demand (Ep) = 

\[
\frac{\text{Percentage Change in Demand}}{\text{Percentage change in its price}}
\]
Thus, \( E_p = \frac{(\text{Change in qty.} / \text{Initial qty.}) \times 100}{(\text{Change in price} / \text{Initial price}) \times 100} \times \frac{\Delta q}{q} \times 100 = \frac{(\Delta q / q) \times 100}{(\Delta p / p) \times 100} \times \frac{\Delta q}{p} = \frac{\Delta q}{\Delta p} \times 100 \times \frac{p}{\Delta p} \times 1/100 \); \( E_p = \frac{\Delta q}{\Delta p} \times \frac{p}{q} \)

2. **Geometric/Point Elasticity Method:**

\[ E_d = \frac{\text{Length of Lower Segment of Demand Curve}}{\text{Length of Upper segment of Demand Curve}} \]

3. **Relationship between Elasticity of demand & Total expenditure:**
   a. If expenditure & price is positively related, \( E_d < 1 \)
   b. If expenditure & price is negatively related, \( E_d > 1 \)
   c. If expenditure does not change with change in price, \( E_d = 1 \)

**UNIT III: PRODUCTION & SUPPLY**

**Production & Cost**

**Derivation of TP from MP:**

TP is the Sum of MP ie TP of 3 Units = \( MP_1 + MP_2 + MP_3 \)

**Derivation of MP from TP:**

\( MP_n = TP_n + TP_{n-1} \); MP is the slope of TP ie MP = \( \Delta TP/\Delta \text{Units of a variable factor} \)

Derivation of AP = TP/Units of variable factor

Derivation of TC = TFC + TVC; ATC X Output, Sum of MC ie MC \( _1 \) + MC \( _2 \) + MC \( _3 \) + \( \ldots \) + MC \( _n \) + TFC

Derivation of AC = AFC + AVC; TC/Output

Derivation of MC = TVC \( _n \) – TVC \( _{n-1} \); MC is the Slope of TVC = \( \Delta TVC/\Delta \text{Output} \)

Derivation of AFC = TFC X Output

Derivation of AVC = TVC/Output; ATC – AFC
Revenue, Supply & Producer Equilibrium:

Revenue:
Derivation of TR from MR: MRn + MRn-1; Sum of MR; Price X Output
Derivation of MR from TR: TRn – TRn-1; Slope of TR ie ∆MR/∆Output
Derivation of AR: TR/Output = PQ/Q = Price of the good

Price elasticity of Supply:

1. Percentage/Proportionate Method:

\[ \text{Coefficient of price elasticity of Supply (Es)} = \frac{\text{Percentage Change in Supply}}{\text{Percentage change in its price}} \]

\[ \text{Thus, } Ep = \frac{\left( \frac{\Delta q}{q} \right) \times 100}{\left( \frac{\Delta p}{p} \right) \times 100} \]

2. Geometric Method:

\[ \text{Es} = \frac{\text{Horizontal Length of Supply curve at the point of elasticity}}{\text{Qty. of Supply at the point of elasticity}} \]

Producer Equilibrium: Equilibrium Conditions (MR-MC Approach)
1. MR must be equal to MC;
2. MC must be increasing after equilibrium point.

UNIT IV: FORMS OF MARKET & PRICE DETERMINATION

Equilibrium Price => Market Demand = Market Supply
Excess Demand => Market Demand > Market Supply; Deficient Demand => Market Demand < Market Supply
UNIT V: NATIONAL INCOME ACCOUNTING

\[
\text{GVO} = \text{IC} + \text{CFC} + \text{NIT} + \text{CE} + \text{OS} + \text{MISE}
\]

\[
= \text{Sales} + \text{Change in Stock}
\]

\[
= (\text{Domestic Sales} + \text{Exports}) + (\text{Closing Stock} – \text{Opening Stock})
\]

\[
= \text{VO in Primary Sector} + \text{VO in Secondary Sector} + \text{VO in Tertiary Sector}
\]

\[
\text{GDP}_{MP} = \text{GVO} – \text{IC}
\]

\[
= \text{Sales} + \text{Change in Stock} – \text{IC}
\]

\[
= \text{NDP}_{MP} + \text{CFC}
\]

\[
= \text{NDP}_{FC} + \text{NIT} + \text{CFC}
\]

\[
= \text{NNP}_{FC} – \text{NFIA} + \text{NIT} + \text{CFC}
\]

\[
= \text{NNP}_{MP} – \text{NFIA} + \text{CFC}
\]

\[
= (\text{VO in PS} + \text{VO in SS} + \text{VO in TS}) – (\text{IC in PS} + \text{IC in SS} + \text{IC in TS})
\]

\[
\text{NDP}_{FC} = \text{GVO} – \text{IC} – \text{CFC} – \text{NIT}
\]

\[
= \text{GDP}_{MP} – \text{CFC} – \text{NIT}
\]

\[
= \text{GDP}_{FC} – \text{CFC}
\]

\[
= \text{NNP}_{FC} – \text{NFIA}
\]

\[
= \text{CE} + \text{OS} + \text{MISE}
\]

\[
= \text{GNP}_{MP} – \text{CFC} – \text{NFIA} – \text{NIT}
\]

\[
\text{NNP}_{FC} / \text{NI} = \text{GVO} – \text{IC} – \text{CFC} – \text{NIT} + \text{NFIA}
\]

\[
= \text{GDP}_{MP} – \text{CFC} – \text{NIT} + \text{NFIA}
\]

\[
= \text{GNP}_{MP} – \text{CFC} – \text{NIT}
\]

\[
= \text{NDP}_{FC} + \text{NFIA}
\]

\[
= (\text{CE} + \text{OS} + \text{MISE}) + \text{NFIA}
\]

i) Value of Output & Value Added (Domestic Product) is the presence of IC in the former & absence of IC in the latter. \( \text{GVO} = \text{GDP}_{MP} + \text{IC} ; \quad \text{GDP}_{MP} = \text{GVO} – \text{IC} \)

ii) Gross Domestic Product (GDP) & Net Domestic Product (NDP) is the presence of CFC in the former & absence in the latter. \( \text{GDP} = \text{NDP} + \text{CFC} ; \quad \text{NDP} = \text{GDP} – \text{CFC} \)

iii) Market Price (MP) & Factor Cost (FC) is the existence of NIT in the former & absence in the latter.
\[
\text{GDP}_{MP} = \text{GDP}_{FC} + \text{NIT} ; \quad \text{GDP}_{FC} = \text{GDP}_{MP} – \text{NIT}
\]

iv) National & Domestic Product is the existence of NFIA in the former & absence in the latter.
\[
\text{NDP}_{FC} = \text{NNP}_{FC} – \text{NFIA} ; \quad \text{NNP}_{FC} = \text{NDP}_{FC} + \text{NFIA}
\]

\[
\text{GDCF} = \text{NDCF} + \text{CFC}
\]

Or \( \text{GDCF} = \text{NDCF} + \text{CFC} + \text{Change in stock.} \)
Methods to measure National Income:

   
   Sales = Price X Output; Change in Stock = Closing stock – Opening stock; NIT = Indirect Tax – subsidies; NFIA = Factor Income from Abroad – Factor Income to Abroad

2. **Income Method**: NNPfc = Compensation of employees + Operating Surplus + Mixed Income + NFIA
   
   COE = Wages & salary + Employers contribution to social security scheme
   
   Operating Surplus = Rent + Interest + Royalty + Profit

3. **Expenditure Method**: NNPfc = Private final consumption expenditure + Govt. final consumption expenditure + Gross domestic capital formation + Net Exports – Depreciation – Net Indirect Tax + NFIA
**Related aggregates of National Income:**

1. NDPfc Accruing to Private sector = NDPfc – NDPfc accruing to Govt (Income accruing to Govt departmental enterprises + Savings of non departmental enterprises)
2. Private Income = NDPfc accruing to Private Sector + NFIA + Current transfer from Govt. + Net current transfers from abroad + Interest on National Debt
3. Personal Income = Private Income – Corporate Tax – Net retained earning of private corporate sector
4. Personal disposable income = Personal income – Personal tax – Miscellaneous Payments to Govt. administrative departments/ Consumption expenditure + Household savings
5. Net National Disposable Income = NNPmp + Net current transfer from abroad
6. Gross National disposable income = GNPmp + Net current transfer from abroad

**Basic Rules:**

**UNIT VI: MONEY & BANKING**

Money Supply (M) = Currency held with general public (C) + Demand deposits of general public held by the Commercial Banks (DD)

- $M_1 = C + DD + OD$ (Other Deposits held by RBI)
- $M_2 = M_1 + Savings deposits of POSB$
- $M_3 = M_1 + Net time deposits of Banks$
- $M_4 = M_3 + Deposits of Post Office Saving Organization$

Credit multiplier ($K$) = $\frac{1}{Legal Reserve Ratio} \times 100$; Total Initial Deposit = $K \times$ Initial Deposit

**UNIT VII: THEORY OF INCOME DETERMINATION**

MPC + MPS = 1; MPC = 1 – MPS; MPS = 1 – MPC; MPC = $\Delta C / \Delta Y$; MPS = $\Delta S / \Delta Y$; APC = C/Y; APS = S/Y; APC + APS = 1; APC = 1-APS; APS = 1 – APC

Investment Multiplier ($K$) = $\Delta Y / \Delta I$; $K = 1 / (1 - MPC); K = 1 / MPS$

**CONSUMPTION FUNCTION:** C = Co + bY, where C is Consumption expenditure; CO = Autonomous Consumption ie Consumption at zero level of income; ‘b’ is slope of consumption curve that is constant which is equal to $\Delta C / \Delta Y$ ie MPC; Y is National Income

**SAVING FUNCTION:** S = - Co + (1-b)Y, where S is Savings, - Co is autonomous saving, (1-b) is MPS ie slope of saving curve, Y is National Income

**UNIT VIII: GOVERNMENT BUDGET & ECONOMY**

Revenue deficit = Revenue expenditure > Revenue Receipts

Fiscal Deficit = Total Expenditure – Total Receipt (Net of Borrowings)

Primary Deficit = Fiscal Deficit – Interest Payments

**UNIT IX: BALANCE OF PAYMENTS**

Balance of Trade = Value of Exports – Value of Imports

Surplus BOP = International Receipts > International Payments

Deficit BOP = International Receipts < International Payments

24
Q: Draw a Production Possibility Curve and show the combinations on the/below the/above the PPC.

**PRODUCTION POSSIBILITY SCHEDULE**

<table>
<thead>
<tr>
<th>COMBINATIONS</th>
<th>PRODUCTION OF TRUCKS</th>
<th>PRODUCTION OF CARS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>B</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>C</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>D</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>E</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>F</td>
<td>5</td>
<td>0</td>
</tr>
</tbody>
</table>

**PRODUCTION POSSIBILITY CURVE**

Q: Show the effect of ‘Make in India’ or ‘Skill India’ campaign on the PPC.

In this figure we can see that the PPC 'AF' shift to the right as a new PPC "A'F" which indicates the growth of available resources by the society, which makes it possible now to choose the points H & G. Now the society is in a position to increase its output resulting into increased income & employment for the society.

Q: Show the effect of natural calamity on the PPC.

In this figure, the PPC A'F shift towards left to A'F' implying the decline in production capacity of the society due to decrease in resources & obsolescence of technology Thus the PPC shift towards left.
Q: Show the effects of change in resources in favour/against of one good while there is no change in other good.

Explain the rotations in ppc.

In this figure we can see that the PPC rotates towards left on X axis implying decline in production capacity of the society from AF to AF' for good X. Now the society can produce less of good X & same qty. of another. There will be no effect on good Y.

In this figure we can see that the PPC rotates towards left on X axis implying incline in production capacity of the society from AF to AF' for good X. Now the society can produce more of good X & same qty. of another. There will be no effect on good Y.

In this figure we can see that the PPC rotates towards left on X axis implying decline in production capacity of the society from A'F to A'F' for good Y. Now the society can produce less of good Y & same qty. of another. There will be no effect on good X.
In this figure we can see that the PPC rotates towards left on Y axis implying incline in production capacity of the society from AF to A'T for good Y. Now the society can produce more of good Y & same qty. of another. There will be no effect on good X.


<table>
<thead>
<tr>
<th>Units Consumed</th>
<th>TUx (In Utils)</th>
<th>Mux (In Utils)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>2</td>
<td>34</td>
<td>14</td>
</tr>
<tr>
<td>3</td>
<td>43</td>
<td>9</td>
</tr>
<tr>
<td>4</td>
<td>48</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>50</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>50</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>48</td>
<td>-2</td>
</tr>
<tr>
<td>8</td>
<td>44</td>
<td>-4</td>
</tr>
</tbody>
</table>

Q: How many units of a good a rational consumer will buy with his given budget & market price. Or explain what will happen to the consumer equilibrium if market price the good increases?

\[
\begin{array}{|c|c|c|c|c|}
\hline
\text{Units} & \text{TU} & \text{MU} & \text{P} & \text{MU/MUm} \\
\hline
1 & 5 & 5 & 3 & 5 \\
2 & 9 & 4 & 3 & 4 \\
3 & 12 & 3 & 3 & 3 \\
4 & 14 & 2 & 3 & 2 \\
5 & 15 & 1 & 3 & 1 \\
6 & 15 & 0 & 3 & 0 \\
\hline
\end{array}
\]

\(MU > P\)  
\(MU = P\)  
\(MU < P\)
Q: Show an indifference map/explain how higher the IC leads greater level of satisfaction/explain the properties of IC using Indifference curve/Show the MRS on a IC.

![Indifference Map](image)

Q: Explain the concept of Budget Line/show the slope of budget line

<table>
<thead>
<tr>
<th>COMBINATIONS</th>
<th>QTY OF GOOD X</th>
<th>QTY OF GOOD Y</th>
<th>MRE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0</td>
<td>10</td>
<td>2 Y:1X</td>
</tr>
<tr>
<td>B</td>
<td>1</td>
<td>8</td>
<td>2 Y:1X</td>
</tr>
<tr>
<td>C</td>
<td>2</td>
<td>6</td>
<td>2 Y:1X</td>
</tr>
<tr>
<td>D</td>
<td>3</td>
<td>4</td>
<td>2 Y:1X</td>
</tr>
<tr>
<td>E</td>
<td>4</td>
<td>2</td>
<td>2 Y:1X</td>
</tr>
<tr>
<td>F</td>
<td>5</td>
<td>0</td>
<td>2 Y:1X</td>
</tr>
</tbody>
</table>

\[ \Delta Y / \Delta X = \text{LOSS IN QTY OF Y/GAIN IN QTY OF X} = \text{MRE} = \frac{P_x}{P_y} \]

Q: Show the effects of increase/decrease of income on the budget line.

![Budget Line](image)

Incline in purchasing power due to increase in budget or fall in price of both goods by same proportion.

Decline in purchasing power due to fall in budget or rise in price of both the goods at same proportion.
Q: Explain consumer equilibrium according to Ordinal Approach using a diagram.

<table>
<thead>
<tr>
<th>COMBINATIONS</th>
<th>QTY OF APPLE</th>
<th>QTY OF BANANA</th>
<th>MRS</th>
<th>MRE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1</td>
<td>16</td>
<td>---</td>
<td>3B:1A</td>
</tr>
<tr>
<td>B</td>
<td>2</td>
<td>11</td>
<td>5B:1A</td>
<td>3B:1A</td>
</tr>
<tr>
<td>C</td>
<td>3</td>
<td>7</td>
<td>4B:1A</td>
<td>3B:1A</td>
</tr>
<tr>
<td>D</td>
<td>4</td>
<td>4</td>
<td>3B:1A</td>
<td>3B:1A</td>
</tr>
<tr>
<td>E</td>
<td>5</td>
<td>2</td>
<td>2B:1A</td>
<td>3B:1A</td>
</tr>
<tr>
<td>F</td>
<td>6</td>
<td>1</td>
<td>1B:1A</td>
<td>3B:1A</td>
</tr>
</tbody>
</table>

Q: Explain how does change in price of other related good affect the demand curve of a good.
Q: Explain how does change in income of the buyer affect the demand for a good.

Q: Differentiate between Movement along the demand curve & shift in demand curve using diagram.
Q: Show various degrees of price elasticity of demand under percentage method.

![Diagram showing various degrees of price elasticity of demand under percentage method.]

Q: Show a schedule & a diagram to explain the relationship between expenditure & elasticity of demand.

<table>
<thead>
<tr>
<th>( P_x )</th>
<th>( TEx )</th>
<th>( Ep )</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>100</td>
<td>( Ep &lt; 1 )</td>
</tr>
<tr>
<td>2</td>
<td>200</td>
<td>( Ep &lt; 1 )</td>
</tr>
<tr>
<td>3</td>
<td>300</td>
<td>( Ep = 1 )</td>
</tr>
<tr>
<td>4</td>
<td>400</td>
<td>( Ep = 1 )</td>
</tr>
<tr>
<td>5</td>
<td>400</td>
<td>( Ep = 1 )</td>
</tr>
<tr>
<td>6</td>
<td>400</td>
<td>( Ep &gt; 1 )</td>
</tr>
<tr>
<td>7</td>
<td>300</td>
<td>( Ep &gt; 1 )</td>
</tr>
<tr>
<td>8</td>
<td>200</td>
<td>( Ep &gt; 1 )</td>
</tr>
</tbody>
</table>

![Diagram showing price elasticity of demand by total expenditure method.]

Q: Show the diagram related to the Geometric/Point elasticity method to explain price elasticity of demand.

![Diagram showing价格弹性方法的几何/点弹性方法的解释。]
Q: What happens to the consumer equilibrium when the price of one good rises while price of other good remain same

In this figure we can see that the price of good X rises, as a result the purchasing power of the buyer falls in respect of good X. Consequently, the budget line PP rotates leftwards on the X axis. Now the new budget line PP' is tangent to a lower IC curve on the point E'. Thus, the consumer equilibrium shift towards left restricting the qty. of good X while qty. of Y remain same.

UNIT III: THEORY OF PRODUCTION & SUPPLY

Q: Differenciate between short run production & long run production function.

<table>
<thead>
<tr>
<th>Example:</th>
<th>Example:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Land</strong></td>
<td><strong>Labour</strong></td>
</tr>
<tr>
<td>1 Acre</td>
<td>1</td>
</tr>
<tr>
<td>1 Acre</td>
<td>2</td>
</tr>
<tr>
<td>1 Acre</td>
<td>3</td>
</tr>
<tr>
<td>1 Acre</td>
<td>4</td>
</tr>
<tr>
<td>1 Acre</td>
<td>5</td>
</tr>
<tr>
<td>1 Acre</td>
<td>6</td>
</tr>
<tr>
<td>1 Acre</td>
<td>7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Land</th>
<th>Labour</th>
<th>TP</th>
<th>MP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Acre</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2 Acre</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>4 Acre</td>
<td>4</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>6 Acre</td>
<td>6</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>8 Acre</td>
<td>8</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>12 Acre</td>
<td>12</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>15 Acre</td>
<td>15</td>
<td>15</td>
<td>1</td>
</tr>
</tbody>
</table>

**Marginal Product**

- **Units of Labour**: 0, 2, 4, 6, 8
- **Marginal Product**: 3.5, 3, 2.5, 2, 1.5, 1, 0.5, 0

- Increases
- Decreases
- Negative
Q: Explain the Law of returns to a factor & show the three phases of the law.

**Explanation of the law:**

<table>
<thead>
<tr>
<th>Land</th>
<th>Labour</th>
<th>TP</th>
<th>MP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Acre</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>1 Acre</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>1 Acre</td>
<td>3</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>1 Acre</td>
<td>4</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>1 Acre</td>
<td>5</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>1 Acre</td>
<td>6</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>1 Acre</td>
<td>7</td>
<td>8</td>
<td>-1</td>
</tr>
</tbody>
</table>

*In the above illustration we find that there are three stages/phases of this law*

Q: Explain the relationship between TC & MC/TVC & MC/Explain the concept of TC/TVC & MC/Explain why MC is U Shaped curve?

*In this figure we can see that in phase I the marginal returns to factor, MP rises while the MC falls, & thus TVC rises at increasing rate. This leads to rising TC at diminishing rate. When MP rises, there is economies of production due to which the marginal costs decreases with additional unit of production.

In phase II of production, the MP declines due to the effect of diminishing returns to factor, & thus cost on producing additional units of a good keeps on rising. This is due to diseconomies in production. As a result, the TVC rises at increasing rate & finally TC also rises at increasing rate.

Thus, we can see why the shape of TV & TVC curve are S shaped curve.*
Q: Explain the relationship between AC, AFC & AVC.

From this figure we can trace out the relationship between ATC, AFC & AVC. Till

AVC goes on falling, AC & AFC are nearer to each other but when AVC starts rising, the gap between ATC & AFC goes on increasing. As the firm goes on producing more units of output, ATC & AVC comes nearer to each other i.e. the vertical difference between both diminishes. But both this curves never meet each other because ATC cannot be Zero. The minimum point of AVC is always left to the minimum point of AC.

Q: “Both MC & MP are reverse image of each other”. Explain.

Q: Explain the relationship between AC, AVC & MC with the help of diagram.

<table>
<thead>
<tr>
<th>Q</th>
<th>MC</th>
<th>TVC</th>
<th>TC</th>
<th>AC</th>
<th>AVC</th>
<th>TFC</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>---</td>
<td>0</td>
<td>10</td>
<td>---</td>
<td>---</td>
<td>10</td>
</tr>
<tr>
<td>1</td>
<td>6</td>
<td>6</td>
<td>16</td>
<td>16</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>10</td>
<td>26</td>
<td>13</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>12</td>
<td>38</td>
<td>12.6</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>14</td>
<td>52</td>
<td>13</td>
<td>3.5</td>
<td>10</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>18</td>
<td>70</td>
<td>14</td>
<td>3.6</td>
<td>10</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>24</td>
<td>94</td>
<td>15.6</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>32</td>
<td>126</td>
<td>18</td>
<td>4.5</td>
<td>10</td>
</tr>
<tr>
<td>8</td>
<td>10</td>
<td>42</td>
<td>168</td>
<td>21</td>
<td>5.4</td>
<td>10</td>
</tr>
</tbody>
</table>
Q: Explain the relationship between TR & MR, AR & MR when a firm can sell more output by flowering the price.

<table>
<thead>
<tr>
<th>UNITS SOLD</th>
<th>TR (Rs)</th>
<th>AR (Rs)</th>
<th>MR (Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>18</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>24</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>28</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>30</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>30</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>28</td>
<td>4</td>
<td>-2</td>
</tr>
</tbody>
</table>

Q: Explain how does change in technology affect the supply of a good?

In this figure we can see that change in technology has positive relationship with supply of a good. The advancement of technology leads to rise in supply.

Here we see that the supply curve shift towards right i.e supply increases at same price OP to OQ1 due to advancement in technology.

Q: Explain how does change in the price of an input affect the supply of a good?

In this fig. we see that the change in price of input has inverse effect on the supply of a good, & thus there is negative slope of supply curve in relation to price of input.

Here can see that at same price OP, the firm can supply more of a good from OQ to OQ1 due to decline in price of an input. Thus, supply of a good may be affected due to change in price of an input.

Q: Explain how do we derive market supply curve?
Q: Differentiate between Movement along the supply curve & shift in supply curve.

Q: Explain the geometric/point elasticity method for measuring price elasticity of supply of a good.

Q: Explain the concept of producer equilibrium under MR-MC approach 1) when a firm can sell more output at same price; 2) when a firm can sell more output by lowering the price.

Q: Explain how price of a good is determined under a perfectly competitive market.

*Price & Output determination in perfect competition market.*
1. Effect on Equilibrium Price & Qty. due to change in demand while supply remain unchanged.

From this figure, when the demand increases, the eqm. price rises to E1Q1 & eqm. Qty. also rises to OQ1, while supply remain unchanged. Vice versa happens when the demand decreases to D2.

2. Effect on Equilibrium Price & Qty. due to change in supply while demand remain unchanged.

From this figure we see that as supply increases to S1, the eqm. Price falls to E1Q1 while qty. rises to OQ1, while demand remain same, since the new SS intersects DD at Point E1. The decrease in supply leads to rise in eqm. Price to E2Q2, but the qty. falls to OQ2.

Q: Show the effect on equilibrium price & qty when demand & supply changes by same proportion & at same direction?/With simultaneous change in demand & supply, when does 1) eqm price remain same; 2) eqmqty remain same?

When there is a change in both demand & supply at same proportion, in case of increase in both, the eqm. price remain same (OP) but eqm. qty. rises (from OQ to O'Q). In case of decrease in both at uniform rate, the eqm. Price remain same at OP. but

When demand increases & supply decreases at same proportion, the eqm. price rises (from EQ to E1Q), but qty. remain same (with OQ). On the Country in case of vice versa, the same thing will happen.
Q: Explain the concept of Maximum (Control Price) & Minimum ceiling price (Support Price).

In this figure, we can see that the market (equilibrium) price is $OP$, & eqn. qty. is $OQ$. Y-axis refers to price & X-axis refers to qty. of demand & supply. The Govt. imposes control price ($P_c$) to protect the poor consumers. As a result, the supply of the good falls to $OQ_1$ while market demand rises to $OQ_2$ (Law of supply & demand respectively). Consequently, there arises the gap between the demand & supply (ab) i.e. excess demand situation.

Explain the concept of minimum ceiling price with the help of diagram.

In this figure we see that $OP$ is the market price which is an equilibrium price. Now, the Govt. fix this price above it at $P_s$ in order to safeguard the interest of the poor producers (farmers). As a result, there arises excess of supply over the demand amount of $ab$. This surplus can be used by the Govt. to maintain its buffer stock & sell the products at issue price to the deficit areas.

MACRO ECONOMICS: UNIT VII: THEORY OF INCOME DETERMINATION

Fig: Consumption Function

The above figure shows the consumption function. Income curve is a 45° line originating from the point fo origin. The Consumption curve is constantly rising from the point ‘a’ on the Y-axis which indicates the rise in consumption due to rise in income. The point ‘a’ refers to autonomous consumption i.e. the consumption expenditure incurred when the income curve intersects consumption at the point $E$ which is referred to Break-even point.

Keynesian Theory of Income & Employment

In the first figure we see that $AS$ function is 45° line from the origin which is intersected by $AD$ at point $E$. This is the point where the economy is in equilibrium because the $AD = AS$. In this situation, the total quantity of commodities produced is purchased and there is no burden of excess supply or unsold stocks, and the loss of demand. The corresponding to investment. This is shown in the next figure where saving curve at point $E_1$ level of income & employment of the economy.

In this context the saving & investment are planned (or ex-ante) saving & investment. Thus, the economy attains equilibrium when $AD = AS & S = I$ at $0Y_1$ level which is underemployment level.
Q: Explain the concept of Inflationary gap & Deflationary gap.

Q: Explain how flexible foreign exchange rate is determined?

<table>
<thead>
<tr>
<th>Price of US $ (in Rs.)</th>
<th>Demand for US $</th>
<th>Supply for US $</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>500</td>
<td>100</td>
</tr>
<tr>
<td>50</td>
<td>400</td>
<td>200</td>
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<tr>
<td>60</td>
<td>300</td>
<td>300</td>
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<tr>
<td>70</td>
<td>200</td>
<td>400</td>
</tr>
<tr>
<td>80</td>
<td>100</td>
<td>500</td>
</tr>
</tbody>
</table>

Q: Differenciate between depreciation & appreciation of domestic currency.

**Depreciation & Appreciation:**
KEY CONCEPTS:

**Micro Economics** - is that branch of economics which studies economic problems relating to individual economic units like a consumer or a producer.

**Macro Economics** - is that branch of economics which studies economic problems relating to the economy as a whole like level of output and employment.

**Central Problems in an economy** are:
1. What to produce?
2. How to produce?
3. For whom to produce?

**Production Possibility Curve (PPC)** - shows different combinations of two goods which can be produced when technology remains constant and when the given resources are fully and efficiently utilised.

---

**VERY SHORT ANSWER QUESTIONS (1 MARK)**

1. **What is an Economy?**
   Ans. An economy is the system of earning livelihood. It is the sum of the basic economic activities viz. Production, Consumption & Distribution or Distribution (Exchange).

2. **What is an Economic Problem?**
   Ans. An economic problem is the problem of making choice of the given resources which have alternative uses. In other words, it is the decision making problem of husbandry of resources.

3. **Define the term Production Possibility Curve.**
   Ans. It is a graphical presentation which depicts the possible combinations of producing any two goods with the given resources & the level of technology.

4. **Define the term Opportunity Cost.**
   Ans. It refers to the cost of next best alternative.
5. Define the term scarcity of resources.
Ans. It refers to the situation when demand for resources exceeds its supply even at zero price.

6. Give two examples of Micro economic studies.
Ans. Study of consumer & producer equilibrium, law of demand & supply, price determination of a product in the market etc.

7. When does PPC shift towards right?
Ans. When there is growth of resources & advancement of technology.

8. "Economising the resources means saving the resources for future use." Is it true? Why?
Ans. No, it means the optimum use of resources i.e. use of resources in such a manner that maximum output is produced at minimum cost.

9. "There would be no economic problem if there is no scarcity of resources." Is it true?
Ans. True, as economic problem exist due to scarcity of resources.

10. Define the term Marginal Opportunity Cost/Marginal Rate of Transformation (MRT).
Ans. It refers to the rate of sacrificing the production of a good to produce more of other good. MRT = ΔY/ΔX; implies that MRT = Amount of Y given up / Amount of good X gained.

11. What is the problem of choice?
Ans. It is the problem of allocating scarce resources to alternative uses.

12. In case of an economy operating inside the PPC, can the economy produce more of one good by not sacrificing the production of another good? Why?
Ans. Yes, because the resources are not fully used when the society is producing inside the PPC.

SHORT ANSWER QUESTIONS (3 or 4 MARKS)
1. "Economics is about making choices in the presence of scarcity." Explain.
Ans. If there were no scarcity, there would have been no economic problem. In the absence of scarcity the question of unlimited wants does not exist. When resources are not limited & wants are not unlimited, the problem of choice does not exist. Accordingly, there should not be any economic problem, and thus no Economics is required.

2. "Massive unemployment shifts the PPC to the left." Defend or refute.
Ans. Massive strikes or lockouts in industries, fall in demands for the goods, poor weather conditions etc will not have any impact on the PPC as these do not affect the production capacity of the society, rather the society produce somewhere below the PPC.

3. Find the MOC from the following possibilities of production. Also comment on the shape of PPC.

<table>
<thead>
<tr>
<th>Wheat (Units)</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotton (Units)</td>
<td>30</td>
<td>28</td>
<td>24</td>
<td>18</td>
<td>10</td>
<td>0</td>
</tr>
</tbody>
</table>

Ans. The shape of PPC will be concave. The MOC is as follows:

<table>
<thead>
<tr>
<th>Wheat (Units)</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotton (Units)</td>
<td>30</td>
<td>28</td>
<td>24</td>
<td>18</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>MOC</td>
<td>--</td>
<td>2/1 =2</td>
<td>4/1=4</td>
<td>6/1=6</td>
<td>8/1=8</td>
<td>10/1=10</td>
</tr>
</tbody>
</table>
1. ‘Ravi got the opportunity to attend Scout camp for one month. For this, he will miss one month’s job whose salary is worth Rs 20000. The expenses for the camp is Rs 5000. Even if he lives in his home he will have to bear the expenses. What is the opportunity cost of joining the camp?

Ans. Loss of one month’s salary + cost of joining the camp = Rs 25000

**LONG ANSWER QUESTIONS (6 MARKS)**

1. **Explain the Properties of PPC.**

   Ans. **a. The PPC is generally a downward slope curve**: because if we need to produce more of a good then it has to sacrifice the production of other good.

   **b. The PPC is generally a concave shape curve**: The shape of PPC is always a concave to the origin which due to the increasing marginal opportunity cost.

2. **Explain why PPC is a concave shape curve?** It is due to increasing MOC. Increasing MOC refers to the increasing rate of sacrifice of producing a good (say, Y) for producing more of other good (say, X). This can be explained by the following illustration:

   From the above illustration we can see that when we go to produce one more unit of the good X then we sacrifice one unit of Good Y initially, then the rate of sacrifice of the good Y goes on increasing by 2, 3 and 4 units respectively.

1. **Explain the concept of leftward shift in PPC.**

   Ans. This phenomenon implies decline in production capacities of the economy, & consequently decline in income, employment & output. This is due to the depletion of resources or obsolescence of technology.

   **For example**: Due to massive landslides, war or earthquake, many production units have been collapsed or destroyed, & death of many skilled workers will lead to decline in production capacity of the society. This leads to leftward shift in PPC.

   In this figure, the PPC 'AF' shift towards left to A'F' implying the decline in production capacity of the society due to decrease in resources & obsolescence of technology. Thus the PPC shift towards left.
4. What are Central problems of an economy? Explain each of them. Why does it arise?

Ans. The Central problems of an economy arise because of scarcity of resources in relation to their demand.

In general, three central problems have been identified viz.

i) What to Produce & In What Quantity?

ii) How to Produce?

iii) For Whom to Produce?

i) “What to produce” refers to the choice of the product to be produced by the society for that good which is in actual need of the society. We need to use the resources to produce goods & services, & the common resources are used to produce two different goods. For instance, during peace time, the society can avoid producing Guns and can utilize more of the resources to produce other good which is actually needed by the society (say Trucks). This kind of situation arises to all the countries, because the limited resources can’t be utilized to produce all the goods required by the society.

Now, after deciding about the production of a good, the society needs to take decision the required quantity to be produced. This is inevitable as excess production may lead to the problem of overproduction and further to wastage of resources, and less production may lead to scarcity of the product which may further lead to the problems like inflation etc. Thus, the society needs to estimate the requirement of a good to be produced.

ii) “How to produce” is related to the choice of technique to produce the goods & services. The society need to make a choice between labour intensive and capital intensive technique of production. The overpopulated societies (like India) cannot choose the capital intensive technique, other than few large scale industries, because this may aggravate the problem of unemployment in the society, and moreover the dearth of capital is also a barrier too. But there is a need of using capital intensive technique for the large scale industries. On the contrary, the advanced nations can choose the method of capital intensive technique since there is a dearth of labour and adequacy of capital. Thus, every society need to choose an optimum mix combination of both labour & machines so that maximum output can be produces at the least possible cost with efficient use of resources.

iii) “For whom to Produce” is another problem which refers to choice of distribution that needs to be focused for the equal distribution of the resources for the benefits of large many people so as to reduce unequal distribution of the resources and create an egalitarian society. This problem is concerned with the personal and functional distribution of resources among the people in the society. The former refers to the distribution of GDP among the different sections of the society, while the later refers to the distribution of factor incomes to the factor owners in lieu of their factor services towards the production of national output. This determines the purchasing power of the people & accordingly the goods & services are produced in the society.

5. “The government has raised minimum employment from 100 to 150 man days during a year under the MGNREGA scheme.” How would it affect PPC?

Ans. The actual level of output would rise but potential level of output (PPC) would not rise as PPC is drawn on the assumption that the existing resources are fully employed.
6. If more & more resources are constantly explored & new technology is discovered, will central problems be finally solved?
   Ans. No, as PPC may keep on expanding indicating increase in production capacity of a society by scarcity of resources in relation to human wants will always exist as wants are unlimited & resources are limited.

7. Define the terms Micro & Macro Economics. Differentiate between both of them.

<table>
<thead>
<tr>
<th>MICRO ECONOMICS</th>
<th>MACRO ECONOMICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. It deals with the individual units of an economy viz. demand for good, profits of a firm, supply of a commodity, price of a commodity, etc.</td>
<td>1. It deals with the large or aggregates of an economy viz. National Income, General Price Level, Aggregate Demand &amp; Supply, inflation etc.</td>
</tr>
<tr>
<td>2. It studies the economy in parts.</td>
<td>2. It studies the economy as a whole.</td>
</tr>
<tr>
<td>3. It mainly deals with the allocation of resources.</td>
<td>3. It deals with the fuller utilization of resources.</td>
</tr>
<tr>
<td>4. Its main objective is to study how the price of a commodity &amp; the inputs is determined.</td>
<td>4. Its main objective is to study the determination of income &amp; employment of an economy.</td>
</tr>
<tr>
<td>5. The main tools used in the study are demand &amp; supply.</td>
<td>5. The main tools of Macroeconomic study is aggregate demand &amp; supply.</td>
</tr>
</tbody>
</table>

Multiple Choice Questions: (1 mark each X 5 = 5 marks)

1. A person has three job offers of Rs 10000, Rs 20000, and Rs 30000 respectively. Assuming the working conditions are same, the opportunity cost of the offer chosen is: a. Rs 10000; b. Rs 20000; c. Rs. 30000; d. None of the above
   Ans. b. Rs 20000

2. Opportunity cost refers to the value of the opportunity: a. to be availed in future; b. available in the past; c. actually availed at present; d. could be availed at present as a second alternative.
   Ans. d. Could be availed at present as a second alternative.

3. Concavity of PPC implies:
   a. Increasing slope; b. decreasing slope; c. constant slope; d. none of these.
   Ans. a. Increasing slope

4. The nation has two alternatives of producing $100X + 200Y$ or $102X + 196Y$ from its given resources. The nation chooses the second. What is MOC of producing good X:
   a. $4Y$  b. $3Y$  c. $2Y$  d. $1Y$
   Ans. c. $2Y$

5. When an economy is operating on the PPC, it indicates: a. Potential output>actual output; b. potential output = actual output; c. potential output<actual output; d. none of these.
   Ans. b. Potential Output = Actual Output
KEY CONCEPTS:

**Total Utility**- The sum total of utility derived from the consumption of all the units of a commodity.

**Marginal Utility**- Additional utility on account of the consumption of an additional unit of a commodity. **Law of Diminishing Marginal Utility**- states that marginal utility tends to diminish as more and more (standard) units of a commodity are (continuously) consumed by a consumer.

**Consumer’s Equilibrium** refers to a situation when a consumer maximises his satisfaction, spending his given income across different goods and services.

**Indifference Curve**- is a locus of all such points which show different combinations offering the same level of satisfaction.

**Indifference Set**- a set of different combinations of two goods which offer the consumer the same level of satisfaction.

**Budget Set**- a set of attainable combinations of two goods, given market price of the goods and income of the consumer.

**Budget Line**- a line showing different combinations of two goods, which consumer can attain, given his income and market price of the goods.

**Demand**- refers to various amounts of commodity that a consumer is ready to buy at different possible prices of the commodity at a point of time.

**Law of Demand**- expresses inverse relationship between own price of a commodity and its quantity demanded. Remaining other factors constant.

**Movement along Demand Curve**- occur when changes in quantity demanded are related to changes in own price of the commodity.

**Shifts in Demand Curve**- occur when demand for a commodity is related to factors other than own price of the commodity.

**Price Elasticity of Demand**- is a ratio between percentage change in quantity demanded and percentage change in own price of the commodity.
VERY SHORT ANSWER QUESTIONS (1 MARK)

Q. Define the term Consumer Equilibrium.
Ans. Consumer equilibrium refers to such a situation when a consumer maximizes her satisfaction out of her given money income and the price of the desired good(s).

Q. Define the term Indifference curve.
Ans. It is a graphical presentation of various combinations of two goods where a buyer is indifferent towards all the combinations; in other words, he derives equal total satisfaction on all the combinations.

Q. Define the term Marginal Rate of Substitution.
Ans. It refers to the ratio of sacrifice in certain units of one good (say good y) to gain one more unit of another good (say good x). It is also referred to as the slope of indifference curve i.e. MRS = Loss in Good Y/Gain in Good X = ΔY/ΔX

Q. Define the term Budget/Price Line.
Ans. It is a graphical presentation of all the possible combinations of two goods which a consumer can buy with his given budget & price of the goods.

Q. Define the term Budget Set.
Ans. It refers to those combinations of two goods which can be bought by the buyer by spending the entire budget or those combinations which are within his budget. Thus, budget set = P_x.Q_x + P_y.Q_y d” M. If Q_x = 0, Q_y = M/P_y, and if Q_y = 0, Q_x = M/P_x; ΔY/ΔX = (-)P_x/P_y = MRE
Q. What is Demand?
Ans. Demand for a commodity refers to willingness and ability of a consumer to purchase a good at a given price and during a given period of time.

Q. What is (1Mark each)
   i) Demand Function
   ii) Demand schedule
   iii) Demand curve?
Ans. i) Demand function is an expression which establishes a precise functional relationship between the demand for a good and its various determinants.

   ii) Demand schedule refers to a tabular presentation of the relationship between price of a good and its demand.

   iii) Demand curve is the graphical representation of the demand schedule.

Q. Define the term price elasticity of demand.
Ans. Price elasticity of demand can be defined as the measure/degree of responsiveness in the change in demand for a good due to the change in its price.

Q. Define the term substitute goods.
Ans. These refer to those goods which can be used in place of another good to satisfy a particular want.

Q. Define the term Complementary goods.
Ans. These refer to those goods which can be used together to satisfy a particular want.

Q. Define Inferior goods.
Ans. These refer to those goods whose demand falls with rise in income of the buyer & vice versa.

Q. What are Giffen goods?
Ans. These are those inferior goods which are staple in nature, & whose demand rises with rise in its price & vice versa i.e. law of demand fails to operate in these goods.

Q. Define normal goods.
Ans. These are those goods whose demand rises with rise in income of the buyer, & vice versa.

Q. What is meant by quantity demanded?
Ans. It refers to a specific quantity the consumer is ready to buy at a specific price.

Q. What is the slope of demand curve?
Ans. It is the ratio of Change in price by change in qty.

Q. What is meant by extension in demand?
Ans. It refers to the rise in demand due to fall in its price.

Q. What is meant by contraction in demand?
Ans. It refers to fall in demand due to rise in its price.
Q. **What is increase in demand?**
Ans. When demand rises due to change in factors other than its own price.

Q. **What is decrease in demand?**
Ans. When demand for a good falls due to change in factors other than its price.

Q. **If the demand for good X increases with the rise price of good Y, how are they related?**
Ans. They are substitute goods.

Q. **What is meant by Indifference set?**
Ans. It refers to those combinations of two goods which offer the same level of satisfaction.

Q. **Define Indifference Map.**
Ans. A set of Indifference curves placed together in a diagram.

Q. **Define monotonic preference.**
Ans. It refers to that situation when a consumer moves from one combination to another with a motive of deriving higher level of satisfaction.

Q. **Name the slope of Indifference curve.**
Ans. Marginal rate of substitution (MRS).

Q. **What does the movement along the same demand curve shows?**
Ans. Extension or contraction of demand.

Q. **If 10% increase in price causes 10% increase in expenditure on a good, what shall be the value of Ed?**
Ans. Ed = 1, because there is no change in qty.

Q. **When does a consumer strike equilibrium under IC approach?**
Ans. When MRS = MRE.

Q. **In case of inferior goods, does law of demand fails as it fails in case of Giffen goods? Why?**
Ans. No, because negative income effect is greater than substitution effect.

**SHORT ANSWER QUESTIONS (3 or 4 MARKS)**

1. **Define the terms Total & Marginal Utility & explain how it can be derived.**
   Ans. Total utility is the total amount of utility expected to be derived by consuming total units of a good. It is also defined as the sum of marginal utilities derived from additional units of the good. Thus, \( TUn = MU_1 + MU_2 + \ldots + MU_n = \sum MU \)
   Marginal Utility is the utility derived from the consumption of an additional unit of a good. It is also defined as the addition to TU by consuming one more unit of a good. Thus, \( MU = TU_n - TU_{n-1} \). \( MU = \Delta TU/\Delta \) in Units of good used. In this way, MU is also called as slope of TU curve.
2. What happens if MUx/Px>MUy/Py?

Ans. In this situation, the buyer buys more of good X than on Y since he is deriving more utility from good X. As he keeps on buying more units of good X, the MU on good X keeps on falling while the MU on good Y keeps on rising due to Law of diminishing marginal utility effect. In other words, the good which is sacrificed, the desire to have more of it increases, & therefore on every additional unit of good X the MU on good Y rises. This process continues till both MUx/Px & MUy/Py are equal to each other.

3. What happens if price of good (Say good Y) falls, & price of other good (say good X) remains same?

Ans. In this case, the buyer derives greater utility on good Y, & he starts buying more of good y than on good x. As a result, MUy keeps on falling & MUx keeps on rising. The buyer keep on substituting more of y on x until both MUx & MUy equates to each other.

4. Explain the relationship between TU & MU using a diagram.

Ans. Let us explain this with the help of following schedule & diagram:

<table>
<thead>
<tr>
<th>Units</th>
<th>Marginal Utility</th>
<th>Total Utility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4</td>
<td>4+0=4</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>4+3=7</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>7+2=9</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>9+1=10</td>
</tr>
<tr>
<td>5</td>
<td>0</td>
<td>10+0=10</td>
</tr>
<tr>
<td>6</td>
<td>10-1=9</td>
<td></td>
</tr>
</tbody>
</table>

1. When MU is positive but falling, TU is rising at decreasing rate.
2. When MU is zero, TU is maximum & constant. (Point of saturation)
3. When MU is negative & falling, TU is also falling. (Disutility)

7. “Given the market price of a good as Rs 4, how does a consumer decide to purchase a good?”

Ans. It shall depend upon the point where the consumer maximize her satisfaction and do not tend to purchase the good at that point of time.

<table>
<thead>
<tr>
<th>Units</th>
<th>TU</th>
<th>MU</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>14</td>
<td>14</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>24</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>32</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>38</td>
<td>6</td>
<td>4</td>
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<tr>
<td>5</td>
<td>42</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>44</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>44</td>
<td>0</td>
<td>4</td>
</tr>
</tbody>
</table>

From this table we see that the consumer will purchase 5 units of the good because the price is equal to MU, and will not like to purchase more than 5 units because the price of the good is greater than the satisfaction derived from the extra unit of the good (MU). When the consumer purchases 1 unit, MU exceeds the price, and therefore she purchases the 2 unit at which the MU still exceeds the Price and again she purchases the 3 unit. This goes on till the MU is equal to price of the good. Thus we see that the consumer attains equilibrium at that point when the MU = P.
8. **Explain where does a consumer derive maximum satisfaction in case of two goods under cardinal approach?**

Ans. In case of more than one good, the consumer decides to purchase that quantity of the goods when the ratio of MU and Price of the desired goods are equal to each other. This can be explained with the help of the following example for good A, B, and C: Given the price of good X and Y is Rs. 4 & Rs.6, and MUm as Re. 1 = 1 util

<table>
<thead>
<tr>
<th>Units</th>
<th>MUx</th>
<th>MUY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td>2</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>10</td>
<td>6</td>
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<td>4</td>
<td>6</td>
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<tr>
<td>5</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

In this situation, a consumer will purchase 5 units of good X, 3 units of good Y to maximize her satisfaction. The reason is that the ratio of MU and Price of these two goods is 1 which is also equal to MUm. If the price of these goods is assumed to be Rs. 2, the consumer will purchase 6 and 5 units of good X & Y respectively.

9. **What happens to the consumer equilibrium when the price of one good rises while price of other good remain same?**

Ans. In this figure we can see that the price of good X rises, as a result the purchasing power of the buyer falls in respect of good X. Consequently, the budget line PP rotates leftwards on the X axis. Now the new budget line PP’ is tangent to a lower IC curve on the point E. Thus, the consumer equilibrium shift towards left restricting the qty. of good X while qty. of Y remain same.

10. **Falling price of a good always leads to expansion of its demand. Comment.**

Ans. Not always true as there are few exceptions where this may not happen. For example, Giffen goods, articles of distinction, essential medicines etc.

11. **Elasticity of demand is generally high during the long period compared to the short period. Why?**

Ans. Yes it is true because the consumer may not able to adjust to change in its price due to its rigid consumption habits, & lack of substitutes.

12. **Price elasticity of demand is found to be (-) 2. Price falls from Rs 10 per unit to Rs 8 per unit. Find the percentage increase in qty demanded.**

Given, P=Rs 26, P1=Rs 8, Δp=(-)2; Ed=(-)2; %Δp= -2/10 X 100 = -20%

% Δq = (-)2 X (-)20% = 40%
LONG ANSWER QUESTIONS (6 MARKS)

1. State & explain the Law of Diminishing Marginal Utility using an example.

Ans. This law establishes the fact that when a consumer goes on consuming the additional units of a good, the level of satisfaction (utility) by consuming the successive units of the good goes on diminishing, ceteris paribus.

This implies a simple fact that when we consume the extra units of a good, our satisfaction level from every successive units of that good declines. For example, if we consume first unit of Apple and derive a certain level of satisfaction, the second unit of Apple won't give us that much satisfaction like what we derived from the first unit of the Apple. Simultaneously, the utility from the consumption of successive units will be lesser than the previous units.

<table>
<thead>
<tr>
<th>Units Consumed</th>
<th>TUx (In Utility)</th>
<th>Mux (In Utility)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>2</td>
<td>34</td>
<td>14</td>
</tr>
<tr>
<td>3</td>
<td>43</td>
<td>9</td>
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<tr>
<td>4</td>
<td>48</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>50</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>50</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>48</td>
<td>-2</td>
</tr>
<tr>
<td>8</td>
<td>44</td>
<td>-4</td>
</tr>
</tbody>
</table>

2. Explain the concept of Consumer Equilibrium under cardinal approach in case of one good.

OR

How much quantity of a good will a consumer buys with his given budget & market price of the good?

Ans. In case of a single good, a consumer will buy that qty of the good where his worth of satisfaction from the last unit of the good is equal to the worth of sacrifice made on that unit of the good. In other words, he will consume till his MU on the good equals to the price he pays for it (MU in terms of money=Price)

Equilibrium Condition:-

a. In case of one good: $\text{MU}_x(\text{MU in terms of money}) = P_x$ (incase $\text{MU}_m$ is one)

However, in case $\text{MU}_m$ is more than one, the ratio of Marginal Utility ($\text{MU}_x$) of a good (say,$X$) and its price ($P_x$) is equal to the marginal utility of rupee($\text{MU}_m$) or the ratio of marginal utility of the good and the marginal utility of rupee is equal to the price of the good. This can be expressed as:

$\frac{\text{MU}_x}{P_x} = \text{MU}_m \quad \text{or} \quad \frac{\text{MU}_x}{\text{MU}_m} = P_x$
Illustration 1: Let the price of the good is Rs 3, and the consumer derives 1 util of utility with every additional rupee spent on the good.

<table>
<thead>
<tr>
<th>Units</th>
<th>TU</th>
<th>MU</th>
<th>P</th>
<th>MU/MUm</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>9</td>
<td>4</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>12</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>14</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>15</td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>15</td>
<td>0</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

In the above example we can see that the consumer will buy 3 units of the good as at 3rd unit MU = P or MU/P = Mum, & MU falls. Now, if price rises to Rs.4, the consumer buys less of the good & the equilibrium will be at 2nd unit.

4. **Explain the Properties of Indifference Curve.**

**Ans:**

1. **IC is always a downward slope curve:** this is due to the Marginal Rate of Substitution i.e. the ratio of loss of Good Y by the Gain in Good X. If the buyer buys more of one good, he has to substitute with other good, & therefore the gain in one good leads to loss of another.

2. **IC is always a Convex Shape Curve:** This is due to the law of diminishing marginal utility. When the buyer buys more of one good, the satisfaction from that good diminishes, while the other good which is sacrificed, the relative importance on the good increases due to which the rate of sacrifice on that good keeps on decreasing.

3. **Higher the IC implies greater level of satisfaction:** This implies that when the IC shift rightwards, the consumer is able to buy more of both the goods or at least more of one & no less of other good in his consumption basket. This kind of movement is referred to as **Monotonic preference** which means that the consumer aims to move from one consumption bundle to another with a motive of buying at least more of one good & no less of another good.

This figure is referred to as Indifference Map which is defined as the group or family of Individual Indifference Curves.

Here, the consumer moves from inferior combination (says B) to superior combination (say G), he can buy more of both the goods, or from B to H, he can buy more of one good & same of another good. But if one moves from one to other combination on the same curve, say B to C or C to D, this is referred to as **MRS.**
5. What happens to the consumer equilibrium when the price of one good rises while price of other good remain same?

Ans. In this figure we can see that the price of good X rises, as a result the purchasing power of the buyer falls in respect of good X. Consequently, the budget line PP rotates leftwards on the X axis. Now the new budget line PP is tangent to a lower IC curve on the point E. Thus, the consumer equilibrium shift towards left restricting the qty. of good X while qty. of Y remain same.

DETERMINANTS OF DEMAND

PRICE OF THE COMMODITY

- Income of Consumer
- Taste & Preference of Consumer
- Change in Price of Related goods
- Future Expectation to Change in price

Superior/Normal goods
Inferior goods
Favourable & unfavourable
Substitute & complementary goods

Change in Demand

- Change in quantity Demanded
- Movement along Demand curve

Expansion or Extension
Downward movement along a demand curve

Expansion

Decrease In Price

Contraction
Upward movement along a demand curve

Contraction

Increase In Price

Increase in demand
Rightward shifts in demand curve

Formation of new Demand curve

Decrease in Demand
Leftward shifts in demand curve

Formation of new demand curve

Price remain constant
6. Explain Determinants of Demand i.e. the factors which affect the demand for a good.

Ans. 1. **Price of a good** ($P_x$) is the most important factor which may bring the change in the demand for a good. The rise in price leads to the fall in the demand for a good, if other things remaining same, and vice versa.

2. **Price of other related goods** ($P_y$) is also one of the determinants of the demand for a good. The change in the price of a good (say Tea) may bring the change in the demand for other good (say, Coffee or Milk). In case of a substitute good, the rise in the price of good $X$ (say Tea) will lead to the rise in the demand for the good $Y$ (say Coffee), and vice versa. In case of a complementary good, the price rise in one good (say Car) may lead to the fall in the demand for the related good (say Petrol), & vice versa.

3. **The change in Taste, habit and fashion** also has the direct influence on the demand for a good. For e.g. these days the taste for using Addjel pens is on rise by the students. Because of this, the demand for this kind of pens is also rising whereas the demand for ink pens is falling even at same price.

4. **Income of the consumer** ($Y$) is another important factor which affects the demand for a good. The rise in income of a consumer may lead to the rise or fall in demand for a good, and vice versa. In case of a normal good, the demand for a good may rise with rise in income, while in case of inferior good; the demand will fall with rise in income of the buyer.
6. Why does the demand curve slopes downward or why does the law of demand operate?

Ans. 1. The Law of Diminishing Marginal Utility which refers to the phenomena when the satisfaction level of a consumer goes on diminishing from the successive units of a good as a consumer go on consuming the additional units of the good. When the price of a good rises, the consumer’s demand for the good declines as due to the decline in the utility of the good for the consumer.

2. Income effect which refers to the change in demand for a good due to the change in the real income of the consumer. The rise in the price of a good lead to the fall in the real income of the consumer and thus her purchasing ability also falls.

3. Substitution effect which refers to the change in demand for a good due to change in the price of other related good. If the price of tea rises, assuming the price of coffee remaining same, the consumers will substitute coffee to tea, and thus the demand for tea falls.

7. How do we derive market demand curve from the Individual demand curves?

Ans. The market demand is the qty. of a good which the sum of individual households purchases at a given price and at a given period of time. Thus, the market demand curve is derived by the horizontal summation of the individual demand curves.
The above table reveals that there are three families (assumed) A, B & C in the market whose demand schedule is given. This three families purchase different quantities of the good X at the given prices. If we assume that there are only three families in the market, the sum of this individual demand for the good X is the market demand (last column). The four figures shown above depict the demand curve of these individual families and the market demand curve. The horizontal summation of this individual demand curves takes the shape of the market demand curve.

Q 8. **Differentiate between change in qty. demanded & change in demand.**

Ans.

### Change in qty. demanded

**Graph:**

- **Price (P):** O to P
- **Quantity (Q):** O to Q

- **By change in qty. demanded we mean the change in demand for a good due to the change in the price of the good, while other factors remain same.**
- **The rise in demand, in this case is called as extension in demand, while fall in demand is called as contraction in demand.**
- **In this case, the demand curve will move along the same curve towards right in case of extension in demand; and left in case of contraction of demand.**
- **In the case of extension in demand, more qty. will be demanded at lower price, and less qty. at higher price in the case of contraction of demand.**
- **From the above figure, the qty. of demand is OQ at OP price. The fall in price leads to extension in demand from OQ to OQ', while the rise in price from OP to OP' leads to the contraction in demand from OQ to OQ'.**

### Change in demand

**Graph:**

- **Price (P):** O to P
- **Quantity (Q):** O to Q

- **By change in demand for a good we mean the change in demand due to the change in other factors viz. price of other related goods, income of consumer, taste & habit, govt. policy, population etc, while price of the good remain same.**
- **The rise in demand, in this case, is called as increase in demand, while fall in demand is called as decrease in demand.**
- **In this case, the demand curve will shift towards right in the case of increase in demand; and the curve will shift towards left, in case of decrease in demand.**
- **In the case of increase in demand, more qty. will be demanded at same price or same qty. at higher price; while less qty. will be demanded at same price or same qty. at lower price, in the case of decrease in demand.**
- **As we can see from the above figure that the qty. of demand increases from OQ to OQ' at same price OP, while the qty. decreases from OQ to OQ" at same price OP.**
Q9. Distinguish between Extension and Increase in Demand. OR Distinguish between Contraction and decrease in demand.

<table>
<thead>
<tr>
<th>Expansion in demand</th>
<th>Increase in demand</th>
</tr>
</thead>
<tbody>
<tr>
<td>~ By expansion in demand we mean the rise in the qty. of demand for a good due to the change in its price, while other factors remain same viz. income, taste, price of other related goods etc.</td>
<td>~ By increase in demand we mean the rise in the qty. of demand due to the change in other factors viz. price of other related goods, income, taste etc., while price of the good remain same.</td>
</tr>
<tr>
<td>~ The expansion in demand for a good takes place due to the fall in its price.</td>
<td>~ The increase in demand for a good may take place due to rise in income of the consumer, fall in price of the complementary good, rise in price of substitute good, rise in taste &amp; habit etc., but not due to the change in price of the good.</td>
</tr>
<tr>
<td>~ In case of expansion in demand, the demand moves along the same curve towards right</td>
<td>~ In case of increase in demand, the demand curve (DD) shift towards right.</td>
</tr>
<tr>
<td>~ More qty. is demanded at lower price.</td>
<td>~ more qty. is demanded at same price.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contraction in demand</th>
<th>Decrease in demand</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; By contraction in demand we mean the fall in demand due to the change in price, while other factors remain same.</td>
<td>&gt; By decrease in demand we mean the fall in demand due to the change in other factors, while price of the good remain same.</td>
</tr>
<tr>
<td>&gt; In this case, the demand moves along the same curve towards left.</td>
<td>&gt; In this case, the demand curve shifts towards left i.e. towards the origin.</td>
</tr>
<tr>
<td>&gt; Less qty. is purchased at higher price.</td>
<td>&gt; Less qty. is purchased at same price or same qty. is purchased at lower price.</td>
</tr>
<tr>
<td>&gt; This situation arises due to rise in price of the good.</td>
<td>&gt; This situation may arise due to fall in income, rise in the price of complementary good, fall in the price of substitute good etc.</td>
</tr>
</tbody>
</table>

Q10. Explain the Degrees of price elasticity of demand as per percentage method.

Ans: There are generally five degrees/measure of price elasticity of demand viz.

1 Unitary elastic demand (Ep=1):

In this situation, the % change in demand for a good is equal to % change in its price. In other words, the demand for a good gives equal response to the change in its price. The slope or shape of demand curve will be a rectangular hyperbola which implies that both the demand & price of the good changes at same proportion.

<table>
<thead>
<tr>
<th>Px(Rs.)</th>
<th>Qx(units)</th>
<th>%ΔinPx</th>
<th>%ΔinQx</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>10</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>3</td>
<td>12.5</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>2</td>
<td>16.65</td>
<td>33</td>
<td>33</td>
</tr>
<tr>
<td>1</td>
<td>25</td>
<td>50</td>
<td>50</td>
</tr>
</tbody>
</table>
2. **Relatively elastic demand or more elastic demand (Ep>1):**

In this situation, the % change in demand for a good is greater than the % change in its price. This implies that the demand for a good gives more response to the change in its price. For example, the luxurious goods or those goods on which we spend larger proportion of our income, the goods whose use can be postponed, the goods which have several uses etc. The demand curve for these goods will have flatter negative slope.

**Ans:**

<table>
<thead>
<tr>
<th>PX (Rs.)</th>
<th>QX (Units)</th>
<th>% ∆ in PX</th>
<th>% ∆ in QX</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>10</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>4</td>
<td>15</td>
<td>20</td>
<td>50</td>
</tr>
<tr>
<td>3</td>
<td>30</td>
<td>25</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>45</td>
<td>33</td>
<td>50</td>
</tr>
</tbody>
</table>

![Demand curve (Ep>1)](image)

3. **Relatively Inelastic demand or less elastic demand (Ep<1):**

In this situation, the % change in demand for a good is less than the % change in its price which implies that the demand for a good gives less response to the change in its price. For example, the goods which are essential for survival (food products, kerosene oil etc.), the goods which have single use (salt), the goods on which we spend less proportion of our income (match box, candle, stationary items etc.), low priced items (newspapers etc.). The demand curve for these goods has a steeper negative slope.

<table>
<thead>
<tr>
<th>Px(Rs.)</th>
<th>Qx(units)</th>
<th>% ∆ in Px</th>
<th>% ∆ in Qx</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>100</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>2</td>
<td>80</td>
<td>100</td>
<td>20</td>
</tr>
<tr>
<td>3</td>
<td>60</td>
<td>50</td>
<td>25</td>
</tr>
<tr>
<td>4</td>
<td>45</td>
<td>33</td>
<td>25</td>
</tr>
</tbody>
</table>

![Demand Curve](image)

4. **Perfectly Inelastic demand (Ep=0):**

In this case, the % change in demand for a good is zero due to any % change in its price. This implies that the demand for the good does not give any response to the change in its price. For example, salt.

<table>
<thead>
<tr>
<th>Px(Rs.)</th>
<th>Qx(Units)</th>
<th>% ∆ in Px</th>
<th>% ∆ in Qx</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>2</td>
<td>10</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>10</td>
<td>50</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>10</td>
<td>33</td>
<td>0</td>
</tr>
</tbody>
</table>

![Demand Curve (Ep=0)](image)
5. **Perfectly Elastic demand** \((E_p=∞)\)

This is an imaginative & impracticable situation where a small change in price of the good may lead to an infinite /limitless change in its demand. In practice, this kind of situation may not be found. In this case, the demand curve will be a straight horizontal line Parallel to qty. axis.

Q8. **Explain the relationship between priced elasticity of demand & Total Outlay (expenditure).**

Ans. The total expenditure is defined as the product of price of the good and its qty. demanded i.e. purchased \((P \times Q)\) or \(PQ\).

1. Inelastic demand \((e<1)\): In this situation, the total expenditure rises due to rise in its price, and vice versa. Thus, when there is a direct relation between the changes in both price and the total expenditure, this is the case of inelastic demand \((e<1)\).

2. Unitary elastic demand \((e=1)\): In this case, the total expenditure does not change with the change in the price of the good. In other words, the total outlay remains same or is not affected by the change in its price.

3. Elastic demand \((e>1)\): In this case, the total expenditure rises with the fall in the price of the good, and vice versa. This implies that there is an inverse relation between the change in the price of a good and its total expenditure.

<table>
<thead>
<tr>
<th>(P_x)</th>
<th>(TEx)</th>
<th>(E_p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>100</td>
<td>(E_p&lt;1)</td>
</tr>
<tr>
<td>2</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>400</td>
<td>(E_p=1)</td>
</tr>
<tr>
<td>5</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>300</td>
<td>(E_p&gt;1)</td>
</tr>
<tr>
<td>8</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

Q9. **Explain Geometrical / Diagrammatic or Point elasticity method.**

Ans. This method is also propounded by Prof. Alfred Marshall. In this method, the \(e\) is measured on various points plotted on the demand curve. In the case of a straight line demand curve, the length of the curve is to be measured followed by the length of the lower segment & upper segment of the DD at that point where the elasticity is to be measured. After this, the ratio of the length of lower and upper segment is measured which helps us to measure the elasticity. Thus, the following formula can be used to measure the elasticity of demand:
Ep= Lower segment of demand curve/ Upper segment of demand curve

In this figure, the demand curve AE is 6 Cm. long. On this curve five points are plotted which shows the elasticity of demand at various points on the curve.

The Ep at point C = CE/CA => 3Cm/3Cm = 1; so, the demand is unitary elastic at point C.

The Epat point B = BE/BA => 5Cm/1Cm = 5; so, the demand at point B is more elastic i.e. Ep>1;

The Ep at point A = AE/AS => 6Cm/0Cm= ¥. Thus, the demand at point A is perfectly elastic i.e. Ep= ¥;

The Ep at point D = DE/DA =1Cm/5Cm =0.20; Thus, Ep at point D is less elastic;

The elasticity at point E = EF/EA= 0cm/6cm= 0; Thus, elasticity of demand at point E is perfectly inelastic i.e. Ep=0

Q11. Explain the Factors influence the Price elasticity of demand for a good.

Ans. The following factors affect/determine the price elasticity of demand for a good:

1. **Nature of a good:** The demands for the goods, which are most essential for human survival or to satisfy the basic needs, are inelastic in demand, because the consumers are compelled to buy these goods without getting bothered about the changes in their price. On the other hand, the goods which are luxurious have elastic demand. For e.g. television, refrigerator, air conditioner etc.

2. **Proportion of income spent:** The goods on which we spend smaller proportion of our income are inelastic in demand, because the consumers do not bother about the change in their price. For e.g. salt, matchbox, pencil or eraser, vegetables etc.

3. **Several uses of the good:** The goods which have several uses like electricity, coal etc. have elastic demand as the rise in their price will compel the consumers to limit the use of these goods as these goods have to be used for various purposes.

4. **Future expectation of change in price:** If there is an expectation of change in price, the demand for a good is either less responsive. For instance, if the consumers expect the price of a good to rise in near future, the % change in demand for the good will be less than the % change in its price;

5. **Price level:** The dearer goods will have elastic demand while the cheaper goods will have inelastic demand. This is so because the consumers are more concerned to the change in the dearer goods while they are least bothered about the change in the cheaper goods.

6. **Postponement of purchase:** Those goods whose purchase can be postponed are elastic in demand because these goods can be purchased in the future time as these are not very essential for the human survival, & vice versa

7. **Availability of close substitutes:** If a good has close substitutes, its demand will be more elastic than the one whose number of substitutes are less. For e.g. Soaps which have various brands. So if price of one of the brand of soap rises, its demand falls to a larger extent. On contrary, there are goods which have either no or very less substitutes have
less elastic demand.

8. **Time period**: The change in time period has huge impact on the elasticity of demand for a good. A good meant for short run has no substitutes & a consumer is more attached to it, the elasticity of demand will be less. On the other hand, the goods in the long run has high elasticity of demand due to availability of many substitutes, & the degree of attachment with the product also declines.

9. **Habit formation**: Many of the users form habit on certain goods viz tobacco, chocolates etc. In this situation, the user won’t bother the change in price as he is already habituated. On the other hand, a product on which the buyer is not habituated, the demand for the product will be more elastic as the buyer is not habituated on this product.

10. **Income Level**: The elasticity of demand for any product will remain low for any such person who belongs to high income group as his purchasing power is high. So he won’t bother much on the change in the price of a product, & vice versa.

### MULTIPLE CHOICE QUESTIONS:

1. Consuming two goods, a consumer attains equilibrium when:
   (a) MU > MU,   (b) MU > MU,   (c) MU = MU,   (d) TU = TU.
   Ans. (c)

2. When marginal utility is negative, total utility is:
   (a) zero   (b) diminishing   (c) maximum   (d) minimum
   Ans. (b)

3. In case of normal goods, demand curve shows:
   (a) a negative slope   (b) a positive slope   (c) zero slope   (d) none of these
   Ans. (a)

4. Law of demand must fail in case of:
   (a) normal goods   (b) giffen goods   (c) inferior goods   (d) none of these
   Ans. (b)

5. Which of the following pairs represents substitute goods?
   (a) Car and petrol   (b) Coffee and tea   (c) Bread and butter   (d) All of the above
   Ans. (b)
NUMERICALS

Q1. If $\Delta Q/Q = (-) 0.6$ and price elasticity of demand is $(-)0.75$, calculate the percentage change in price.

Also calculate the new expenditure if initial expenditure was Rs 500 at the price of Rs 20.

Solution:

Calculation of percentage in price

Given: $\Delta Q/Q = -0.6$

$\% \Delta \text{ in demand} = \Delta Q/Q \times 100 = -0.6 \times 100 = -60\%$

$Ed = \% \Delta \text{ in qty demanded}/\% \Delta \text{ in price}$

$0.75 = -60\% / \% \Delta \text{ in price}$

$\% \Delta \text{ in price} = 80\%$

Calculation of new expenditure

New exp. = QXP = 500;  
QX20 = 500

New qty = Q + $\Delta$ in qty;  
= 25 + (25 x -60%) = 25 - 15 = 10 units

New price = Q + $\Delta$ in price;  
= 20 + (20 x 80%); = 20 + 16 = 36

New expenditure = Q x P;  
= 10 x 36 = 360

Q2. When the price of a good changes to Rs 11 per unit, the consumer’s demand falls from 11 units to 7 units. The elasticity of demand is $(-1)$. What was the price before change? Use expenditure approach of price elasticity of demand to answer the question.

Solution: since it is given that $Ed = 1$, which means old exp. = new exp.

$P \times Q = P \times Q;$  
$P \times 11 = 11 \times 7;$  
$P = 77/11 = 7$
KEY CONCEPTS

Production Function - studies the functional relationship between physical input and physical output.

Total Product - Sum total of output corresponding to each unit of the variable factor used in the process of production; Marginal Product - is additional output when one more unit of the variable factor is used, fixed factor remaining constant. Average Product - is per unit output of the variable factor.

Law of variable Proportions states that as more and more of the variable factor is used along with the fixed factor, marginal product of the variable factor may initially rise, but eventually a situation must come when marginal product of the variable factor must decline.

Total Cost - Sum total of fixed cost and variable cost, corresponding to a given level of output. Marginal Cost - is additional cost owing to the production of one more unit of output. Average Cost - Cost per unit of output.
VERY SHORT ANSWER QUESTIONS (1 MARK)

1. Define the term production.
   Ans: It is also defined as the process of transformation of physical inputs into physical output. It has been already defined in NIA as an activity which is undertaken to produce a good or to increase the value of a good already produced.

2. Define the term Production Function.
   Ans: It is an expression which establishes the functional relationship between the physical inputs & output. Thus, Production Function is expressed as: \( Q = f (\text{Land, Labour, Capital…}) \).

3. Define the term Total Product & how do we derive it from MP?
   Ans: It can be defined as the total volume of a good produced by a firm using total units of a variable factor. It is also defined as the sum of Marginal Product. Thus, \( TP_n = MP_1 + MP_2 + \ldots + MP_n = \Sigma MP \). \( TP_n = MP_n + MP_{n-1} \).

4. Define the term Average Product & how can it be derived from TP?
   Ans: It can be defined as the total production per unit of a variable input used i.e. the qty. of a good produced by one unit of the variable input. Thus, \( AP = TP / \text{Units of a variable factor} \).

5. Define the term Marginal Product & how do we derive it from TP?
   Ans: It is defined as an addition to total physical product (TPP) by the use of an additional unit of the input. It is the qty. produced by the use of one more unit of the input. MPP is also the rate of change in TPP to the change in variable input i.e. the slope of TP. Thus, \( MPP = \Delta TP / \Delta Q \). Also, \( MP = TP_n - TP_{n-1} \).
   Where, \( \Delta Q \) refers to the change in units of a variable input. Thus, MP shows the rate of change in TP.
6. **State the types of Production function.**

Ans: Short run production function Or Law of Variable Proportion Or Law of Returns to a Factor

Long run production function or Law of Fixed Proportion or Law of Returns to Scale

7. **Define the term Cost.**

Ans: It can be defined as the expenditure incurred on various inputs by a firm for producing a commodity. In other words, it is the amount of money spent by a firm in the production process to produce a commodity.

8. **Define the term explicit cost.**

Ans: **Explicit Cost** can be defined as the outgoing payments which are made by the firm on the inputs hired or purchased for the production of a product.

9. **Define Implicit cost.**

Ans: **Implicit Cost** is the imputed value of the input owned by the firm itself which is not exactly paid by the firm to any factor owner as the firm itself is the owner of the input used in the production process.

10. **Define the term Normal Profits.**

Ans: **Normal Profits** can be defined as the minimum reward which an entrepreneur must receive from the enterprise in order to sustain in the same business.

11. **Define the term Cost Function.**

Ans: It can be defined as the functional relationship between the total cost & the determinants of cost of production viz. technology, price of input, weather & climate, taxation & other govt. policies etc. Thus, \( C = f(T, P, T_{x^{-------}}) \)

12. **Where does a rational producer would like to produce, & why?**

Ans: A rational producer would always like to produce at that level of output where he can maximize his output & profits by making maximum use of his resources ie the second phase of production when TP rises at decreasing rate & MP falls.

**SHORT ANSWER QUESTIONS (3 or MARKS)**

Q1. **Differentiate between fixed & variable Cost.**

Ans: **Fixed Cost/Secondary/Indirect/Supplementary cost**: refers to the cost incurred on the fixed inputs which do not change with the change in the level of output in the short run. For eg. Rent on land/premises, meter rent on electricity/telephones, salary to permanent employees, interest on fixed bank loan etc.

**Variable Cost/Primary/Prime/Direct cost**: refers to the cost incurred on the variable inputs which varies with the change in the level of output in the short run. For ex., wages of casual labourers, price of raw materials, transportation cost etc.

Q2. **Differentiate between Short run & Long run Costs.**

Ans: **Short run costs** are those which are influenced by the law of returns to a factor. These costs are both fixed & variable in nature. These costs are influenced by the change in variable factor to change the level of output. The slopes of these cost curves are steeper in...
nature. **Long run costs** are influenced by the law of returns to scale. These costs are the results of change in all inputs to change the level of output. The slopes of these cost curves are flatter in nature.

**Q3. Differentiate between Short run & Long run production function.**

**Ans:**

<table>
<thead>
<tr>
<th>Short run production function/Law of Returns to a factor/Variable proportion</th>
<th>Long run production function/Law of Returns to scale/Fixed Proportions</th>
</tr>
</thead>
<tbody>
<tr>
<td>It is the study of returns related to the change in inputs at variable proportion.</td>
<td>It is the study of returns related to the change in inputs fixed proportions.</td>
</tr>
<tr>
<td>In this case, the returns are attributed to change in only one input &amp; the rest remain fixed.</td>
<td>In this case, the returns are attributed to change in all the inputs at fixed proportion.</td>
</tr>
<tr>
<td>Tis phenomena works only in the short run.</td>
<td>Tis phenomena works only in the long run.</td>
</tr>
<tr>
<td>Tere is no change in scale of production.</td>
<td>Te scale of production is changed.</td>
</tr>
<tr>
<td>In this case, the output changes due to change in factor combination.</td>
<td>Here, output changes with no change in the factor combination.</td>
</tr>
</tbody>
</table>

**Q4. Differentiate between fixed & variable Inputs.**

**Ans:** Fixed/Secondary/supplementary/Overhead inputs are those whose use can't be changed in the short run in order to change the level of output, viz. land, fixed capital, organization; while Variable/Prime/Primary inputs are those which can be changed in the short run to change the level of output viz. daily labour, raw materials, fuel, transportation etc.

**LONG ANSWER TYPE QUESTION (6 MARKS)**

**Q1. Explain the relationship between TP & MP, AP & MP with the help of a schedule & diagram.**

**Ans:**

<table>
<thead>
<tr>
<th>Units of Labour</th>
<th>Total Product (Units)</th>
<th>Average Product (Units)</th>
<th>Marginal Product (Units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>14</td>
<td>4.6</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
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<td>24</td>
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<tr>
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<td>0</td>
</tr>
<tr>
<td>8</td>
<td>24</td>
<td>3</td>
<td>-2</td>
</tr>
</tbody>
</table>
Q2. **Explain the Law of Variable Proportion or Law of Returns to factor.**

Ans: This law explains the likely behavior of change in Total Product & Marginal Product due to change in any one variable input & rest inputs remain fixed, by the firm, in the short run. The law states that, “Ceteris paribus, when a firm employs additional units of a variable input (say labor) in the short run, while other inputs remain fixed, initially the TP rises at increasing rate (i.e. MP rises); after a certain period of time the TP rises but at diminishing rate (i.e. MP falls); and finally the TP declines (i.e. MP is negative).” and finally the TP declines (i.e. MP is negative).”

<table>
<thead>
<tr>
<th>Land</th>
<th>Labour</th>
<th>TP</th>
<th>MP</th>
<th>Phases</th>
</tr>
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<tr>
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<td>1</td>
<td>1</td>
<td>1</td>
<td>Phase I Increase Returns</td>
</tr>
<tr>
<td>1 Acre</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>Phase I Increase Returns</td>
</tr>
<tr>
<td>1 Acre</td>
<td>3</td>
<td>6</td>
<td>3</td>
<td>Phase II Decrease Returns</td>
</tr>
<tr>
<td>1 Acre</td>
<td>4</td>
<td>8</td>
<td>2</td>
<td>Phase II Decrease Returns</td>
</tr>
<tr>
<td>1 Acre</td>
<td>5</td>
<td>9</td>
<td>1</td>
<td>Phase II Decrease Returns</td>
</tr>
<tr>
<td>1 Acre</td>
<td>6</td>
<td>9</td>
<td>0</td>
<td>Phase II Decrease Returns</td>
</tr>
<tr>
<td>1 Acre</td>
<td>7</td>
<td>8</td>
<td>-1</td>
<td>Phase III Negative Returns</td>
</tr>
</tbody>
</table>
Q3. **Explain the law of increasing marginal product & its causes.**

Ans: Law of Increasing Marginal Returns to a factor can be stated as, “while other inputs are kept constant in the short run, when a firm employs additional units of an input, the TP increases at rising rate i.e. the marginal returns increases.”

**Causes: A firm enjoys increasing returns due to the following reasons:**

a) Initially, the fixed inputs remain unutilized due to lesser application of variable input. But when the firm increases the application of variable input on the fixed input, there is greater use of fixed resources that adds more & more to total output.

b) Due to proper coordination between the fixed & variable input in the initial period as the fixed input remain unutilized, & thus overall efficiency increases that raise the total output at increasing rate.

c) Indivisibility of factors is mainly responsible for the increasing returns to factor as every fixed factor is divisible into a certain number of variable factors. So, the firm goes on utilizing more of a factor, its returns increases due to its use of larger capacity.

Q5. **Explain the law of diminishing marginal product & its causes.**

Ans: **Law of Diminishing Marginal Returns to a factor** can be stated as, “Ceteris paribus, while other inputs remain fixed in the short run, when a firm applies more & more units of variable input, the TP increases but at diminishing rate & MP falls.”

This is the phase where all rational firms would like to produce their products because their output is maximized with the use of given resources.

**Causes: The reasons for diminishing returns to factor are as follows:**

1. **Due to Optimum utilisation of the fixed inputs** as this remain fixed with due course of time, and thus the marginal returns of variable input diminishes with more & more of its application by the firm. In other words, due to more efficient use of fixed resources, the TP rises but it rises at decreasing rate as the fixed resources have been already fully utilized.

2. In every production process, there is an **optimum combination of inputs** i.e. an ideal factor-output ratio. When the firm goes beyond this combination, it leads to diminishing returns to factor due to poor coordination & over crowdedness in the plant as this leads to mismanagement & communication gap, & thus fall in overall efficiency of the resources.

3. **Due to lack of perfect substitutability between the fixed & variable inputs** or among the inputs as labour cannot be used as land & vice versa, and thus the returns of extra units of labour diminishes with its more & more application on the given land.

Q5. **Define the terms TC, TFC & TVC and explain their behavior using a diagram.**

Ans: **TOTAL COST (TC)** is the amount spent by a firm for producing the total quantity of a product on various inputs engaged in the production process. Total Cost is also defined as the sum of Total Fixed Cost & Total Variable Cost. Thus, \[ TC = TFC + TVC. \]

The shape of TC is inverse S shaped i.e. it initially rises at diminishing rate, & later at increasing rate. TC always originate from Y axis as TC is a positive value equal to TFC at zero level of output. The TC is actually influenced by change in TVS which is further influenced by change in MC. The MC
is influenced by the change in Marginal Product.

**Total Fixed Cost** is defined as the expenditure incurred on the fixed inputs to produce total output of a good. TFC is not influenced by the change in the level of production in the short run. It is, therefore, the TFC curve is a straight horizontal line parallel to OX axis.

**Total Variable Cost** is defined as the expenditure incurred on variable inputs which varies with the change in level of output. It is also equal to total sum of marginal cost (MC) i.e TVC = \( \sum MC = MC_n + MC_{n-1} \). The area under the MC curve is equal to TVC. The shape of TVC is also inverse S Shaped due to the influence of law of returns to a factor. TVC always originates

<table>
<thead>
<tr>
<th>Units</th>
<th>TC (Rs.)</th>
<th>TFC (Rs.)</th>
<th>TVC (Rs.)</th>
<th>MC (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
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<td>10</td>
<td>0</td>
<td>---</td>
</tr>
<tr>
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<td>8</td>
</tr>
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<tr>
<td>8</td>
<td>60</td>
<td>10</td>
<td>50</td>
<td>16</td>
</tr>
</tbody>
</table>

Q6. **Define Average Total Cost (AC). Why AC is U-Shape Curve?**

**Ans:** It is the expenditure incurred on producing one unit of a product. It is also called as **Unit Cost** as it implies the total cost per unit of output produced. It is derived by dividing TC by the Units Produced i.e. AC = TC/Q. Average cost is also defined as the sum of AFC & AVC. Generally, Average Cost (AC) & AVC curve is U shape curve in the short run as both this curves are influenced by the MC curve which is also a U shape curve. It is due to the operation of the law of returns. Initially, the ATC curve falls in the stage of increasing returns as MC curve also falls; after a certain level of output, the ATC curve rises in the stage of increasing returns as MC also rises. Thus, the behavior of AC & AVC curve is reciprocal to the behavior of MP as when the returns increases, the AC decreases, & vice versa.

Q7. **Define Average Fixed Cost (AFC). Explain its behaviour.**

**Ans:** It is defined as the expenditure incurred on the fixed inputs for producing one unit of a good i.e. TFC per unit of output produced. Thus, AFC = TFC/Q.

The shape of AFC is a rectangular hyperbola which implies that AFC curve never touches OY axis & OX axis. It also implies that the ratio of % change in cost & % change in output produced is equal to one. The reason that AFC curve does not intersect OY axis is at zero level of output the AFC is infinity, while it does not touch OX axis as it is never equal to Zero since TFC is not equal to zero. AFC always keeps on decreasing with the increase in output.
Q8. **Define Average Variable Cost (AVC) & explain its behaviour.**

**Ans:** It is defined as the expenditure incurred on variable inputs for producing one unit of a good i.e. TVC per unit of a good produced. Thus, \( AVC = \frac{TVC}{Q} \).

The AVC curve is generally a U-shape curve as it initially falls, then it remains constant for a while, and finally it rises. This is due to the operation of Law of returns to a factor. AVC is never equal to zero at any level of output. Initially it falls gradually but later it inclines faster.

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Q9. **Explain the relationship between ATC, AVC & AFC Curves.**

**Ans:** Both ATC & AVC curves are U-shape curve while AFC curve is a rectangular hyperbola curve. Initially, both ATC & AFC curves are closer to each other while the AVC curve is far from ATC curve. As the level of output goes on increasing by the firm, the AFC curves drive away from the ATC curve while AVC comes closer to ATC curve, since AFC curve declines at a faster rate when the ATC of the firm declines. Although, it falls at gradual rate when ATC starts rising. On the other hand, the AVC curves rises rapidly with the increase in the level of output & goes closer to ATC curve, but it does not intersect ATC curve because AFC curve does not touches the OX axis, as AFC is never equal to Zero.

<table>
<thead>
<tr>
<th>Units</th>
<th>TC(Rs.)</th>
<th>TFC (Rs.)</th>
<th>TVC (Rs.)</th>
<th>MC(Rs.)</th>
<th>AFC (Rs.)</th>
<th>AVC (Rs.)</th>
<th>AC (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
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<td>1</td>
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<td>18</td>
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<td>2</td>
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<td>16</td>
<td>1.25</td>
<td>6.25</td>
<td>7.5</td>
</tr>
</tbody>
</table>
Q10. Define the term Marginal Cost (MC). Why is it a U shaped curve?

Ans: It is the expenditure incurred on producing an extra unit of a product. In other words, it is an addition to TVC when one more unit is produced. It can be derived as MC = TVCn – TVCn-1, since a change in TC is caused by a change in TVC. MC is also defined as the rate of change in TC or TVC by the Change in units produced. MC is the slope of TVC. Thus, \( MC = \frac{\Delta TC}{\Delta Q} \) (long run); \( MC = \frac{\Delta TVC}{\Delta Q} \) (Short run)

MC is always a U-shaped curve because of operation of law of returns to a factor, as been explained earlier. MC is the reciprocal of MP. The increase in MP leads to fall in MC, & vice versa.

Q11. “The rising portion of MC is Supply Curve of Firm.” Why?

Ans: The rising portion of MC is also known as supply curve of a firm. The reason is that this portion is above the minimum of AVC, & therefore a firm makes production of a good. The falling portion is below the AVC which implies that the firm is not able to cover the minimum of variable cost. So, it is not wise for a firm to produce the goods. Moreover, we have learnt that a rational firm always produces at the 2\textsuperscript{nd} phase when the marginal returns declines. At this stage, the MC of the firm increases, & thus it supplies its products.

Q12. Explain the Relationship between TVC & MC; AC & MC; MC & AVC.

Ans: Relationship between MC & TVC:
1. When MC falls, TVC rises at diminishing rate
2. When the MC is at its minimum, the rate of change in TVC stops
3. When MC rises, the TVC rises at increasing rate.

Relationship between AC & MC; MC & AVC
1. When MC is less than AC/AVC, the AC/AVC falls;
2. When MC is equal to AC/AVC, AC/AVC is at its minimum & constant;
3. When MC is greater than AC/AVC, the AC/AVC rises
4. The minimum point of MC comes before AC/AVC
5. When MC starts rising, The AC/AVC may still fall.
Q. Find out the missing figure from the table given below:

<table>
<thead>
<tr>
<th>Capital income</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<tbody>
<tr>
<td>TC</td>
<td>-</td>
<td>-</td>
<td>100</td>
<td>-</td>
<td>-</td>
<td>130</td>
<td>150</td>
</tr>
<tr>
<td>TFC</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>60</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TVC</td>
<td>-</td>
<td>20</td>
<td>-</td>
<td>51</td>
<td>56</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**SOLUTION:**

<table>
<thead>
<tr>
<th>Outputs (units)</th>
<th>TC (rs.)</th>
<th>TFC (rs.)</th>
<th>TVC (rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC= TFC+TVC</td>
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<td></td>
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<td>60</td>
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</tr>
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<td>5</td>
<td>130</td>
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<td>70</td>
</tr>
<tr>
<td>6</td>
<td>150</td>
<td>60</td>
<td>90</td>
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</table>

**NOTE:** TFC remains the same at Rs.60 at all levels of output.

Q. Calculate TFC, TVC, ATC, AFC, AVC and MC.

<table>
<thead>
<tr>
<th>OUTPUT</th>
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<tbody>
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<td>80</td>
<td>100</td>
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<td>116</td>
<td>130</td>
<td>150</td>
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</table>

**SOLUTION:**

<table>
<thead>
<tr>
<th>Output (in units)</th>
<th>TC</th>
<th>TFC</th>
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<th>ATC</th>
<th>AFC</th>
<th>AVC</th>
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</tbody>
</table>

**FORMULA USED:**

(I) TVC=TC-TFC (II) ATC=TC/output; (iii) AFC= TFC/output; (iv) AVC= TVC/output

SO, TFC-3X20=60; ANS: Total fixed cost is =60
Revenue- money receipts of the producer from the sale of his output.
Total Revenue- money receipts of the producer from the sale of his output.
Average Revenue- per unit of revenue corresponding to a given level of output of a firm.
Marginal Revenue-addition to total revenue on account of sale of one more unit of output.
Producer’s Equilibrium- a situation of profit maximisation.
Two Necessary Conditions of Producer’s Equilibrium: i) MR=MC ii) MC is rising.
Supply—various quantities of a commodity that the producers wish to sell at different possible prices of the commodity at a point of time;
Law of Supply—states that the higher the price, greater the quantity supplied or lower the price, lesser the quantity supplied of a commodity, other determinants of supply remaining constant;
Extension of Supply- increase in quantity supplied in response to increase in own price of the commodity;
Contraction of Supply- decrease in quantity supplied in response to decrease in own price of the commodity;
Shifts in Supply-shows increase or decrease in supply of a commodity.
Elasticity of Supply—measure the degree of extension and contraction of supply in response to a given change in own price of the commodity.

**VERY SHORT ANSWER QUESTION (1 MARK)**

**Q. 1 What is Revenue?**

**Ans.** It refers to the money receipts of a firm by selling its product. Revenue is classified into Total, Average & Marginal Revenue.

**Q. 2 Define what is TR.**

**Ans.** It refers to the money receipts of a firm by selling the total output of a good. It is also the product of the Price & Qty. sold of the good i.e. TR = P×Q
Q. 3 Define what is AR.
Ans. It refers to the money receipts of a firm by selling one unit of a good i.e. revenue earned per unit of output sold. It can be calculated by dividing TR by the units sold i.e. AR = TR/Q.

Q. 4 Define what is MR.
Ans. It is the revenue earned by the firm after selling an extra unit of a good i.e. the addition to the TR after selling an additional unit of the good. It can be derived by MR = TR_n - TR_{n-1}, where TR_n refers to the TR of Current unit while TR_{n-1} refers to the TR of the Previous unit. It is also defined as the rate of change in TR by the change in units sold i.e. MR = ΔTR / ΔQ

SHORT ANSWER QUESTION (3 or MARKS)

Q1. State the general relationship between TR & MR.
Ans. 1. When MR rises, TR rises at increasing rate; 2. When MR falls but positive, TR rises at diminishing rate; 3. When MR is zero, TR is at its maximum; 4. When MR is negative, TR declines.

Q2. State the general relationship between MR & AR.
Ans. 1. When MR rises, the AR also rises but MR is greater than AR; 2. When MR is less than AR, AR starts falling; 3. MR can be zero or negative but AR cannot be.

<table>
<thead>
<tr>
<th>UnitsSold (Q)</th>
<th>TR(Rs.)</th>
<th>AR(Rs.)</th>
<th>MR(Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>12</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>20</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>5</td>
<td>26</td>
<td>5.2</td>
<td>6</td>
</tr>
<tr>
<td>6</td>
<td>30</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>32</td>
<td>4.5</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>32</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>30</td>
<td>3.3</td>
<td>-2</td>
</tr>
<tr>
<td>10</td>
<td>26</td>
<td>2.6</td>
<td>-4</td>
</tr>
<tr>
<td>11</td>
<td>20</td>
<td>1.8</td>
<td>-6</td>
</tr>
</tbody>
</table>

Q3. State the relationship between AR & MR in perfect & imperfect market conditions.
Ans: The perfect market is mainly characterized by the uniform price at all level of output due to the existence of large no. of buyers & firms, & these firms produce & sell homogenous product. As the price of the good remain same, therefore the AR curve takes the form of a straight horizontal line & MR curve also coincides on it. This implies that AR & MR is equal to each other in perfect market situation. When MR is positive & constant, TR rises at constant rate. This can be illustrated as follows:

Ans: Imperfect market refers to such market where a firm can sell more output by lowering the price.

<table>
<thead>
<tr>
<th>Units sold</th>
<th>TR(Rs.)</th>
<th>AR(Rs.)</th>
<th>MR(Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>20</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>30</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>4</td>
<td>40</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>5</td>
<td>50</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>

Relationship between TR & MR:
1. MR falls but is positive, TR rises at decreasing rate;
2. MR is zero, TR is maximum & constant;
3. MR is negative & falls, TR also falls.

Relationship between AR & MR:
1. When MR falls, AR also falls but MR falls faster than AR
2. MR curve lies half way between AR curve & Y axisie MR falls twice of fall in AR (In case change in price is constant)
3. MR can be zero but AR can never be.

Supply

Q. Define the term Supply.

Ans: It refers to the quantity of a good which a firm is ready to sell at a given price & at a given period of time.
Q. Define the term Supply Function.

Ans: It is an expression which establishes the functional relationship between Supply of a good & its various determinants. In other words, it is a phenomenon which shows that the change in certain factors may bring change in the supply of a good. Thus, \( QS_s = f (P_x, P, T, P_r, G, \ldots) \), where \( QS_s \) refers to the qty. supplied of a good; 'f' refers to the functional relationship; & the letters within the bracket refers to the determinants of supply of the good.

Q. Explain the determinants of supply or factors influencing supply of a good.

1. **Price of the good (\( P_x \))** is the most important determinant of the supply of a good, as the change in the price of a good may bring change in its supply due to change in the profit margin. For example, if the price of tea rises, the profit margin of the tea manufacturers will also rise which will lead to the rise in supply of tea, & vice versa.

2. **Price of other related goods (\( P_r \))** also influences the supply of a good. When the price of a good (say tea) changes (rises), the supply of its related good (say coffee) may be changed (fall). The goods may be related in terms of substitute & complementary. Incase of substitute goods, the rise in price of good \( X \) may lead to decline in the supply of \( Y \). On other hand, the rise in price of a good (Car), incase of complementary good, may lead to rise in the supply of its complementary good (petrol). Thus, the change in price of other related good may also bring change in the supply of a good.

3. **Technology** also is an important factor which influences the supply of a good. In case of technological advancement, the firm accrues the benefits of superior quality, lowering of cost, & increased output. This lead to rise in profits of a firm, & thus the firm can supply more qty. of the good at same price.

4. **Goal of the firm (\( G \))** is one of the determinant of supply of a good, as there may be change in the supply due to the change in the goals of the firm. The goals of the firm may be profit maximization, minimizing cost, expansion of the scale of production, welfare motive etc. The change in any one of the motive may influence the supply of the good.

5. **Price of Inputs (\( P \))** also influences the supply of a commodity, as when the price of input rises, the cost of production also rises. This leads to fall in the profit margins of the firm. Consequently, the supply of the good also falls. On the contrary, the fall in the price of inputs may lead to rise in supply of the good.
In this fig. we see that the change in price of input has inverse effect on the supply of a good, & thus there is negative slope of supply curve in relation to price of Input.

Here we can see that at same price OP, the firm can supply more of a good from OQ to OQ₁ due to decline in price of an input. Thus, supply of a good may be affected due to change in price of an input.

6. **Govt. Policy like Subsidies & taxation** may also influence the supply of the good. By subsidies we mean the financial aid to the production unit or to the consumer has direct effect on the supply of a good. If Govt. raise the subsidies, the firms are able to supply more at same price, & vice versa. The ban on the production, rise in tax rate on the production of the good, excise duties, & imposition of other policies against the firm may adversely affect the supply of the good, & vice versa.

7. **Natural factors & abnormal situation** viz. flood, drought, extreme climate, war or any other political & civic disharmony may also adversely affect the supply of a good.

Q. **Define the term Market supply. Explain how it can be derived?**

Ans: It refers to the qty. of a good offered for sale by an industry i.e. group of firms at a given price & at a given unit of time. It is the sum of quantities supplied by all the individual firms of an industry. The market supply curve can be derived by the horizontal summation of the individual supply curves. This can be explained by the help of the following illustration:

<table>
<thead>
<tr>
<th>Price of Good X</th>
<th>QSX by frm A</th>
<th>QSX by frm B</th>
<th>QSX by frm C</th>
<th>Market Supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
<td>10</td>
<td>8</td>
<td>28</td>
</tr>
<tr>
<td>2</td>
<td>20</td>
<td>15</td>
<td>12</td>
<td>47</td>
</tr>
<tr>
<td>3</td>
<td>30</td>
<td>20</td>
<td>20</td>
<td>70</td>
</tr>
<tr>
<td>4</td>
<td>40</td>
<td>25</td>
<td>28</td>
<td>93</td>
</tr>
<tr>
<td>5</td>
<td>50</td>
<td>30</td>
<td>40</td>
<td>120</td>
</tr>
</tbody>
</table>
In the above illustration, all the three firms A, B, & C sell various quantities of good X at different prices. The sum of quantities been sold by these firms is market supply. The figure also shows four panels of diagrams which comprise of individual supply curves of each firms, & the last one depicts the market supply curve which is the horizontal summation of these three individual supply curves. At the price of Rs.2, AB, A1B1, & A2B2 is the qty. of supply by firm A, B, & C respectively. The sum of AB, A1B1 & A2B2 is equal to \( A^M B^M \), that is the qty. of market supply. Thus, market supply curve is derived by the horizontal summation of individual supply curves.

Q. Explain the Law of supply.

Ans : This law explains that there is a direct relationship between price of the good & its supply. This law states that, “While other things remaining same, the supply of a good rises with the rise in its price, & vice versa.” Thus, the supply curve has a positive slope. This law can be explained with help of following illustration:

<table>
<thead>
<tr>
<th>Price (in Rs.)</th>
<th>Qty. Supplied (in Units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>3</td>
<td>30</td>
</tr>
<tr>
<td>4</td>
<td>40</td>
</tr>
<tr>
<td>5</td>
<td>50</td>
</tr>
</tbody>
</table>

From the schedule & figure we can explain the law of supply. The schedule reveals that the rise in price of the good from Re.1 to Rs.5 leads to rise in the supply of the good from 10 units to 50 units respectively. The supply curve also depict that it has a positive slope which implies that the supply of the good rises due to the rise in its price.

Q. Differentiate between Change in supply & change in qty. Supplied/ movement along & shift in supply curve.

Ans : The supply of a good may be changed due to the change in its price or other factors. When the supply of a good changes due to the change in its price, while other factors remaining same, it is called as the change in qty. supplied or movement of supply curve. On the other hand, if the supply of a good changes due to the change in other factors viz. price of other related goods, technology, price of inputs etc., while the price of the good remain same, then it is called as change in supply or shift of supply curve.

**Movement along the supply curve Vs Shift of Supply Curve:**

**Movement along the Supply Curve** refers to the situation which arises when the supply of a good changes due to the change in its price, while other factors remaining same. In this kind of situation, the rise & fall in qty. of supply is known as Expansion & Contraction of supply. In this case, the supply curve moves along the same curve. In case of expansion, the supply curve moves towards right, while it moves towards left in case of contraction in supply. More quantity is supplied at higher price while less qty. is supplied at lower price. Here, the law of supply is applicable.
This can be explained by the help of this figure in which the firm sells OQ qty. at OP price. When the price rises to OP, the firm sells OQ, thus the supply curve moves towards right along the same curve (Expansion). On the other hand, the qty. of supply falls to OQ when its price falls to OP, & thus the supply curve moves towards left along the same curve (Contraction).

**Shift in Supply Curve** is a situation which arises when supply of good changes due to the change in other factors viz. price of other related goods, technology, price of input etc., while price of the good remain same. In this situation, rise & fall in supply is known as Increase & Decrease of supply respectively.

In this case, the supply curve shifts towards right in case of increase in supply, & shift leftwards left in case of decrease in supply. More qty. is supplied at same price or at same qty. at lower price, in case of increase in supply; while less qty. is supplied at same price or same qty. at higher price. The law of supply is not applicable.

This is explained by the help of this figure where SS represents the initial supply curve, & the firm sells OQ qty. at OP price. Now, due to change in other factor, the firm sells OQ qty. of good at same price. Thus, the supply of the good increases & the SS shift towards right as a new Supply curve SS. The firm, in this case sells more qty. at same price. On the contrary, the supply of the good decreases from OQ to OQ due to change in other factors viz. rise in price of input or may be due to change in price of other related good. Thus, the firm sells less qty. at same price, & the SS shift towards left as SS.

**Q. Discuss the concept of Price Elasticity of Supply.**

**Ans**: It is defined as the degree of responsiveness of change in supply of the good due to the change in its price. It measures that 'by what extent' the supply of a good changes due to change in its price. The coefficient of elasticity of supply is denoted as \( E_s \) which is equal to the ratio of proportionate change in qty. supplied of a good and proportionate change in its price. Thus,

\[
E_s = \frac{\text{Percentage change in qty. supplied}}{\text{Percentage change in price}}
\]

Hence, \( E_s = \frac{\Delta q}{\Delta p} \times \frac{p}{q} \); where \( \Delta q \) refers to the change in qty. supplied, & \( \Delta p \) is the change in price.

**Q. Explain the degrees of Price Elasticity of Supply according to percentage method.**

There are five degrees of \( E_s \) which are illustrated below:

1) **Unitary elastic supply** (\( E_s = 1 \)): It refers to the situation when the percentage change in price & qty. supplied is same i.e. the ratio of percentage change in both is equal to one. In other words, the supply of the good gives the same response to the change in its price. The supply curve, in this case, passes through origin at 45° of angle.
2). **Relatively Elastic Supply** \((Es>1)\): In this case, the percentage change in qty. supplied is greater than the percentage change in its price. Thus, the supply of the good gives greater response to the change in its price. The supply curve will have flatter positive slope. This can be seen from the following illustration where the % change in qty. is 200 while % change in price is 100, when price rises from Re.1 to Rs.2 & the qty. rises from 10 units to 30 units.

<table>
<thead>
<tr>
<th>Px</th>
<th>Qx</th>
<th>%ΔPx</th>
<th>%ΔQx</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>2</td>
<td>20</td>
<td>100</td>
<td>100</td>
<td>1:1</td>
</tr>
<tr>
<td>4</td>
<td>40</td>
<td>100</td>
<td>100</td>
<td>1:1</td>
</tr>
<tr>
<td>6</td>
<td>60</td>
<td>50</td>
<td>50</td>
<td>1:1</td>
</tr>
<tr>
<td>9</td>
<td>90</td>
<td>50</td>
<td>50</td>
<td>1:1</td>
</tr>
</tbody>
</table>

3). **Relatively Inelastic supply** \((Es<1)\): It is situation when the % change in supply of a good is less than % change in its price i.e. the supply of the good gives lesser response to the change in its price. Thus, the supply curve has a Steeper positive slope.

<table>
<thead>
<tr>
<th>Px</th>
<th>Qx</th>
<th>%ΔPx</th>
<th>%ΔQx</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>2</td>
<td>15</td>
<td>100</td>
<td>50</td>
</tr>
<tr>
<td>3</td>
<td>20</td>
<td>50</td>
<td>33</td>
</tr>
<tr>
<td>4</td>
<td>25</td>
<td>33</td>
<td>25</td>
</tr>
<tr>
<td>8</td>
<td>37.5</td>
<td>100</td>
<td>50</td>
</tr>
</tbody>
</table>

4). **Perfectly Inelastic Supply** \((Es=0)\): In this case, supply of the good does not give any response to the change in its price i.e the change in price of the good does not bring any change in its supply. It is therefore, the supply curve is a straight vertical line as shown in the figure which depicts that supply remains fixed at any level of price.

<table>
<thead>
<tr>
<th>Px</th>
<th>Qx</th>
<th>%Δ in Px</th>
<th>%Δ in Qx</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>2</td>
<td>10</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>10</td>
<td>50</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>10</td>
<td>33</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>10</td>
<td>25</td>
<td>0</td>
</tr>
</tbody>
</table>
5). **Perfectly Elastic Supply** \( (e_s = \infty) \): This situation tells us that a small change in price of the good may lead to an infinite change in its supply i.e. the change in supply is untraceable. This kind of situation is rarely found in product market, but is mostly found in factor market where the supply of a factor is perfectly elastic. In this situation, the supply curve is a straight horizontal line. The supply curve, in this figure, moves in an infinite direction.

**Q. Explain the Methods to measure Price Elasticity of Supply.**

**Ans :**

i) **Percentage/Proportionate Method:** In this method, the price elasticity of supply is measured by measuring the ratio of % change in qty. supplied by the % change in its price. Thus, \( Es = \frac{\text{Percentage Change in qty. Supplied}}{\text{Percentage Change in its Price}} \). Symbolically,

\[
Es = \frac{\Delta q}{\Delta p} \times \frac{\Delta p}{p} \times 100; \quad Es = \frac{\Delta q}{q} \times \frac{p}{\Delta p} \times \frac{100}{1} ;
\]

After cancelling 100, \( Es = \frac{\Delta q}{\Delta p} \times \frac{p}{q} \).

ii) **Geometric Method:** In this method, the \( Es \) is measured by measuring the ratio of base line distance between the inception point of the supply curve on the \( OX \) axis & the base point of the perpendicular line of the point of measuring \( Es \) (say, \( BC \)), & the distance between the point of origin & point of perpendicular line (say, \( OC \)). Thus, \( Es = \frac{BC}{OC} \). The supply is elastic \((Es>1)\) when \( BC > OC \); & it is inelastic \((Es<1)\) when \( BC<OC \); supply is unitary elastic \((Es = 1)\) when the distance between both the lines are equal i.e. \( BC = OC \). This can be explained with the help of following illustration:

a) In this hypothetical figure, we see that \( SS \) is the supply curve whose inception point is \( B \). \( C \) is the base point of the perpendicular line \( TC \). \( T \) is the point at which the \( Es \) is to be measured. The length of \( BC \) is 5Cm, & that of \( OC \) is 4Cm.

Thus, \( Es = \frac{BC}{OC} \); i.e. 5Cm/4Cm = 1.25cm ie>1. Thus, \( Es>1 \), since the length of \( BC \) is greater than that of \( OC \). The notable feature is that if the intercept of \( SS \) is on the \( OY \) axis, the length of \( BC \) will be greater than \( OC \), & thus \( Es>1 \).

b) In this figure we see that the supply curves \( SS \) are passing through the origin. The points \( O \) & \( B \) are on the same point since the \( SS \) curve is originating from the point of origin. Now, if we have to measure \( Es \) at point \( A \) on the \( SS \) curve, then \( BC/OC = 3Cm/3Cm = 1 \). Thus, the elasticity at point \( T \) is unitary, since the length of both \( BC \) & \( OC \) are equal.
c) In this figure we see that the SS originates on OX axis. The elasticity at point T is $BC/OC = 2/3 = 0.6Cm$, which is less than 1, thus $Es < 1$. Thus, we can see that the elasticity at Point T is less elastic because the length of BC is less than OC, & the SS originate from the OX axis.

The notable feature is that the $Es$ does not depend upon the slope of the SS, but the point of origin of the SS which play the vital in measuring $Es$, in this method.

Q. Differentiate between Expansion & Increase in Supply

<table>
<thead>
<tr>
<th>EXPANSION IN SUPPLY</th>
<th>INCREASE IN SUPPLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>It means the rise in supply due to the rise in its price while other factors remaining same.</td>
<td>It means rise in supply due to the change in other factors while price of the good remaining same.</td>
</tr>
<tr>
<td>In this case, the supply curve moves along the same curve to right.</td>
<td>In this case, the supply curve shifts towards right.</td>
</tr>
<tr>
<td>In this type of situation, more qty. is supplied at higher price.</td>
<td>In this type of situation, more qty. is sold at same price or same qty. at lower price.</td>
</tr>
</tbody>
</table>

Te source of change in supply is only the change in price of the good. | Te sources of increase in supply are change in the price of other related goods; technology & innovation; price of inputs; change in goals of the frm; change in govt. policy; natural factors etc. |
Q. Differentiate between Contraction & Decrease in Supply.

<table>
<thead>
<tr>
<th>CONTRACTION IN SUPPLY</th>
<th>DECREASE IN SUPPLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>By this we mean the fall in supply of a good due to fall in its price, while other factors are constant.</td>
<td>By this we mean the fall in supply of a good due to the change in other factors viz. technology, price of other related goods etc, while price of the good remain same.</td>
</tr>
<tr>
<td>In this kind of situation, the supply curve moves along the same curve towards left.</td>
<td>Here, the supply curve shifts towards left as a new supply curve.</td>
</tr>
<tr>
<td>Less qty. is supplied at lower price.</td>
<td>Less qty. is supplied at same price or same at higher price.</td>
</tr>
</tbody>
</table>

PRODUCER EQUILIBRIUM/ EQUILIBRIUM OF A FIRM

Q. Define the term producer equilibrium.

Ans : It refers to such a situation with an enterprise when a firm maximizes its profits out of its given scale of production & has no motive to expand the level of output without changing the existing scale of production.

Q. When does a firm attain equilibrium?

Ans : This situation with a firm arises when its marginal cost is equal to its marginal revenue i.e. the expenditure incurred on the additional unit is equal to the revenue earned after selling it.

Q. Explain the equilibrium conditions needed to be fulfilled by affirm to maximize its profits.

Ans : 1. The Marginal Cost (MC) of the firm must be equal to its Marginal Revenue (MR).

The firm attains equilibrium when its MC is equal to its MR. As we already know that the MC initially declines & reaches to its minimum, & finally it rises. Now, when it intersects the MR i.e. MC is equal to MR, the firm maximizes its profits. It is an essential condition since when MC<MR, the firm still expects to get more profits; & when MC>MR, the firm gets loss as it spends more than what it earns from the extra unit.

2. The Marginal Cost (MC) must be less than Marginal Revenue (MR) before the equilibrium point & MC must be greater than MR after the equilibrium point. In other words, MC must intersect MR from below but not from above. If the MC intersects from above of the MC curve i.e. MC>MR, then it implies that the firm was already facing loss & further production will accrue profits to the firm.
From the above schedule & figure, the firm maximize its profit at 9th unit because at this level of output the MR = MC, & MC is increasing.

From the below given schedule & fig, the firm attains equilibrium at 4th unit of output because at this level of output, MR = MC, & MC is increasing.

**MULTIPLE CHOICE QUESTIONS:**

1. Per unit production of the variable factor is called
   (a) Total product  
   (b) average product  
   (c) marginal product  
   (d) none of these
   Ans. (b)

2. When average product (output) increases, marginal product is:
   (a) Equal to average product;  
   (b) greater than average product;  
   (c) less than average product  
   (d) zero
   Ans. (b)
3. When supply curve is vertical straight line, it indicates:
(a) Unitary elastic supply (b) perfectly elastic supply;
(c) Perfectly inelastic supply (d) relatively elastic supply
Ans. (c)

4. The rise in supply due to rise in price is called:
(a) Increase in supply (b) decrease in supply
(c) extension of supply (d) none of these
Ans. (c)

5. Average fixed cost (AFC) is indicated by:
(a) Rectangular hyperbola (b) a straight line parallel to X-axis
(c) a straight line parallel to Y-axis (d) U-shaped curve
Ans. (a)

6. Per unit of a good is called:
(a) Total fixed cost (b) variable cost
(c) average cost (d) none of this
Ans. (c)

7. What happens to ATC when MC < ATC?
(a) ATC will rise (b) ATC will fall
(c) ATC will remain constant (d) None of these
Ans. (b)

8. Under perfect competition:
(a) MR curve is below AR curve (b) price = AR = MR
(c) AR remains constant; (d) both (b) and (c)
Ans. (d)

9. When MR is zero, then
(a) TR is minimum (b) TR is zero
(c) TR is maximum (d) TR is equal to MR
Ans. (c)

10. Average revenue:
(a) Can be negative; (b) cannot be negative;
(c) is zero when TR is zero; (d) both (b) and (c)
Ans. (d)

11. What is the shape of the average revenue curve in perfect competition?
(a) Horizontal straight line; (b) Vertical straight line;
(c) Rectangular hyperbola; (d) Downward to right
Ans. (a)
NUMERICALS:

Q. On the basis of the information given below, determine the level of output at which the producer will be equilibrium. Use the marginal cost – marginal revenue approach. Give reason for your answer.

<table>
<thead>
<tr>
<th>Output (Units)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Revenue (Rs)</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Total Cost (Rs)</td>
<td>8</td>
<td>15</td>
<td>22</td>
<td>28</td>
<td>33</td>
<td>40</td>
<td>48</td>
</tr>
</tbody>
</table>

Solution:

The producer achieves equilibrium at 6 units of output. It is because this level of output satisfies the conditions of producer's equilibrium:

I) MC is equal to MR

II) MC becomes greater than MR after this level of output.

Q. Determine producer's equilibrium from the following data through MC-MR approach. Give reasons for your answer.

<table>
<thead>
<tr>
<th>Output (Q)</th>
<th>AR (Rs)</th>
<th>AC (Rs)</th>
<th>TR (Rs)</th>
<th>TC (Rs)</th>
<th>MC (Rs.)</th>
<th>MR (Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCₙ = TRₙ - TRₙ₋₁</td>
<td>MRₙ = TRₙ - TRₙ₋₁</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>1</td>
<td>12</td>
<td>4</td>
<td>12</td>
<td>4</td>
<td>4</td>
<td>12</td>
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<tr>
<td>2</td>
<td>11</td>
<td>5</td>
<td>22</td>
<td>10</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>10</td>
<td>6</td>
<td>30</td>
<td>18</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>9</td>
<td>7</td>
<td>36</td>
<td>28</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>8</td>
<td>9</td>
<td>40</td>
<td>45</td>
<td>17</td>
<td>4</td>
</tr>
</tbody>
</table>
The producer achieves equilibrium at 6 units of output. It is because this level of output satisfies the conditions of producer's equilibrium: a. MC is equal to MR; b. MC becomes greater than MR after this level of output.

**Numericals from Price elasticity of supply:**

Q. Total Revenue is 400 when the price of the commodity is Rs.2 per unit. When price rises to Rs.3 per unit, the quantity supplied is 300 units. Calculate the Price Elasticity of Supply.

**Solution:**

\[
E_s = \frac{\text{Percentage change in quantity supplied}}{\text{Percentage change in price}} = \frac{\Delta q}{\Delta p \times \frac{p}{q}}
\]

Now price of the commodity: \( P = 2 \), Total revenue: 400

Thus the quantity supplied at Rs. 2 per unit: \( Q = \frac{TR}{P} = \frac{400}{2} = 200 \) UNITS

Price after change: \( P = 3; \Delta P = P - P = 3 - 2 = 1 \)

Quantity supplied at Rs 3 per unit: \( Q = 300 \) units

Change in quantity supplied: \( Q - Q = 300 - 200 = 100 \);

Price elasticity of supply = \( \frac{100}{1} \times \frac{2}{200} = 1 \)

Thus, the price elasticity of supply for a commodity a is 1. The supply of commodity a is unit elastic, that is a change in price has proportionate effect on quantity supplied.

Q: The price elasticity of supply of good is 0.8. Its price rises by 50%. Calculate the increase in its supply.

**Solution:**

Price elasticity of supply of a good is given as \( E_s = \frac{\% \text{Change in } Q}{\% \text{change in price}} \) here, \( E_s = 0.8 \) and \( \% \text{change in price} = 50 \);

\[ 0.8 = \frac{\% \text{ change in } Q}{50} \]

\[ \% \text{Change in } q = 0.8 \times 50; = 50 \]

**HOTS & Value Based Questions**

Q.1. Why MP curve cuts AP curve from its top?

**Ans:** This is because, When AP Rises, MP>AP; when AP falls, MP<AP. Accordingly, it is only when AP is constant at its top that AP=MP. Implying That MP Curve cuts AP Curve from its top.

Q.2. What is meant by returns to a factor?

**Ans:** Return to a factor refers to the behavior of physical output owing to change in physical input of a variable factor, fixed factors remaining constant.

Q.3. Find TP when 5 units of the variable factor are combines with 5 units of the fixed factor and MP remains constant at 10 units?

**Ans:**

When MP remains constant at 10 units, and 5 units of the variable factor are used \( TP = 10+10+10+10+10=50 \). (\( \therefore \) TP equal to sum MP).

Q.4. Do the terms 'diminishing' or 'constant' mean that the output decreases or remains constant in the context of the law of variable proportions?

**Ans:** No, the term 'diminishing' or 'constant' do not mean that the output decreases or remains constant. Output always increases when an input is increased. This holds as long as Marginal Product of each factor is positive, i.e., the firm is not operating in stage III of
negative returns to a factor. 'Diminishing' or 'constant' only refers to marginal product of the output. It is Marginal Product which tends to diminish when diminishing returns are in operation. Again, it is Marginal Product which tends to remain constant when constant returns are operative.

Q.5. **When output increases, AC tends to be closer to AVC. Why?**

Ans: We know that AC = AFC + AVC. As output increases, AFC must continuously fall, because TFC is constant. Consequently, the component of AFC in AC tends to shrink. This brings AC closer to AVC.

Q.6. **Can AC and AVC ever be equal for any level of output?**

Ans: AC and AVC can never be equal of output. This is because AC is the vertical Summation of AVC and AFC. Being a vertical summation, AC must be vertically above AFC as well as AVC. Also, because TFC is fixed for all Levels of Output, AFC can never be Zero. Accordingly, AC cannot even coincide with AVC for any level of output.

Q.7. **Is it true to say that AC falls only when MC falls?**

Ans: No. AC may fall even when MC is Rising, provided MC<AC.

Q.8. **Show that AR=Price.**

Ans: We know that, $AR = \frac{TR}{Q}$

We also know that $TR = P \times Q$ (Where $P$ = Price, $Q$ = Quantity or Output sold)

Relating the two equations, We can write that: $AR = \frac{P \times Q}{Q} = P$. Thus, it is proved that $AR = Price$.

Q.9. **What is firm's price line? What is its shape?**


Q.10. **Monopolist never allows MR to fall because he is the only producer of a commodity in the market. Comment.**

Ans: No. MR is always falling in case of monopoly because monopolist can sell more only at lower price of the commodity. Decrease AR implies decreasing MR.
UNIT - IV
FORMS OF MARKET AND PRICE DETERMINATION
(MARKS: 12)

KEY CONCEPTS

**Perfect Competition**- a form of market in which there is a large number of buyers and sellers of a homogeneous product.

**Monopoly**- where the single producer controls the whole supply of the single commodity.

**Monopolistic Competition**- a form of the market where large number of sellers, sell differentiated product.

**Oligopoly**- a form of the market in which there are few big firms.

**Market Equilibrium**- is a situation when market demand = market supply

**Ceiling Price**- the maximum price of a product, as fixed by the government to protect poor consumers.

**Floor Price**- the minimum price of a product, as fixed by the government to protect the poor producers.
VERY SHORT ANSWER QUESTIONS

Q. Define the term Selling Cost.
Ans: It refers to the expenditure of a firm incurred on the promotion of sales of its product in the market.

Q. How does a firm under monopolistic competition exercise partial control over price?
Ans. A monopolistic competitive firm enjoys partial control over price. It happens because by incurring heavy selling cost, the firm is able to create a differentiated image of its product in the minds of consumers. Products are differentiated on the basis of band, size, colour, shape, etc. Buyers are attracted to buy a particular product even at a relatively higher price.

Q. Why is the number of firms small in an oligopoly market? Explain.
Ans. The main reason for small number of firms under oligopoly is the 'Barriers to Entry', which prevent entry of new firms into the industry. Patents, requirements of large capital, control over crucial raw materials, etc, are some of the other reasons, which prevent new firms from entering into industry. As a result, there are few firms in an oligopoly market.

Q. What happens to profits in the long run if firms are free to enter in the industry?
Ans. When existing firms are earning profit, freedom of entry induces new firms to enter the industry. This raises market supply which in turn leads to fall in market price. Profit fall and continue to fall, till each firm is earning zero economic profit or normal profit.

Q. Explain the implication of large number of buyers in a perfectly competitive market.
Ans. The large number of buyers is assumed to be so large that an individual buyer's share in total purchases is so negligible that he cannot influence the market price on its own by purchasing more or less. The outcome is that price remains unchanged.

Q. What do you mean by homogenous product?
Ans. Homogenous product refers to a product which is identical in all respects like quality, colour, size, design, brand name etc.

Q. What induces new firms to enter an industry?
Ans. Abnormal profits, i.e., above normal profits.

Q. Why are selling costs not incurred in perfect competition?
Ans. Selling costs are not incurred in perfect competition as there exists perfect knowledge among the buyers and sellers.

Q. What is a price-maker firm?
Ans. A price-maker firm is a firm which is in a position to determine the market price of the product on its own.

Q. What is cartel?
Ans. Cartel is a group of firms which jointly set their output and price so as to exercise monopoly power.
SHORT ANSWER QUESTIONS :

Q. Briefly describe the concept of Market.

Ans : In ordinary sense, market is defined as a place where buyers & sellers deal with each other to buy & sell the commodities at a certain price and at a given period of time. **But in economics, market is used as a broader term, which refers to an arrangement or a medium through which buyers & sellers interact with each other.**

Q. Briefly discuss the types of market.

Ans : Market can be categorized on the basis of time, location & competition. On the basis of competition, the market is classified into two i.e. perfect and imperfect markets.

**Perfect/Competitive market** refers to such a market structure where the firms are price takers & price of the good remain same due to the existence of large number of buyers & sellers, production and sale of homogenous products, perfect knowledge of buyers & sellers about the market etc. Here, the firms compete with each other at same price that is why this market is also known as competitive market. On contrary, **imperfect/non competitive market** refers to the market situation where the firms are price makers & price of the goods differs at different levels of output due to the vice versa conditions. The firms in this market compete with each other at different price, & therefore this market is also referred to as non competitive market.

Q. Define Perfect Competition Market, & explain its characteristics.

Ans : It refers to such a market structure in which there is an existence of large number of buyers & firms, and the products are homogenous in character due to which the price of the good remain same.

**Characteristics or Features or Conditions(& implications) of the perfect competition market:**

1. **Existence of large number of buyers and sellers** is one of the most important features of this market which leads to a perfectly competitive market environment, and thus, no single buyer or seller can influence the market. The number is so large that there arises a perfect degree of competition between the buyers to buyers, & sellers to sellers. That is why the price of the good remains same at all levels of output.

2. **Firms produce & sell homogenous products**, which is also an important condition of this market. By homogenous product we mean the goods which are similar & identical. The firms are not able to discriminate their product to the consumers, & therefore the market share of both sellers & buyers is considered as negligible. This enables the market to be more competitive and the firms remain price-taker i.e. they can sell more output only at same price.

3. **Free entry & exit of the firms** is also one of the most important features of the market, as there is no artificial restriction for the firms to make entry as well as exit. The emergence of abnormal profits attracts the firms to enter and the firms can exit from the market if they incur loss. This feature induces the competitive environment and wipe out the abnormal profits or losses in the long run that incurred in the short run, and thus, the firms earn only normal profits in the long run.
4. **Perfect knowledge about the market** by the buyers & sellers is another feature of this market. Both the buyers & sellers have the knowledge about the market price of the good and the availability of the firms who are dealing with this good in the market. Thus the question of price discrimination does not arise.

5. **Perfect mobility of the goods & factors of production** is also considered as one of the condition of this market. The immobility of goods & factors lead to price discrimination, and thus perfect mobility ensures the price to be same at all levels of output. Due to this feature, there arises no scarcity in the supply of goods, & thus, the single seller or buyer cannot influence the market.

6. **Absence of transportation cost** is another feature which is assumed to be in this market. This enables the price to be same. It is assumed that no transportation cost is incurred or the firms pay same amount of transport cost so as to make the analysis easy.

**LONG ANSWER QUESTIONS**

Q. **Explain the Price & Output determination in Perfect Competition Market.**

Ans : As we know that a perfect competition market is characterized by the existence of large number of buyers & firms, and the firms produce & sell homogenous products; therefore no single buyer and seller can influence the price, and the individual firm has negligible control over the total output of the good. Thus, the price of the good is determined in the industry (market) by the interaction of market demand & supply. The price is determined where the market demand for the good is equal to its supply. This phenomenon can be explained by the following illustration:

<table>
<thead>
<tr>
<th>Px(Rs.)</th>
<th>QDx(units)</th>
<th>QSx(units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>50</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>40</td>
<td>20</td>
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<td>3</td>
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<td>4</td>
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<td>40</td>
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<tr>
<td>5</td>
<td>10</td>
<td>50</td>
</tr>
</tbody>
</table>

This table & figure reveals that when the price of the good is Re.1, its market demand is greater than its market supply; and thus there is excess demand. This will lead to create competition among the buyers, & thus the price of the good will rise. The rise in price will lead to fall in demand & rise in its supply. Still we see that demand is greater than its supply, & thus the same process will continue until both are equal to each other. The price at which they both are equal will be the determined price (equilibrium price) of the good in the perfect market. On the other hand, if the price is Rs.5, the supply is greater than its demand, which will lead to create competition among the sellers, & thus the price will fall. The fall in price will lead to rise in demand & fall in supply. This process will continue till both demand & supply are equal to each other. Thus, the determined price is Rs.3, because at this price, both are equal to each other.
Q. Explain the Effects of Change in demand &/or supply on the Equilibrium Price & Qty.

Ans: As we came to learn that equilibrium price is the price at which market demand & supply of a good is equal to each other. It is determined when both demand & supply intersect each other. However, this price may not be permanent and may change due to the change in either of or both market demand & supply. Let us examine that how equilibrium price and qty. is affected due to change in any of the or both the market forces i.e demand & supply.

1. Effect on Equilibrium Price & Qty. due to change in demand while supply remain unchanged:

From this figure, when the demand increases, the eqm. price rises to \( E_1Q_1 \), & eqm. Qty. also rises to \( OQ_1 \), while supply remain unchanged. Vice versa happens when the demand decreases to \( D_2 \).

2. Effect on Equilibrium Price & Qty. due to change in supply while demand remain unchanged:

From this figure we see that when supply increases to \( S_2 \), the eqm. Price falls to \( E_1Q_1 \) while qty. rises to \( OQ_1 \), while demand remain same, since the new SS intersects DD at point \( E \). The decrease in supply leads to rise in eqm. Price to \( E_2Q_2 \), but the qty. falls to \( OQ_2 \).

3. Effect on Eqm. Price & Qty. due to simultaneous change in both Demand & Supply at same proportion & in same direction:

When there is a change in both demand & supply at same proportion, in case of increase in both, the eqm. price remain same\( (OP) \) but eqm. qty. rises (from \( OQ \) to \( OQ' \)). In case of decrease in both at uniform rate, the eqm. Price remain same at \( OP \), but eqm. Qty. will fall to \( OQ'' \) from \( OQ \).

4. Effect on Eqm. Price & Qty. when demand increases & supply decreases at same proportion, & vice versa:

When demand increases & supply decreases at same proportion, the eqm. price rises (from \( EQ \) to \( E_1Q \)), but qty. remain same (with \( OQ \)). On the contrary, in case of vice versa, the same thing will happen.
Q. Define Control Price (Maximum Ceiling Price or Ceiling Price) & Support Price (Minimum Ceiling Price or Floor Price). OR What happens when Govt. intervenes in the free market price mechanism?

Ans: **Control/Ceiling price** refers to the maximum price which is fixed by the Govt. below to market price in order to protect the poor consumers. It is one of the important instruments for social welfare & economic justice. But the use of this may lead to evil consequences viz. Black marketing, forcible rationing & long queue of unsatisfied consumers. Due to this, larger demands will remain unsatisfied, & therefore govt. will be compelled to impose forcible rationing which will lead to curtailment of needs of the household. Another evil consequence will be the practice of 'Black marketing' by the traders, which implies that when the traders sell the goods at the price higher than control price to the potential consumers. This leads to the prevalence of black money or what is called as unaccountable money. Thus, it is the duty of the govt. to look at the pros & cons before imposing the control price.

**Support/Floor price** refers to the price which is fixed by the govt. above to the market price to protect the weak & sick producers. It is just the contrary to the control price. The support price leads to fall in demand & rise in supply (due to the operation of law of demand & supply respectively. This creates the gap of excess supply, & this excess leads to wastage, & further unemployment & poverty. In this situation, the govt. purchases the excess & keep in the buffer stock. During any deficit in production in any region, it supplies the same at reasonable prices or it is dumped in the foreign markets.

Q. Explain why the firms in the perfect competition market earn normal profits in the long run?

Ans: The firms in the perfect competition market earn zero abnormal profits or normal profits in the long run because of freedom of entry & exit of the firms in the market. As we know that perfectly competitive markets are characterized by the existence of large number of firms & buyers, & the firms produce & sell homogenous product. Therefore, the firms are price taker & the price cannot be influenced by the single firm or buyer. This can be explained by the following illustration:
This phenomena is based on simple principle that if the firms were making loss in the short run, this firms will exit in the long run, as a result the market supply will fall due to which the price rises i.e. AR rises. This process is continued till LAR=LAC, & the firms accrue normal profits in the long run. On the contrary, if the firms were making abnormal profits in the short run, the new firms will enter into the industry due to which the market supply will rise. As a result, the price will fall, & this process will continue until LAR=LAC. As soon as this eqm. is attained, entry of new firms will stop, & thus the firms will be accruing only the normal profits in the long run.

Q. Define Monopoly market & explain its characteristics.
Ans : It is such a market structure where exist a single firm which has no close competitor, & the firm produce & sell an unique product i.e. the product which has no close substitute in the market.

Characteristics or Conditions (& implications):

- In these market structures, there is an existence of a single firm which has no close competition with other firms. Due to this, the firm has total control over the output of the good in the market. This enables the firm to exercise its influence over the price determination of the product.
- In this kind of markets, the firm produces & sells a unique product which has no close substitute available in the market. As a result, the firm can dominate the pricing of the product as the demand for the product is less elastic ($E_d < 1$).
- The entry or exit of any firm is not possible, in this type of market, due to various constraints viz. administrative, financial, managerial, technical, & patent right. This enables the firm to enjoy abnormal profits in the long run, which is the very essence of this market.
- The firm, in this market structure, is a price maker. In other words, the demand curve or AR curve has a steeper negative slope which implies that, i) the firm can determine the price of its own product; ii) the demand for the good is relatively inelastic, due to the existence of single firm & product has no close substitute.

Q. Define Monopolistic Competition Market & explain its characteristics.
Ans : It refers to such a market structure where there is an existence of fairly large number of firms & buyers, & the firms produce & sell heterogenous product, i.e. the products which are similar but not identical, & therefore the firms are price maker. This type of market situation include both competitive & monopoly element.

Characteristics or Conditions (& implications):

I. In this kind of market structure, there exist a fairly large number of firms which have a greater competition among themselves. Due to this, the firms do not have total control over the market supply of the product.

II. The firms produce & sell heterogenous (differentiated) products, in this kind of markets, which enable the firms to have control on their own output, & thus the firms are price makers.
III. There is a freedom of entry & exit of firms in the market, to a considerable extent, due to which the number of firms always remain fairly large. As a result, the firms can earn only the normal profits in the long run.

IV. The unique feature of this type of market structure is prevalence of selling cost, i.e. the expenditure made by the firms to promote the sales of their products viz. sale exhibition, discount offer, showroom demonstration, advertisement & wide campaigning cost etc. This feature leads to cut-throat competition among the firms, & the price of the products of each firm does not differ to large extent.

V. The firms, in this type of markets, are price makers, as all these firms have distinct consumers of their product. As the firms produce & sell heterogeneous product, the price of products of each firm is different, irrespective of their similarity. Because of this, the AR(demand) curve slopes negatively at gradual rate. The negative slope implies the firms as a price maker, & the gradual slope implies that demand for the product is more elastic due to existence of large number of firms & availability of close substitutes.

Q. What is the difference between Perfect Competition Market & Monopoly market.

<table>
<thead>
<tr>
<th>PERFECT COMPETITION MARKET</th>
<th>MONOPOLY MARKET</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. In this kind of market, there is an existence of large numbers of firms which have perfect competition among each other.</td>
<td>1. In this kind of market, a single firm exist which has no close competitor, &amp; thus, the question of competition does not arise.</td>
</tr>
<tr>
<td>2. The product been produced and sold in the market is homogenous, i.e. the product have close substitute available.</td>
<td>2. The product, produced &amp; sold in this market is unique which have no close substitute available.</td>
</tr>
<tr>
<td>3. The firms, in this market, are price taker i.e. the firms have to accept the price which is determined in the market.</td>
<td>3. The firm itself is an industry, &amp; thus it is a price maker i.e. the firm has the capacity to make its own price.</td>
</tr>
<tr>
<td>4. In this market structure, the firms have the freedom of making entry or exit from the market.</td>
<td>4. The entry or exit of the firm is not very possible due to various constraints &amp; patent right.</td>
</tr>
<tr>
<td>5. The elasticity of demand for the product been sold in this market, is perfect; and therefore, the DD or AR curve is straight line parallel to OX axis.</td>
<td>5. The product been sold in this market is relatively inelastic in demand, and therefore, the DD or AR curve has rapid negative slope.</td>
</tr>
<tr>
<td>6. The firms, in this market, earn normal profits in the long run, because the freedom of entry &amp; exit of the firms is possible.</td>
<td>6. The monopoly firm enjoy an abnormal profits in the long run, because there is no existence of close competitors &amp; substitutes.</td>
</tr>
<tr>
<td>7. P=MC=AC of the firms in the long run.</td>
<td>7. P&gt; AC &amp; MC of the firm in the long run.</td>
</tr>
</tbody>
</table>
### Differentiate between Perfect Competition Vs Monopolistic Competition Market

<table>
<thead>
<tr>
<th>Perfect Competition Market</th>
<th>Monopolistic Competition Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. In this kind of markets, the firms produce &amp; sell homogenous product which have no close substitute, i.e. the cross elasticity of demand for the products is equal to zero.</td>
<td>1. In this market situation, the firms produce &amp; sell heterogeneous product, which are similar but not identical, &amp; therefore the price of the good differs.</td>
</tr>
<tr>
<td>2. The firms, in this markets, are price takers, since the number of firms is large, &amp; the firms produce &amp; sell homogenous product.</td>
<td>2. The firms are price makers, in this kind of markets, because the firms produce &amp; sell heterogeneous product, although the number of firms is large.</td>
</tr>
<tr>
<td>3. The demand for the product, in this market, is perfectly elastic i.e. $e_p = 0$, &amp; thus the demand curve (AR Curve) is a straight horizontal line parallel to X axis.</td>
<td>3. The demand for the product, in this kind of market situation, is relatively more elastic i.e. $e_p &gt; 1$, &amp; thus the DD (ARC) has a gradual negative slope.</td>
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<tr>
<td>AR</td>
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4. In this market situation, The price is equal to MR
5. There is no prevalence of selling cost in this kinds of market.
6. In the long run, the firm’s AR=AC=MR=MC The firm is in equilibrium in the long run, when $P = AC = MC = MR$

<table>
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<td>MR</td>
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4. In this case, the Price(AR) is greater than MR.
5. Prevalence of selling cost is the unique feature of this kind of market situation.
6. In the long run, the firm’s AR > MC & MR The firm is in equilibrium in the long run, when $P = AC > (MC = MR)$

### Similarity between Perfect Competition & Monopolistic Competition Market
1. In both the market situation, there is an existence of large number of firms.
2. There is a freedom of entry & exit of the firms in the market.
3. The firms in this markets earn normal profits in the long run.
Q. Differentiate between Monopoly Market Vs. Monopolistic Competition Market.

Ans:

<table>
<thead>
<tr>
<th>Monopoly Market</th>
<th>Monopolistic Competition Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. In this case, there is existence of single firm which has no close competitor, &amp; the firm produce &amp; sell unique product which has no close substitute in the market.</td>
<td>1. In this case, a large number of firms exist in the market which produce &amp; sell heterogenous product, &amp; thus, there is availability of close substitute of the product.</td>
</tr>
<tr>
<td>2. There is no prevalence of selling cost, as it is not required.</td>
<td>2. Prevalence of selling cost is the most prominent feature of this market as there is a cut-throat competition among the firms.</td>
</tr>
<tr>
<td>3. The firm, in the long run, enjoy abnormal profits (AR&gt;AC) since the firm itself is an industry, &amp; the product has no close substitute.</td>
<td>3. The firms, in the long run, earn normal profits as AR=AC, since there is a freedom of entry &amp; exit of the firms in the market.</td>
</tr>
<tr>
<td>4. The entry &amp; exit of the firms in this market is not possible due to various constraints &amp; patent right.</td>
<td>4. There is a freedom of entry &amp; exit of the firms in the market.</td>
</tr>
<tr>
<td>5. The demand for the product is less elastic, i.e Ep&lt;1 &amp; therefore the DD has rapid negative slope.</td>
<td>5. The demand for the product has more elasticity, i.e Ep&gt;1, &amp; therefore the DD has gradual negative slope.</td>
</tr>
<tr>
<td>6. The monopoly firm has total control over the market output of the product in the market.</td>
<td>6. The firms do not have control over the total output of the product, since large number of firms produce similar kind of product.</td>
</tr>
</tbody>
</table>

Q. When there is simultaneous change in demand & supply of a good, when does the following happens: 1. The equilibrium price remain same; 2. The equilibrium qty. remain same. Explain with the help of diagrams.

Ans. 1 When demand & supply increases or decreases at same proportion.

When there is a change in both demand & supply at same proportion, in case of increase in both, the eqm. price remain same (OP) but eqm. qty. rises (from OQ to OQ'). In case of decrease in both at uniform rate, the eqm. Price remain same at OP, but eqm. Qty. will fall to OQ'' from OQ.
Ans  2. When demand increases & supply decreases or vice versa at same proportion.

Q. Define the term Oligopoly Market & differentiate between collusive & non collusive Oligopoly, & perfect & imperfect Oligopoly market.

Ans : The term 'Oligo' means few while the term 'poly' means seller. Oligopoly market refers to that kind of market structure where the number of firms are few but these firms are in large scale & size.

Collusive Oligopoly refers to that kind of oligopoly where the firms come into a formal agreement on the collective decisions to be taken in relation to determination of price & output in order to avoid internal competition between them. Collusion means Cartel (group) formation. So the firms producing & selling same kind of product forms a group so that there is minimum risk for internal competition. World's largest cartel is Organisation of Oil Producing & Exporting Countries (OPEC) which includes five nations viz. Kuwait, Saudi Arabia etc.

Non collusive Oligopoly refers to that market where the firms do not form any kind of cartel & are ready to face the competition among them. They believe in survival of the best.

Perfect Oligopoly means those firms which produce homogenous products with different brands viz Iron & Steel industries, Cement, Mica, Coal industries etc, On the contrary, imperfect oligopoly refers to that oligopoly market where the firms produce heterogeneous products viz electronics, electrical, automobile industries etc.

Characteristics of Oligopoly Market:

1. Few firms exist in the market with a large scale of production. Due to this, there is a stiff competition between the firms, & thus an individual firm has a large share in the market output. This makes them capable to determine their price, & thus they are price makers.

2. Firms produce heterogeneous products which are not identical. Therefore, the firms are in a position to discriminate their products to the buyers & make larger contribution in the market output. Even in perfect oligopoly, the products are different in brands viz Ambuja Cement, Star Cement etc. Thus, this creates a greater degree of product discrimination enabling them to be the price makers.

3. Barriers are there in the entry & exit of the firms. These firms are large in scale having greater dominance in the market related to financial, managerial, infrastructural strength. Thus, it becomes a very difficult task for a new firm to enter into the market & compete these business giants. As a result, these firms enjoy supernormal profits in the long run.
4. **High sense of interdependence is found between the firms.** The firms have total information about the strategies of their rival firms. If one of the firm reduce the price, another will do the same immediately. In both collusive & non collusive, we find a greater degree of interdependence between the firms. That’s why, these firms avoid to enter into the price war among them.

5. **Due to high sense of interdependence among the firms, the demand curve of these firms is generally indeterminate i.e. not well defined.** As a result, the demand curve of these firms usually are having high elasticity & low elasticity at same time, & thus, the shape is referred to as Kinked demand curve. This is because as soon as a firm decides to fix a price, the rival firm changes its firm which creates disturbance in the price equation of the first firm. Therefore, the demand curve is Kinked in shape.

6. **Price rigidity** is another feature of this market. Due to high degree of competition between the firms, these firms avoid taking risk in entering into price war. As a result, the price of the goods in this market often remains unchanged for a longer period of time.

7. **Price leadership** is also one of the feature found in this market. The firm having largest share in the market output generally leads the market & rest of the firms follow the strategies of this firm in determination of price & output.

8. **Non price competition & selling cost** are also found in this kind of market. The firms are engaged in non-price competition viz sale discounts, gift vouchers & hampers, sale after service & extended warranty etc. These firms also spend a huge sum of money on the advertisement & market campaigning which creates a higher degree of competition among the firms and an unnecessary hike in price of the products.

**MULTIPLE CHOICE QUESTIONS:**

1. In which kind of market, a firm is price-taker?
   - (a) Perfect competition
   - (b) Monopoly
   - (c) Monopolist competition
   - (d) Oligopoly

   Ans. (a)

2. Charging different prices from different buyers for the same good is called:
   - (a) price extension
   - (b) price contraction
   - (c) price discrimination
   - (d) price control

   Ans. (c)

3. Which market induces trust and cartels?
   - (a) Perfect competition
   - (b) Monopoly
   - (c) Oligopoly
   - (d) None of them

   Ans. (c)
4. In monopolistic competition the products are:
   (a) Homogeneous only  (b) Homogeneous supported with advertisement
   (c) Differentiated only  (d) Differentiated supported with advertisement
   Ans. (d)

5. What will be the effect of equilibrium price if supply is decreased without any change in demand?
   (a) No change in price  (b) Price will fall
   (c) Price will rise  (d) None of these
   Ans. (c)

6. The period of time, when supply is fully adjusted to change in demand is called:
   (a) short-period  (b) very short period
   (c) mid-period  (d) long period
   Ans. (d)

7. If demand for a product falls, equilibrium price will:
   (a) fall  (b) rise
   (c) either of the two  (d) neither of the two
   Ans. (a)

8. The market price is related to
   (a) short period  (b) very short period
   (c) long period  (d) very long period
   Ans. (b)

HOTS & VALUE BASED QUESTIONS

Q. Explain the effect of increase in income of buyers of a 'normal' commodity on its equilibrium price.

Ans. An increase in income of buyers will increase the demand for normal goods at the given price. It will lead to excess demand. This leads to competition among buyers, which raises the price. Increase in price leads to rise in supply and fall in demand. These changes continue till supply and demand become equal at a new equilibrium price. As there is an increase in demand only, equilibrium price rises.

Q. What will be the effect on equilibrium price and equilibrium quantity, when price of complementary goods increases?

Ans. When price of complementary goods increases, keeping other factors constant, then demand for the given commodity decreases since it becomes relatively expensive to consume the two commodities (the given commodity and its complement) together. It will lead to excess supply. This lead to competition among sellers, which reduces the price. Fall in price leads to decrease in supply and rise in demand. These changes continue till supply and demand become equal at a new equilibrium price. As there is a decrease in demand only, both equilibrium price and equilibrium quantity will fall.
Q. Explain the effect on equilibrium price when of inputs increases.

Ans. When price of input increase, assuming no change in other factors, then the cost of production rises. As a result, supply decreases due to fall in the profitability level. It will lead to excess demand. This leads to competition among buyers, which raises the price. Increase in price leads to rise in supply and fall in demand. These changes continue till supply and demand become equal at a new equilibrium price. As there is a decrease in supply only, equilibrium quantity will fall, but equilibrium price will rise.

Q. "Demand and supply are like two blades of a pair of scissors". Comment

Ans. The given statement is correct. Both the blades of a pair of scissors are equally important to cut a piece of cloth. Similarly, both demand and supply are needed for determining price in the market. There is no use for demand for a product if there is no supply for the product and supply is not needed if there is no demand for the product. One of the two may play more active role in price determination in the short run. But, both are needed to determine the price in long run.

Q. If market demand function is given as: \( Q_{MD} = 25 - 2P \) and market supply as: \( Q_{MS} = 3P \), then what will be the equilibrium price and equilibrium quantity?

Ans. At equilibrium, \( Q_{MD} = Q_{MS} \)

It means, \( 25 - 2P = 3P \)

Or, \( 5P = 25 \)

\( P \) or Equilibrium price = ₹5

Putting the value of equilibrium price in the equation of market demand function:

Equilibrium Quantity = \( 25 - 2 \times 5 \) = 15 units.

Q. When do we say there is excess demand for commodity in the market?

Hint: There is excess demand for a commodity in the market when its quantity demanded is more than quantity supplied at the prevailing market price.

Q. When do we say there is excess supply for commodity in the market?

Hint: There is excess supply for a commodity in the market when its quantity supplied is more than quantity demanded at the prevailing market price.

Q. What is happen if the price prevailing in the market is?

(i) Above the equilibrium price?

(ii) Below the equilibrium price?

Ans: (i) If the market price is above the equilibrium price, then there will be a situation of excess supply in the market.

(ii) If the market price is below the equilibrium price, then there will be a situation of excess demand in the market.

Q. If the price of a substitute (Y) of good X increases, what impact does it have on the equilibrium price and quantity of good X?

Ans: An increase in price of a substitute (Y) of good X will directly affect the equilibrium price and quantity of good X. Rise in price of Y will make X relatively cheaper and demand for X will rise. It will lead to excess demand. It will lead to increase in both equilibrium price and equilibrium quantity.
Q. When equilibrium price of a good is less than its market price, there will be a competition among the sellers. Defend or refute.
Ans. The given statement is defended. It happens because when the prevailing market price is higher than the equilibrium price, there will be excess supply and since the sellers will not be able to sell all they want to sell, there will be a competition among sellers.

Q. Under monopoly, the barriers to entry and exit of firm lead to absence of competition in the market. Do you think this is necessary in certain strategic areas like in case of production of defense goods and atomic energy?
Ans. Yes, barriers to entry and exit of firms is necessary in certain strategic areas (defense goods, atomic energy, etc.) because these areas are of national security and production of such goods cannot be left open for competition.

Q. What policy initiatives can the government undertake to increase the demand of milk in the country? Mention any one.
Ans. (i) Give subsidies to reduce price; (ii) Undertake health campaigns to promote the positive effects of milk consumption. (Any 1)

Q. The following headline appeared in the Hindustan Times on 2nd August, 2014: “Crop damaged in Himachal sent tomato prices roaring in Delhi.” Use an economic theory to analyze the statement.
Ans. When the tomato crop was damage in Himachal the supply of tomatoes decrease. This means that the supply curve shifts leftward. At the prevailing market price, there was an excess demand. In this situation, buyers would have competed to raise the market price. As market price would have risen, quantity demanded of tomatoes would have contracted and the quantity supplied would have expanded. This process would have continued till a new equilibrium price was reached where market demand is equal to market supply. The new price is higher than the old price of tomatoes. This explains how prices in Delhi rose when the tomatoes crop got damaged in Himachal.
## MACRO ECONOMICS (50 MARKS)

### UNIT - V

### NATIONAL INCOME ACCOUNTING

(MARKS-15)

<table>
<thead>
<tr>
<th>KEY CONCEPT</th>
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<tr>
<td><strong>Macro Economics</strong>: - It is that branch of economics which studies the aggregates of an economy or the larger units of an economy. The main objective of Macroeconomic study is 'how the income &amp; employment of an economy is determined?' This branch of economics deals with the fuller utilization of resources.</td>
</tr>
<tr>
<td><strong>National Income</strong>: - It can be defined as the net value of all final goods &amp; services produced by the normal residents in the 'domestic territory of a country in an accounting year (NVA_{fc}), and adding net factor income from abroad (NFIA). NI = NVA_{fc} + NFIA</td>
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<td><strong>Depreciation or Consumption of Fixed Capital (CFC)</strong>: - It refers to the loss of value of fixed assets due to normal wear &amp; tear.</td>
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<td><strong>Normal Residents</strong>: - This refers to those individuals &amp; institutions who normally reside in a country for more than one year, and whose centre of economic interest lies in that country.</td>
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<td><strong>Economic Territory</strong>: - Besides the landmass lying within the political frontier of a country, includes 200 nautical miles of the sea from the front.</td>
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<tr>
<td><strong>Net Indirect Tax</strong>: - It refers to the difference between Indirect Tax paid by the enterprises to the Govt. &amp; the Subsidies paid by the Govt. to some of the enterprises.</td>
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<td><strong>Operating Surplus (OS)</strong>: Operating Surplus is defined as the sum of Income from property &amp; Income from entrepreneurship.</td>
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<tr>
<td><strong>Mixed Income of Self Employed</strong>: - it refers to the profits &amp; dividends earned by the unincorporated &amp; household enterprises, &amp; the income earned by the self-employed viz. Doctors, Architects, Engineers, Professors, Teachers &amp; other professionals.</td>
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<td><strong>Private income</strong>: - private income refers to the income which accrues to private sector from all sources within and outside the country.</td>
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<tr>
<td><strong>Personal income</strong>: - personal income is the sum total of all the incomes that are actually received by households from all the sources.</td>
</tr>
<tr>
<td><strong>Personal disposable income</strong>: - it refers to that part of personal income which is actually available at the disposal of households. It is that part of personal income which is left with the households after making payments of taxes, fee and other miscellaneous receipts of the government.</td>
</tr>
<tr>
<td><strong>National disposable income</strong>: - national disposal income refers to the income which is available to the whole country for disposal. It includes both factors income and transfer income.</td>
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\[
\text{NI} = \text{NVA}_{fc} + \text{NFIA}
\]
**INCOME METHOD**

Wages and Salaries in the form of cash and kind  
Employer’s Contribution to Social Security  

Compensation of Employees  

Operating Surplus  

Mixed Income of Self-employed

\[ \text{NDP}_{FC} + \text{NFIFA} \]

**NNP**

**EXPENDITURE METHOD:**

Expenditure on Durable and non-Durable Goods  
Expenditure on Consumer Services  
Net Domestic Capital Formation  
+ Depreciation  

Private Final Consumption Expenditure  
Government Final Consumption Expenditure  
Gross Domestic Capital Formation  
Net Domestic Capital Formation  
Net Exports  
Exports - Imports  
GDP$_{MP}$  
\[ \text{GDP}_{MP} - \text{Depreciation} \]

NDP$_{MP}$  
\[ \text{NDP}_{MP} - \text{Net Indirect Taxes} \]

NDP$_{FC}$  
+ NFIFA  

NNP$_{FC}$

Corporate Tax + Dividends + Undistributed profits  
Rent  
Royalty  
Interest  
Profit
Q. Define the term Macro Economics.
Ans : It is that branch of economics which studies the aggregates of an economy or the larger units of an economy. The main objective of Macroeconomic study is 'how the income & employment of an economy is determined?' This branch of economics deals with the fuller utilization of resources.

Q. Define the term National Income.
Ans : It can be defined as the net value of all final goods & services produced by the normal residents in the domestic territory of a country in an accounting year (NVA), and adding net factor income from abroad (NFIA).\[NI = NVA + NFIA\]
Q. Who are Normal Residents?
Ans: This refers to those individuals & institutions who normally reside in a country for more than one year, and whose centre of economic interest lies in that country.

Q. Briefly explain the concept of Depreciation or Consumption of Fixed Capital (CFC).
Ans: It refers to the loss of value of fixed assets due to normal wear & tear.

SHORT ANSWER QUESTIONS

Q. Briefly explain the concept of Net Indirect Tax.
Ans: It refers to the difference between Indirect Tax paid by the enterprises to the Govt. & the Subsidies paid by the Govt. to some of the enterprises. This concept is used to obtain the national income at factor cost or factor prices. The NIT is deducted from market price (MP) to get factor cost (FC). Indirect Tax is the amount of burden whose impact falls on one person or a group and the incidence falls on other person or group. Subsidies refer to the financial assistance or aid provided by the state to the weak & sick units.

Q. Define the term Net Factor Income from Abroad & explain its components.
Ans: It is defined as the difference between income earned by the resident households in abroad & the same earned by the foreign residents in a resident country in an accounting year. In other words, it is the income earned from work, property & entrepreneurship by the resident household of a particular country in the ROW 'less' the same earned by the residents of ROW in a resident country in an year.

Components of NFIA: It contains three elements viz:

i) Net Compensation of Employees: This refers to the income from work earned by the resident workers in the ROW 'less' the same earned by the resident workers of ROW in a resident country.

ii) Net Operating Surplus: This refers to the difference between the income from property & entrepreneurship earned by the residents in ROW & the same earned by the foreign residents in a resident country.

iii) Net Retained Earnings of Resident Companies in Abroad: It is the difference between the retained earnings of the resident companies abroad & the same of the foreign companies in a resident country.

Q. Define the following Concepts of Value of Output.
Ans: 1. Intermediate Cost / Consumption is defined as the expenditure incurred on raw materials, fuel, semi-finished goods & other inputs by the firms to produce final products. It is the sum of purchase of raw materials & fuel purchased in domestic market & abroad (Import of raw materials). This amount has to be deducted from GVO to obtain GDP_{MP}, as the intermediate expenditure is not estimated in the estimation of NI to avoid the problem of double counting.

2. Final sales are the sum of domestic sales & sales made in abroad (Exports) & production for self-consumption.

3. Change in Stock is defined as the difference between Closing Stock & Opening Stock.
Closing stock is the stock of raw materials, semi-finished goods, unsold finished goods been held by the enterprises; strategic materials & food grains held by the govt. agencies; & the livestock held by the animal husbandry, been estimated in the end of an accounting year i.e. 31st of March of a year.

Opening stock is the same estimated in the beginning on an accounting year i.e. 1st of April of a year.

**LONG ANSWER QUESTIONS**

Q. Explain the methods of measuring NI. Also state their precautions.

Ans: There are three methods to measure NI which is based on the principle of equality between income, expenditure & production. These methods are i) Value Added or Product or Output method; ii) Income method; iii) Expenditure or Commodity Flow method.

1. **Value Added Method:** By value added we mean the money value of final products produced by the normal residents in the domestic territory of a country. It is the difference between Value of Output & Intermediate Cost. Thus, \( VA = VO - IC \)

This method is based on the production of the country in a year. The following steps can be enumerated to explain this method:

i) **Firstly** we identify the production units & classify them into three economic sectors viz. primary, secondary & tertiary sectors.

ii) Then we estimate the money value of total production in each & every units, we get GVO.

iii) **Thirdly,** we calculate the IC in every unit & deduct IC from VO to obtain VA, & after summing the VA of all the units, we get \( GVA / GDP \).

iv) Next we deduct CFC & NIT from GVA, we get NVA.

v) Finally, we add NFIA to NVA to get NI/NNP.

**Precautions:** - The following precautions are required while using this method, viz.

i) The value of intermediate goods should not be included, rather the value of only the final products to be included. Otherwise, the problem of double counting may arise.

ii) The value of second hand goods is not to be included since the value of this goods have been already valuated in the NI of those years when these goods have been manufactured & sold.

iii) The value of illegal goods to be excluded because these goods have no legal sanction or authority to be produced or sold.

iv) The value of leisure items & non market goods not to be included because it is difficult to keep accountability of these goods, & moreover, these goods are produced with not the motive of earning income.

v) The value of transfer payments are to be excluded because these transactions do not contribute in the flow of income & product, rather these are transfer of ownerships.
2. **Income Method:** According to this method, the factor incomes have to be estimated, & then, after adding the total factor incomes generated in the domestic territory, we get domestic income. The domestic income is then has to be added to NFIA, we obtain NI. The following **steps** can be followed to measure NI by this method:

i) Firstly, the factor incomes have to be identified & then classify them into CE, OS & MISE.

ii) Then we add the total factor incomes generated in the domestic territory i.e. CE + OS + MISE, we get domestic income (NVA$_{fc}$).

iii) Finally we add the domestic income to the NFIA, we get NI.

**Precautions:** The following precautions have to be considered while measuring NI by this method:

a) The *transfer incomes* are not to be included because these transactions do not contribute to the flow of national production. For e.g., tax, gifts, donations, scholarships etc.

b) The *incomes derived from illegal sources* are not to be included since the illegal activities are not backed by the legal sanction. For e.g., gambling, smuggling, theft & loot etc.

c) The *incomes received after selling second hand goods* are not to be included but the *commission* earned by the broker is to be included because it is a factor income.

d) The *income derived from leisure time activities* is not to be included because it is difficult to determine the actual price of leisure time goods.

e) The *income earned by selling shares* is also not to be included since this is considered as the transfer income because these transactions are mere transfer of ownership of assets.

3. **Expenditure Method:** According to this method, NI is evaluated by estimating the final expenditure incurred by different economic units' viz. household, govt. & the enterprises. The following **steps** are to be followed:

i) At first, the sources of final expenditure have to identified & classify them into Private Final Consumption Expenditure (PFCE), Govt. Final Consumption Expenditure (GFCE), Gross Domestic Capital Formation (GDCF),& Net Exports (X-M).

ii) Then we estimate the above four components of final expenditure incurred in the domestic territory in an year & add all the four components, we get GDP$_{MP}$.

iii) Next, we deduct CFC & NIT from GDP$_{MP}$, we get NDP$_{fc}$.

iv) Finally, we add NFIA to NDP$_{fc}$, we get NI.

**Precautions:** The following precautions are to be taken:

a) The *expenditure on intermediate goods* are not to be estimated, otherwise it may lead to problem of double counting. We must make sure that we are not including the intermediate expenditure.
b). The expenditure on second hand goods & scraps is not to be included because it is already been included in the year when these goods have been manufactured, but the expenditure made on broker's service as commission is to be included.

c). The expenditure on transfer payments is not to be included because this expenditure does not lead to production of goods & services in the economy.

d). The expenditure on illegal goods is also not to be included because these goods are not been legally sanctioned.

e). The expenditure on products produced through leisure time activities & non market activities is not to be included.

Q. Define the term Double counting with the help of an example.

Ans : It refers to the situation when the value of a good is estimated more than once. It is a problem which leads to overestimation of NI. The problem of double counting arises when the value of intermediate goods is included or the value of second hand goods is estimated. The problem of double counting can be avoided by adopting any of the two approaches viz. Final Goods & Value Added approach. In case of final goods approach it is difficult to differentiate between intermediate good & final good. As there are some goods which are final to some & intermediate to some. For example, pencil to a student is final good but to an artist it is simply an intermediate good. Thus, it is commendable to use value added approach to estimate the National income. This can help us to avoid double counting in the estimation of NI.

We can understand the concept of double counting with the help of following illustration:

<table>
<thead>
<tr>
<th>Stages of production</th>
<th>Value of inputs</th>
<th>Value of output</th>
<th>Value Added</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmer-Wheat</td>
<td>---</td>
<td>500</td>
<td>500</td>
</tr>
<tr>
<td>Flour Mill-Flour</td>
<td>500</td>
<td>700</td>
<td>200</td>
</tr>
<tr>
<td>Bakery-Bread</td>
<td>700</td>
<td>1000</td>
<td>300</td>
</tr>
<tr>
<td>Distributer</td>
<td>1000</td>
<td>1200</td>
<td>200</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2200</strong></td>
<td><strong>3400</strong></td>
<td><strong>1200</strong></td>
</tr>
</tbody>
</table>

From the above table, we see that, suppose we need to estimate the value of production of bread, we have to estimate the value added by different producers but not the value of output which amounts to Rs.3400. If we include this value then the value of wheat is been valued more than once say 4 times which gives overestimated value of the wheat produced. So to avoid this kind of situation, we have to calculate the value added of the bread at every stage of its production which gives a precise and correct picture about the production of bread in the economy.

Q. Explain the related aggregates of National Income.

Ans : There are six related aggregates of NI as mentioned above in the chart.

1. **NDPfc accruing to private sector/Domestic product accruing to private sector/Share of private sector in domestic income** refers to that part of total domestic income which accrues to general public viz. household & firms. It is
obtained by deducting the share of Govt. in national income also referred to as NDPfc accruing to public sector from the NDPfc.

NDPfc accruing to private sector = NDPfc – NDPfc accruing to Govt.

NDPfc accruing to Public sector = Profits & Dividend accrued to Departmental enterprises + Savings of Non Departmental enterprises.

2. **Private income** refers to that part of domestic income which is accrued to all the residents from all the sources in a year. Thus, Private income = NDPfc + NFIA + Net Current Transfers From Abroad + National Debt Interest + Current transfers from Govt.

Q. **How private income is different from National Income?**

Private Income is the income generated from all sources ie it includes both factor & transfer incomes, while NI includes only factor incomes. Whereas, both includes NFIA.

3. **Personal income** refers to that part of private income which is accrued to only the household, & it can be obtained by deducting the income of firms ie corporation tax & retained earnings of private corporate sector.

   Personal Income = Private Income – Corporation Tax – Undistributed profits

4. **Personal disposable income** refers to that part of personal income which is actually received by the household for disposal in consumption & savings. It is also equal to Household final consumption expenditure & household savings. Thus, Disposable income = Personal Income – Personal Tax – Miscellaneous Receipts of the Govt. administrative departments.

5. **Net National Disposable Income (NNDI)** refers to that part of National Income which is available with the nation for disposal. Thus,

   NNDI = NNPfc + Net Indirect Tax + Net current transfers from abroad

6. **Gross National Disposable Income** is the national disposable income including depreciation. Thus,

   GNDI = GNPmp + NCTFA or NNPfc – depreciation + NIT + NCTFA

Q. **Differentiate between Real & Nominal GDP.**

Ans: Nominal GDP is estimated at current price ie the market values of the prevailing year, while Real GDP is estimated at constant(base)price. Nominal GDP is helpful to measure the price fluctuations while Real GDP helps to measure & compare the economic growth & performance. The nominal GDP is so called because it reflects the growth of output in monetary terms as it includes price effect, whereas real GDP reflect the growth of output in real/physical terms & does not include the price effect.

Q. **Which one is a better indicator of economic growth, & why?**

Ans: Real GDP as it does not include the price effect on the growth of output.

Q. **What is meant by economic welfare? What is its indicator?**

Ans: The term welfare means the sense of wellbeing. The economic welfare means the sense of wellbeing which are affected by the non-economic factors viz. NI, consumption expenditure etc. which can be expressed in monetary terms. Wellbeing of the people is
also affected by various non-economic factors viz. pollution, liberty etc. The economic welfare is indicated by Per Capita Real GDP.

Q. **Explain the limitations of Per Capita Real GDP as Indicator of Economic Welfare.**

OR “The economic growth of a country is rising but most of the people are still poor & there is a huge environmental pollution.” Explain.

It has been found in many economies that despite of a faster growth in GDP, there are many such problems still exist in those countries like starvation, corruption, environmental degradation & ecological imbalance etc. This reflects the fact that Real Per Capita GDP has certain limitations as a good indicator of economic welfare. These are:

1. **The growth in GDP does not reflect the fact about the distribution of income among the people.** It may so happen that few of the individuals are becoming richer while the rest are remaining poorer. This leads to widening of gap between the rich &poors. This finally hampers the economic growth & development.

2. **The composition of goods & services** is not reflected in the growth of GDP. There may be rise in GDP but it is not certain that what kind of products have shown rise in production, whether war time goods or peace time goods, harmful products like liquor & tobacco or useful products like food grains etc. The economic welfare do not depends upon only the volume of production but also its composition. But the irony is that GDP reflects only the money value of volume but not the composition.

3. **Non-monetary transactions viz services of housewives & other members rendered to the other members of the family etc.** are not estimated in GDP due to lack of adequate data & difficulty in their valuation. Whereas, these services contribute to economic welfare in many ways, & thus it remains underestimated.

4. **The Externalities are not taken into account while estimating GDP.** The economic activities leads to various kinds of benefits as well as harms to human being. The benefits are referred to as positive externalities while the harms are referred to as negative externalities. For example, construction of a highway or flyover reduces transport costs & journey time to those who have not contributed towards the cost of construction. This is not reflected in GDP, & thus welfare is underestimated. Similarly, the negative externality is also associated viz. pollution & global warming etc. The construction of flyover & highways do not pay anything for this harm caused to the people of that vicinity. Here, welfare is less than what is indicated by GDP.

Q. **How Real GDP is derived?**

Ans : Real GDP = Nominal GDP/Price Index X 100

Q. **Explain the circular flow of Income & Product (two sector model).**

Ans : Circular flow refers to the cyclical transactions of income & expenditure (money flow) & goods & services (real flow) among the economic sectors viz. household, enterprises, Govt. & foreign sector.

Q. **How are the following treated while estimating private final consumption expenditure Give reasons for your answer.**

Ans : 1. Exports; 2. Direct purchases made abroad by resident household; 3. Final consumption expenditure of non-profit institutions serving households; 4. Change in stocks.
1. Exports will not be included in private final consumption expenditure as exports do not reflect consumption expenditure by residents.  
2. It will be included in private final consumption expenditure as such purchases are meant for consumption.  
3. It will be included in private final consumption expenditure as non-profit institutions serving households are a component of household sector.  
4. It will not be included in private final consumption expenditure as it is a component of capital formation.

**Q. Differentiate between stock & flow.**

**Ans:** Stock refers to those variables which are measurable at a given point of time while flow refers to those variables which are measurable during a given a period of time. In this way, stock is static while flow is dynamic. Stock has no time dimension while flow has. For eg. Wealth is stock while income is flow, capital is stock while capital formation is flow.

**Multiple Choice Questions**

1. In the production of sugar, sugarcane is
   (a) a final good (b) a capital good  
   (c) an intermediate good (d) none of these
   **Ans.** (c)

2. Capital goods are those goods
   (a) which are used in the production process for several years;  
   (b) which are used in the production process for few years;  
   (c) which involve depreciation losses;  
   (d) both (a) and (b)
   **Ans.** (d)

3. Which of the following leads to depreciation?
   (a) Normal wear and tear (b) Damages due to floods  
   (c) Damages due to market-crash (d) None of these
   **Ans.** (a)

4. ‘Income of the family’ is the example of which variable?
   (a) Stock (b) Flow  
   (c) Both stock and flow (d) Neither stock nor flow
   **Ans.** (b)

5. A quantity measured per unit of time period is known as
   (a) Stock variable (b) flow variable  
   (c) inventory (d) none of these
   **Ans.** (b)
6. Which one of the following is a flow variable?
   (a) Consumption  (b) Wealth
   (c) Quantity of money  (d) None of these
   Ans. (a)

7. GNP at Market Price is measured as:
   (a) GDP at Market Price – Depreciation;
   (b) GDP at Market Price + Net Factor Income from Abroad
   (c) GDP at Market Price + Subsidies;
   (d) NDP at Factor Cost + Net Factor Income from Abroad
   Ans. (b)

**SHORT ANSWER QUESTIONS**

1. **Define intermediate goods.**
   Ans: Intermediate goods are those goods which are within the boundary line of production and not ready for use by their final users. These goods are purchase for further sale or are to be use as raw material by the producers.

2. **What is meant by producer goods?**
   Ans. Producer goods are those goods which are used for further production. These may be used either as raw material (like wood used in making chair) or as fixed assets (like a tractor in farming).

3. **What is meant by capital goods?**
   Ans. Capital goods are those goods which are used in the process of production for several years and which are of high value. These goods are fixed assets of the producers.

4. **What is fixed investment?**
   Ans. Fixed investment refers to increase in the stock of fixed assets or capital goods (like plant and machinery) of the producers during an accounting year.

5. **What do you mean by inventory investment?**
   Ans. Change in inventory stock during the year is called inventory investment of the producer.

6. **What is meant by consumption of fixed capital?**
   Ans. Consumption of fixed capital or depreciation refers to loss of value of fixed assets in use on account of: 1. Normal wear and tear; 2. Normal rate of accidental damage, and 3. Expected or foreseen obsolescence.

7. **Define depreciation reserve fund?**
   Ans. Depreciation reserve fund is a provision of funds to cope with depreciation losses. These fund are used for the replacement of fixed assets when these are worm-out or when these become obsolete/outdated.
1. **Define real flow.**
   Ans. Real flow refers to the flow of factor services from the household sector to the producing and the corresponding flow of goods and services from the producing sector to the household sector.

2. **Define money flow.**
   Ans. Money flow refers to the flow of money (in term of receipts and payment) across different sectors of the economy. It is called money flow because it involves the flow of money value from one sector to the other. Thus, producers make sector payment to the households and household make payment to the producers (for the purchase of goods and services) in term of money.

3. **Should purchase of wheat in the wholesale market be treated as the purchase of final goods?**
   Ans. Purchase of wheat in the wholesale market is often done by the trader. Wheat is a consumption goods and traders are not the final users of wheat. Therefore, purchase of wheat in the wholesale market is to be treated as the purchase of intermediate goods. However, sometimes the households buy wheat in bulk from wholesale market. In such situation, purchase of wheat should be treated as purchase of final good.

4. **What is national debt interest?**
   Ans. National debt interest refers to the interest payment accruing to residents of the country on account of borrowings by the govt. The government borrows money from the people (by issuing bond like National Saving Certificates in India).

5. **What is meant by transfer payment?**
   Ans. Transfer payment (or transfer expenditure) are all those unilateral payment corresponding to which there is no value addition in the economy.

6. **What is meant by nominal GDP?**
   Ans. Nominal GDP refers to market value of the final goods and services produced.

Q. **How will you treat the following in the calculation of gross domestic product of India? Give reasons for your answers.**

(i) **Profit earned by a branch of foreign Bank in India.**
   ANS. Yes, it will be included in the gross domestic product of India as profits are earned within the domestic territory of India.

(ii) **Salaries of Indian employees working in embassy of Japan in India.**
   ANS. No, it will be not included in the gross domestic product of the India as the embassy of Japan is not the part of domestic territory of India.

(iii) **Salaries of residents of Japan working in Indian embassy of Japan.**
   ANS. Yes, it will be included in the gross domestic product of India as the India embassy is the part of domestic territory of India.
Q. Classify the following expenditures as intermediates consumption expenditures and final consumption expenditures.

(i) Expenditure on research and development by TATA on Nano car.
(ii) Insurance premium paid by a firm to an insurance company.
(iii) Insurance premium paid by households to an insurance company.
(iv) Expenditure on repairs and maintenance of plant and machinery.
(v) Expenditure incurred by a firm on purchase of equipment.
(vi) Advertising expenditure incurred by Airtel on promotion of its product.
(vii) Business expenses of employees on tour and entertainment.

Ans: Intermediates consumption expenditure: (i), (ii), (iv), (vi), (vii); final consumption expenditure: (iii), (v).

TRUE & FALSE

1. **Nominal GDP can never be less than real GDP.**
   FALSE: nominal GDP can be less than the real GDP, if price in the current year are less than the price in the base year.

2. **Good produced for self-consumption will be included in national income.**
   TRUE: such goods contribute to the current output and their imputed value will be included in national income.

3. **Increase in stock of goods held by a consumer will contribute to capital formation.**
   FALSE: any increase in goods of stock held by consumers does not contribute to capital formation as it is assumed that such goods are consumed, the moment they are purchased.

4. **Gross domestic capital formation is always greater than gross fixed capital formation.**
   FALSE: gross domestic capital formation can be less than gross fixed capital formation if change in stock is negative.

5. **Productions of services for self-consumption are not included in national income.**
   TRUE: Such services are not included in national income as it is difficult to ascertain their market value and they are not rendered for earning income.

Q. From the information given below, calculate: 1. Value added by firm A and firm B; 2. GDPmp; 3. NVAfc

<table>
<thead>
<tr>
<th>Particulars</th>
<th>in crores</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Sales by firm B to general government</td>
<td>100</td>
</tr>
<tr>
<td>ii. Sales by firm A</td>
<td>500</td>
</tr>
<tr>
<td>iii. Sales by firm B to households</td>
<td>350</td>
</tr>
<tr>
<td>iv. Change in stock of firm A</td>
<td>20</td>
</tr>
<tr>
<td>v. Closing stock of firm B</td>
<td>40</td>
</tr>
<tr>
<td>vi. Opening stock of firm B</td>
<td>30</td>
</tr>
<tr>
<td>vii. Purchases by firm A</td>
<td>320</td>
</tr>
<tr>
<td>viii. Indirect Taxes paid by both the firms</td>
<td>75</td>
</tr>
<tr>
<td>ix. Consumption of fixed capital</td>
<td>120</td>
</tr>
<tr>
<td>x. Sales by firm A to B</td>
<td>200</td>
</tr>
</tbody>
</table>
Solution: Value added by firm A
= Sales by firm A + Change in stock of firm A – Purchases by firm A from firm C
= 500 + 20 – 320; = 200 crores Answer

Value added by firm B
= Sales by firm B to general government + sales by firm B to households + (Closing stock of firm B – Opening stock of firm B) – Purchases by firm B from firm A
= 100 + 350 + (40-30) -200; = 260 crores Answer

Gross Domestic product at market price
= value added by firm A + Value added by firm B; = 200 + 260; = 460 crores Answer

Net value added at factor cost
= GDPmp – CFC – Indirect Taxes paid by both the firms; = 460 – 120 -75; = 265 crores Answer

Q. Calculate 'Sales' from the following data:

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Rs. lakhs</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Net value added at factor cost</td>
<td>300</td>
</tr>
<tr>
<td>ii. Intermediate consumption</td>
<td>200</td>
</tr>
<tr>
<td>iii. Indirect tax</td>
<td>20</td>
</tr>
<tr>
<td>iv. Depreciation</td>
<td>30</td>
</tr>
<tr>
<td>v. Change in stocks</td>
<td>(-) 50</td>
</tr>
</tbody>
</table>

Solution:

Sales = Net value added at factor cost – Change in stocks + Intermediate consumption + depreciation + Indirect tax; =300 – (-) 50 + 200 + 30 + 20; =600 lakhs Answer

Q. Firm A buys from X inputs worth Rs.500 crores and sells to firm B goods worth Rs.1000 crores and to firm C goods worth Rs.700 crores. Firm B buys from Y inputs worth Rs.200 crores and and sells to firm C goods worth Rs.1500 crores and finished goods worth Rs.2000 crores to households. Firm C buys from Z inputs worth Rs.150 crores and sells finished goods worth Rs.4,150 crores to households. Calculate value added by firms A, B and C and GDP_{MP}.

Solution:

<table>
<thead>
<tr>
<th>Firm</th>
<th>Value of output</th>
<th>Intermediate consumption</th>
<th>Value Added (VA = VO − IC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Sales to B: 1,000 + Sales to C: 700</td>
<td>Purchase from X: 500</td>
<td>1,200</td>
</tr>
<tr>
<td>B</td>
<td>Sales to C: 1,500 + Sales to households: 2,000</td>
<td>Purchase from A: 1,000 + Purchase from Y: 200</td>
<td>2,300</td>
</tr>
<tr>
<td>C</td>
<td>Sales to households: 4,150</td>
<td>Purchase from A: 700 + Purchase from B: 1,500 + Purchase from Z: 150</td>
<td>1,800</td>
</tr>
</tbody>
</table>
Value added by frm A = GVAMP of A = Rs.1,200 crores
Value added by frm B = GVAMP of B = Rs.2,300 crores
Value added by frm C = GVAMP of C = Rs.1,800 crores
GDPMP = \sum GDAMP = 1,200 + 2,300 + 1,800 = Rs.5,300 crores

Q: Calculate National Income by Income and Expenditure method.

<table>
<thead>
<tr>
<th>Particulars</th>
<th>in crores</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Final Consumption Expenditure</td>
<td></td>
</tr>
<tr>
<td>Private Sector</td>
<td>350</td>
</tr>
<tr>
<td>Government Sector</td>
<td>100</td>
</tr>
<tr>
<td>ii. Mixed income of self-employed</td>
<td>35</td>
</tr>
<tr>
<td>iii. Gross domestic fixed capital formation</td>
<td>70</td>
</tr>
<tr>
<td>iv. Opening stock</td>
<td>15</td>
</tr>
<tr>
<td>v. Compensation of employees</td>
<td>250</td>
</tr>
<tr>
<td>vi. Closing stock</td>
<td>25</td>
</tr>
<tr>
<td>vii. Imports</td>
<td>20</td>
</tr>
<tr>
<td>viii. Rent</td>
<td>75</td>
</tr>
<tr>
<td>ix. Consumption of fixed capital</td>
<td>10</td>
</tr>
<tr>
<td>x. Net indirect taxes</td>
<td>25</td>
</tr>
<tr>
<td>xi. Interest</td>
<td>25</td>
</tr>
<tr>
<td>xii. Net factor income from abroad</td>
<td>-5</td>
</tr>
<tr>
<td>xiii. Exports</td>
<td>10</td>
</tr>
<tr>
<td>xiv. Profit</td>
<td>100</td>
</tr>
</tbody>
</table>

Solution:

**National Income by Income method**

= Mixed income of self-employed + Compensation of employees + Rent + Interest + Profit + Net factor income from abroad
= 35 + 250 + 75 + 25 + 100 + (-5) = 480 crores

**National Income by Expenditure method**

= Final consumption expenditure of Private sector + Final consumption expenditure of government sector + Gross domestic fixed capital formation + (Closing stock – Opening stock) + Net Exports – Consumption of fixed capital + Net Factor Income from abroad - Net Indirect Tax
= 350 + 100 + 70 + (25 - 15) + (10 - 20) - 10 + (-5) - 25; = 480 crores
Q: From the following data, calculate (a) Gross Domestic Product at Factor Cost and (b) Factor Income To Abroad:

<table>
<thead>
<tr>
<th>Particulars</th>
<th>in crores</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Compensation of employees</td>
<td>800</td>
</tr>
<tr>
<td>ii. Profits</td>
<td>200</td>
</tr>
<tr>
<td>iii. Dividends</td>
<td>50</td>
</tr>
<tr>
<td>iv. Gross national product at market price</td>
<td>1,400</td>
</tr>
<tr>
<td>v. Rent</td>
<td>150</td>
</tr>
<tr>
<td>vi. Interest</td>
<td>100</td>
</tr>
<tr>
<td>vii. Gross domestic capital formation</td>
<td>300</td>
</tr>
<tr>
<td>viii. Net fixed capital formation</td>
<td>200</td>
</tr>
<tr>
<td>ix. Change in stock</td>
<td>50</td>
</tr>
<tr>
<td>x. Factor income from abroad</td>
<td>60</td>
</tr>
<tr>
<td>xi. Net indirect taxes</td>
<td>120</td>
</tr>
</tbody>
</table>

Solution:

(a) **Gross Domestic Product at Factor Cost**

\[
GDP_{FC} = \text{Compensation of employees} + \text{Profit} + \text{Rent} + \text{Interest} + \text{Depreciation}^* \\
= 800 + 200 + 150 + 100 + 50; =1,300 crores
\]

(b) **Factor Income To Abroad**

\[
FI_{Abroad} = \text{Factor income from abroad} - \{ \text{Gross national product at market price} - (\text{Gross Domestic Product at Factor Cost} + \text{Net indirect taxes})\} \\
= 60 - \{1,400 - (1,300 + 120)\}; = 80 crores
\]

Q. The net domestic product at market price of an economy is Rs 4,500 CRORES. The capital stock is worth Rs 4,000 CRORES and it depreciates at the rate of 10% per annum. Indirect taxes amount to Rs 150 CRORES, subsidies amount to Rs 20 CRORES, factor income from the rest of the world is Rs 400 CRORES and to rest of the world is Rs 600 CRORES. Find out the gross national product at factor cost.

Solution: Gross National product at Factor Cost (GNP FC)

\[
\text{GDP}_{FC} = \text{Net Domestic Product at Market price} + \text{Depreciation} - \text{Net Indirect Factor income from abroad} \\
= 4,500 + 10\% \text{ of } 4,000 - (150-20) + (400-600) \\
= 4,500 + 400 – 130 – 200; = \text{Rs. 4,750 CRORES}
\]
### Q2. Calculate Private Income.

<table>
<thead>
<tr>
<th>PARTICULARS</th>
<th>RS IN CRORES</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Net domestic product at factor cost</td>
<td></td>
</tr>
<tr>
<td>(a) Private sector</td>
<td>1,200</td>
</tr>
<tr>
<td>(b) Government sectors</td>
<td>400</td>
</tr>
<tr>
<td>(2) Net current transfers from the rest of the world</td>
<td>200</td>
</tr>
<tr>
<td>(3) Current transfer from Government</td>
<td>100</td>
</tr>
<tr>
<td>(4) Interest on national debt</td>
<td>500</td>
</tr>
<tr>
<td>(5) Net factor income from abroad</td>
<td>50</td>
</tr>
</tbody>
</table>

Solution: 
\[
= \text{Net domestic Product at Factor cost Private Sector} + \text{Net factors income from Abroad} + \text{Net current transfer from the rest of the world} + \text{Current transfer from Government} + \text{Interest on national debt} \\
= 1,200 + 50 + 200 + 100 + 500 \quad = \text{RS 2,050 CRORES}
\]

### Q. Calculate from the following data: (a) Net National Disposal Income ; (b) Private Income; (c) Personal Disposal Income.

<table>
<thead>
<tr>
<th>PARTICULARS</th>
<th>RS IN CRORES</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) National income</td>
<td>800</td>
</tr>
<tr>
<td>(2) Indirect taxes</td>
<td>70</td>
</tr>
<tr>
<td>(3) Subsidies</td>
<td>10</td>
</tr>
<tr>
<td>(4) Saving of non-departmental enterprises</td>
<td>30</td>
</tr>
<tr>
<td>(5) National debt interest</td>
<td>50</td>
</tr>
<tr>
<td>(6) Net factor income from abroad</td>
<td>(-)20</td>
</tr>
<tr>
<td>(7) Consumption of fixed capital</td>
<td>40</td>
</tr>
<tr>
<td>(8) Current transfer from the rest of the world</td>
<td>45</td>
</tr>
<tr>
<td>(9) Income from property and entrepreneurship accruing to government administrative departments</td>
<td>60</td>
</tr>
<tr>
<td>(10) Direct taxes paid by Households</td>
<td>40</td>
</tr>
<tr>
<td>(11) Profits</td>
<td>100</td>
</tr>
<tr>
<td>(12) Saving of private corporate sector net of retained earnings of foreign companies</td>
<td>80</td>
</tr>
<tr>
<td>(13) Current transfer from government administrative departments</td>
<td>90</td>
</tr>
<tr>
<td>(14) Corporation tax</td>
<td>25</td>
</tr>
</tbody>
</table>

Solution:
(a) Net National Disposal Income = (1) + {(2) - (3)} + (4); = 800 + {70-10} + 45= RS 905 Cr

(b) Private income = (1) – (4) – (9) + (5) + (13) + (8); = 800 – 30 – 60 + 50 + 90 + 45; = RS 895 Cr

(c) Personal Disposal Income = Private income – (12) – (14) – (10)=895 – 80 – 25 – 40 = RS 750 Cr
Q. Calculate the Gross Domestic Product at Market Price.

<table>
<thead>
<tr>
<th>PARTICULARS</th>
<th>RS IN CRORES</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Net Factors income from abroad</td>
<td>300</td>
</tr>
<tr>
<td>(2) Subsidies</td>
<td>350</td>
</tr>
<tr>
<td>(3) Saving of Private Corporate sector</td>
<td>940</td>
</tr>
<tr>
<td>(4) Income from entrepreneurship and property accruing to government</td>
<td>2,100</td>
</tr>
<tr>
<td>(5) Current transfer from rest of the world</td>
<td>1,885</td>
</tr>
<tr>
<td>(6) Corporation tax</td>
<td>1,200</td>
</tr>
<tr>
<td>(7) Personal Savings</td>
<td>15,500</td>
</tr>
<tr>
<td>(8) Interest on national debt</td>
<td>1,600</td>
</tr>
<tr>
<td>(9) Net indirect taxes</td>
<td>12,065</td>
</tr>
<tr>
<td>(10) Net Private donation from abroad</td>
<td>150</td>
</tr>
<tr>
<td>(11) Personal final consumption expenditure</td>
<td>56,565</td>
</tr>
<tr>
<td>(12) Consumption of fixed capital</td>
<td>7,050</td>
</tr>
<tr>
<td>(13) Direct taxes paid by households</td>
<td>2,000</td>
</tr>
<tr>
<td>(14) Current transfers from government</td>
<td>2,500</td>
</tr>
</tbody>
</table>

Solution: Gross Domestic Product at Market Price
= (8) + (9) + (13) + (6) + (3) – (5) – (14) + (4) – (1) + (12) + (9)
= 15,500 + 56,565 +2,000 +1200+940 – 1,885 – 1,600 – 2,500+2,100 –300+7,050+12,065 = RS 91,135 CR

Q. Calculate NNP at MP and Personal Disposable Income.

<table>
<thead>
<tr>
<th>PARTICULARS</th>
<th>RS IN CRORES</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Net Domestic Product at factor cost</td>
<td>15,480</td>
</tr>
<tr>
<td>(2) Income from domestic product accruing to government</td>
<td>140</td>
</tr>
<tr>
<td>(3) National debt interest</td>
<td>170</td>
</tr>
<tr>
<td>(4) Transfers payments by government</td>
<td>240</td>
</tr>
<tr>
<td>(5) Net private donations from abroad</td>
<td>30</td>
</tr>
<tr>
<td>(6) Net earned income from abroad</td>
<td>80</td>
</tr>
<tr>
<td>(7) Indirect taxes</td>
<td>1,330</td>
</tr>
<tr>
<td>(8) Subsidies</td>
<td>100</td>
</tr>
<tr>
<td>(9) Direct taxes on Non-corporate sector</td>
<td>335</td>
</tr>
<tr>
<td>(10) Tax on corporate profits</td>
<td>222</td>
</tr>
<tr>
<td>(11) Undistributed profits of corporation</td>
<td>105</td>
</tr>
</tbody>
</table>

Solution: NNP at MP= (1) + {(7) – (8)}+ (6); = 15,480 – {1,330 – 100}+ 80; = RS 16,790 CRORES
Personal Disposable Income=NDPFC – (2) + (3) + (4) + (5) + (6) – (10) – (11) – (9)
=15,480 – 140 + 170 + 240 + 30 + 80 – 222 – 105 – 335; = RS 15,198 CRORES
Q. Whether the following items will be included in National Income? Give reasons for your answer.

1. Payment of electricity bill by a factory.
2. Dividend on shares.
3. Increase in stock of consumer goods with households.
5. Gains from sale of shares.
6. Rent earned by Reliance from its building in USA.
7. Gifts from Abroad.
8. Retained earnings of resident companies from abroad.
9. Expenses of foreign visitors in India.
10. Gifts to a trust from Japan.

Answers:

1. No, it is a part of intermediate consumption expenditure.
2. Yes, it was, as it is a part of profits.
3. No, as it is assumed that such goods are consumed, the moment they are purchased.
4. Yes, it is a part of private final consumption expenditure.
5. No, as it is a capital gain
6. Yes, it is a factor income from abroad.
7. No it is a transfer income,
8. Yes, it is a factor income from abroad.
9. Yes, it is a part of Net exports.
10. No, it is a current transfer from rest of the world

Q. In the determination of social welfare what matter is the quantum of output rather than the composition of output? Defend or refute.

Ans. The above statement is incorrect. Social welfare depends both on the quantum of output as well as the composition of the output. If goods are produce primarily for richer section of the society (ignoring the interest of poorer section of the society) social welfare is bound to remain low even when the quantum of output is rising.

Q. Why are exports included in the estimation of domestic income?

Ans. Export are included in the estimation of domestic income because exports are the parts of domestically produced goods & services, or because exports are part of a goods & services produced within the domestic territory of a country.
Q. Why are imports considered as a negative item in the estimation of domestic income?
Ans. Imports are considered as a negative item in the estimation of domestic income because imports are not an expenditure on the domestic produced goods and services in an accounting year. It is an expenditure on the goods produced abroad.

Q. Is brokerage paid to real estate agents only on the sale and purchase of new houses included in the
Ans. No, brokerage paid to real estate agents only on the sale and purchase of new as well as second-hand houses should be included in the estimation of national income.

Q. In the estimation of GDP (using expenditure method), we focus only on expenditure by the resident of a country. Is it true?
Ans. No, it is not true. In the estimation of GDP, we include all expenditure on the domestically produced goods both by the resident as well as nonresidents of a country.
KEY CONCEPTS

Money: - Money is anything that has the general acceptability as a common medium of exchange & as a common measure of the value of the commodities.

Barter system: - It refers to the exchange of goods for goods. In other words, it refers to the direct exchange of goods & services with another.

Money Supply: - It refers to the total stock of money in an economy at any point of time, held by the general public. \( M = C + DD \)

Commercial bank: - A Commercial bank is a financial institution which performs the function of accepting deposits from the public & advancing loans.

Legal Reserve Ratio: It refers to the minimum portion of total net demand & time deposits of Commercial Banks which have to be maintained with Central Bank & themselves as cash liquid assets.

Cash Liquidity Ratio: It refers to that minimum portion of total net deposits of Commercial Banks which have to be maintained with Central Bank.

Statutory Liquidity Ratio: It refers to that portion of total deposits which have to be maintained by the Banks themselves in the form of liquid cash assets against the securities of Govt. & RBI.

Repo rate refers to the interest paid by the Commercial Banks to RBI against the loans & advances taken by them from RBI to meet the short term needs.

Reverse Repo Rate refers to the interest received by the Commercial Banks from the Central banks against the parking of funds by the commercial banks.

Credit Multiplier refers to the amount by which the initial deposit multiplies into a larger amount of final deposits. It is equal to \( 1 / LRR \). Thus, credit multiplier is inverse to LRR.
Q. What is Money?

Money is anything that has the general acceptability as a common medium of exchange & as a common measure of the value of the commodities.

Q. What is Barter system?

It refers to the exchange of goods for goods. In other words, it refers to the direct exchange of goods & services with another.

Q. Explain the Functions of Money

The functions of money can be classified into Primary & Secondary functions.

1. PRIMARY FUNCTIONS

A) Money act as a common medium of exchange which is the most essential function as it enables us to identify money as a commodity which is generally acceptable to all. It facilitates the exchange of goods & services, & thus facilitates multilateral trade. Consequently, it helps us to avoid the problem of double coincidence of wants as the seller can sell his products & get money which can be used to purchase his desired product. Thus it facilitates smooth exchange system.

B) Money act as a common measure of value because it has the general acceptability & it has a stable value in itself. This helps in promoting the trade and industry in an economy, & helps in facilitating the exchange process among the different sectors. This enables the products to be measured in terms of monetary units, & thus, standardization & gradation of products take place.

2. SECONDARY FUNCTIONS

C) Money act as a Standard of Deferred payments i.e. the payments to be made in future. Money serves as the measure by which the value of future payments is regulated, since its value is more or less stable & it has the wide acceptability. As a result, the credit function in the economy develops which makes an easier trade & industry.

D) Money acts as a Store of Value being it is a common measure of value and generally accepted means of payments. This implies that the purchasing power can be shifted from its present to its future. Moreover, money is the most economic & convenient way of hoarding. This enables the people to save a part of their current income & store it for future use. Consequently, the capital formation takes place which promotes the production & productivity.

E) Money act as a transfer of value as it helps in transferring the value of assets from one person to another person & one place to another place. This is possible because money is the most liquid asset. This facilitates the mobility of labour and other inputs which in turn accelerates the economic growth & development.

Q. Define the term Money Supply & state its constituents.

It refers to the total stock of money in an economy at any point of time, held by the general public i.e. the private individuals and business firms (money is in disposable form). In other words, it is the amount of money which is in circulation in an economy at a given point of time. The two constituents of money supply are currency held by the general public & demand deposits of general public held by the Commercial Banks. Thus, \( M = C + DD \)
Q. What are the factors which determine the Money Supply?

- **Monetary Policy** is one of the most important determinants of money supply. The dearer money policy leads to the decline in the money supply in the economy, & vice-versa.

- **Policy of commercial Banks** & their fund capacity decides the expansion or contraction of the supply of money. The capacity depends upon the availability of cash reserves in the banks. Larger the cash balance, the greater will be the volume of deposits & further greater the money supply.

- **Fiscal Policy** of the Govt. also influences the money supply as this plays a vital role in regulating the money supply. When the Govt. adopts the Deficit budget policy, the money supply rises.

Q. Define the term Commercial bank.

A Commercial bank is a financial institution which performs the function of accepting deposits from the public & advancing loans. This banks act as the financial intermediary between the idle resources & the productive sources of resources.

Q. What are the different types of deposits held by the Commercial Banks?

a) Current account deposits or Chequeable deposits which are payable on cheques & the depositors can withdraw their deposits whenever they like. This account is generally maintained by the traders for day to day transactions. The banks pay no interest on this deposit.

b) Saving Account deposits are those deposits on which the bank pay interest which is less than the interest paid on the fixed deposits. The bank imposes some restrictions on their withdrawal. The purpose of this deposit is to encourage & mobilize the small savings.

c) Fixed or Time Deposits refers to the deposits which are accepted for the specified period & which are not payable on demand before the expiry of the period. The bank pay relatively high rate of interest on this deposit.

The variant of this deposit is Recurring Deposit whose purpose is to encourage regular savings by the people. This deposit is based upon the installment payment for a fixed period of time on which the interest is paid after maturity of the account.

Define the term Central Bank & explain its functions.

A Central Bank is an apex institution which directs, control, regulates & supervises the monetary system of a country. Central bank is the monetary authority which leads all banking & non-banking institutions. The name of the Central bank in India is Reserve Bank of India (RBI) which is established in 1935. The RBI occupies the highest position in the money & capital market.

**Functions**

1. **It has the monopoly of issuing currency notes.** It has the exclusive right to issue the currency notes in the country which leads to the uniformity of the currency throughout the nation. Moreover, this enables it to have a total control over the total money supply of the country which leads to the strengthening of the monetary policy during the crisis time.
2. *It act as a banker of the govt.* as it accepts the deposits of the govt. & makes payment on behalf of the it, gives financial advices, & advances the loans in the crisis times, remit the surplus funds of Govt., purchase & sell Govt. securities on its behalf.

3. *It acts as a banker's bank* in the form of lender of last resort, facilitate clearing house facilities & remit the surplus funds, supervise the banking activities & regulates credit-deposits of the Banks. Since RBI is the guardian of all the banks, the banks can get the benefit of easy & early credit during their financial requirements. As a facilitator of clearing, the RBI makes early settlement of financial claims & debts of the banks. As a result, the banks don't face any problem of cash liquidity, & thus they need not to remain depended on the bank credit or capital funds of the banks. As a regulator & supervisor, the banks are not in the position of any malpractice & the entire banking system remains transparent & accountable to public.

4. *It acts as a custodian of gold reserves* & the nation's stock of foreign exchange reserve. The purchase & sale of Gold & foreign exchange at the global level is done by RBI only. As a custodian, RBI is responsible for maintaining the stock of gold & forex reserves, & the determination of their prices.

5. *It acts as a controller of credit* which is one of the most important functions. Since it is an apex institution, therefore can play an effective role to combat or correct the inflationary or deflationary pressures of an economy. The RBI controls credit by using Quantitative(General) & Qualitative(Selective) credit control methods. The tools under quantitative methods are Bank/Repo rate, Reserve repo rate, CRR & SLR, Open market operations. Under selective methods, RBI use Margin, credit quota & rationing, moral suasion & direct action etc.

6. *It promote the economic growth & development* of the country by erecting the financial institutions in the rural areas, providing direct loans to the farmers, framing the policies in favour of trade & industry, collect the economic informations & publish through its various journals which further helps the govt. & other institutions to adopt the correct policies etc.

**Q. Explain how does a Commercial Bank creates credit(money supply).**

Credit creation by the banks is determined by (i) the amount of initial deposits and ii) the legal reserve ratio (LRR). It is assumed that all the money that goes out of banks is redeposit into the banks, and LRR consists of CRR & SLR.

A Commercial Bank accepts deposits from general public & create a primary account deposit. This creates liability for the bank & asset for the depositor. It is also referred to as active deposit. From the active deposits the banks deduct the legal reserves to be kept in Central Bank (RBI), & the rest (excess reserves) are used in loans & investment. When a bank give loans & advances, it creates another deposit known as derivative deposits or secondary account deposits on the name of debtor. This leads to creation of new primary account, & thus the new primary deposits keeps on increasing until the credit multiplier stops working. Greater the LRR, smaller the amount of total final deposits, & vice versa.

An Illustration to explain the process of credit creation:

Let the LRR be 20% and there is a Fresh/Primary/Initial/Deposit Account of Rs 10000. The banks keep 20% ieRs 2000 as cash and lend the remaining Rs 8000 to a borrower by opening a new account, called as Loan/Secondary/Derived Account.
Here we assume that all the banking transactions will be through monetary instruments viz cheques etc.

As assumed, the amount of Rs 8000 will come back to the banks as fresh deposit from which once again the bank will keep 20% ie Rs 1600 as LRR and rest Rs 6400 will be lend to some other borrower. The bank now creates another secondary account which will once again become a primary account. This process continues and the money goes on multiplying till the sum of LRR and the fresh deposit amount is same or the new deposit becomes nil. Finally, when we add the total money creation, we get Rs 50000 as the total deposit creation.

Total credit creation = Initial deposit X 1/LRR = 10000 X 1/20% = 10000 X 100/20 = Rs 50000

Q. Define the terms LRR, CRR, SLR, Repo & Reverse Repo rate, Credit Multiplier.

Legal Reserve Ratio: It refers to the minimum portion of total net demand & time deposits of Commercial Banks which have to be maintained with Central Bank & themselves as cash liquid assets. There are two legal reserves viz. CRR & SLR.

Cash Liquidity Ratio: It refers to that minimum portion of total net deposits of Commercial Banks which have to be maintained with Central Bank. During inflation or deflation, the CRR is regulated by RBI to control inflation or deflation. During inflation, CRR is increased to restrict the credit by making it dearer, while it is reduced during deflation to expand the money supply in the economy by making it cheaper.

Statutory Liquidity Ratio: It refers to that portion of total deposits which have to be maintained by the Banks themselves in the form of liquid cash assets against the securities of Govt. & RBI.

Repo rate ie Repurchase rate of interest refers to the interest paid by the Commercial Banks to RBI against the loans & advances taken by them from RBI to meet the short term needs. By changing Repo rate, RBI can regulate the money supply. It is different to Bank Rate in a way that Bank rate is charged against the loans taken by commercial banks for long term needs.

Reverse Repo Rate refers to the interest received by the Commercial Banks from the Central banks against the parking of funds by the commercial banks. By increasing RRR, the RBI can encourage the Commercial Banks to park more funds so as to restrict the money supply in the economy. By reducing RRR, the RBI discourages the parking of funds which helps to induce more credit in the economy to resolve the issue of deflation.

Credit Multiplier refers to the amount by which the initial deposit multiplies into a larger amount of final deposits. It is equal to 1/LRR. Thus, credit multiplier is inverse to LRR.
Multiple Choice Questions
Select the correct answer of the following questions:

1. Which of the following is related to barter system of exchange?
   a. Double coincidence of wants; b. Common unit of value;
   c. Limited exchange; d. Both (a) and (c)
   Ans: (d)

2. Out of the following, which is the primary function of money?
   a. Store of value; b. Transfer of value;
   c. Measure of value; d. Bases of credit
   Ans: (c)

3. Which of the following systems governs note issuing in India?
   a. Proportionate system; b. Minimum reserve system;
   c. Fixed fiduciary issue system d. Simple deposit system
   Ans: (b)

4. In India, suppliers of money are:
   a. Government of the country; b. Banking system of the country;
   c. Both (a) and (b); d. None of these
   Ans: (c)

5. Which of the following is not concerned with banking organization?
   (a) Bank rate; b. Fiscal deficit;
   (c) Credit creation; d. Cash reserve ratio
   Ans: (b)

HOTS QUESTIONS

Q. What do you mean by double coincidence of wants?
Ans. Double coincidence of wants means that goods in possession of two different individual
are needed by each other at the same time.

Q. Define credit multiplier.
Ans. Credit multiplier refers to the ratio between change in demand deposit and change in case
reserves of the commercial banks with the RBI.
Credit multiplier = Change in demand deposit of the Commercial banks/ change in cash
reserves of the commercial banks with the RBI

Q. Define margin requirement.
Ans. Margin requirements refer to the difference between market value of the security offered
for loans and the amount banks of loans offered by the commercial banks.
Q. **How is quantitative credit control different from qualitative credit control?**

Ans. Quantitative credit control refers to overall credit control in the economy, affecting all sectors of the economy equally and without discrimination. Qualitative credit control refers to selective credit control that focuses on allocation of credit to different sector of economy. Flow of credit is encouraged to the priority sectors, while it is discouraged to the non-priority sectors.

Q. **How improvement in banking habits of the people pushes up credit availability from the commercial bank?**

Ans. When banking habits of the people improve, they start holding less money as cash-in-hand. Instead more and more money is deposited with the commercial bank. Accordingly, cash reserves of the commercial bank start rising. Higher cash reserve of the bank enable them to deposits more funds with the RBI as CRR – deposits. If CRR remains constant higher CRR- deposits with the RBI gives the commercial bank the legal authority to create more credit by way of loans/credit. Accordingly, availability of credit from the commercial bank is increased.

Q. **How can 'Jan-DhanYojana' used as an instrument to increase supply of money by the commercial banks?**

Ans. A large section of the population in India does not have their bank accounts. 'Jan-DhanYojana' prompts people to open their bank accounts. When more and more accounts are open then some of the cash balances with the people (or idle cash lying with the people) are bound to reach the banking system as cash deposits or primary deposits. This increase enables commercial banks to increase their cash reserves with the central banks. If CR (additional cash reserves with RBI)= Rs10,000 and if CRR=4% then the additional demand deposit the bank can create = 1/4% * 10,000 = Rs2,50,000. This is how 'Jan-DhanYojana' may be used as an instrument to increase the supply of money by the commercial banks.

Q. **Why has the government in India failed to combat inflation even when a series of monetary measures are available in the textbook of macroeconomics?**

Ans. Monetary measures of combating/ controlling inflation focus largely on moderating/lowering the demand for goods and services by making the availability of credit costlier and difficult. It does not address supply side of the problem. While the fact of the matter is that in India inflation has often been triggered by the low market supplies. Unless supplies are boosted (particularly the supply of farm output) we shall continue to wrestle with inflation without training it.

Q. **How in your opinion, credit creation by the commercial banks accelerates the pace of economic growth? Write two observations.**

Ans. Following observations may be noted in this regard:

Observation 1: Credit creation accelerates the process of growth by expanding the availability of credit for purpose of investment.

Observation 2: Credit creation contribute to the process of growth by expanding size of the market (or aggregate demand), as the availability of credit for the purchase of consumer durables increases.
Macro Economics

Unit-VII: Determination of income & Employment (Marks: 12)

KEY CONCEPTS:

Aggregate Demand (AD)/ Aggregate Expenditure: -It refers to the sum total of demand made by all the economic units in the economy at a given point of time. It can be also defined as the total expenditure incurred by the household, government, & enterprises of the economy at a given point of time.

Marginal Propensity to Consume (MPC): It refers to the ratio of change in consumption by change in disposable income. The value of MPC always lies between 0 and 1 i.e. 0<MPC<1. It is obtained by ΔC/ΔY

Average Propensity to Consume: It refers to the ratio of total consumption by total disposable income. APC = C/Y

Aggregate Supply: -It refers to the total production of commodities in the economy at a given point of time which is measured in terms of value added or the total income generated. AS = Y, therefore, AS = C + S.

Excess demand/inflation: -Excess of Money supply due to excess expenditure by the Government & excess credit creation by the Commercial Banks.

Regulation of Margin Requirements: The margin requirements refers to the difference between current value of the security offered for loans and the value of loans granted.

Rationing of Credit: The fixaton of credit quota for different industries is called as rationing of credit. In order to restrict the flow of credit for speculative activities in a sector, the commercial bank will introduce rationing credit.

UNIT VII: THEORY OF INCOME DETERMINATION

Equilibrium of an economy

AD = C+I = AS = C+S

Sum total of demand made by all the residents

C=C+I Y

Consumption Function

MPC= ΔC/ΔY APC= C/Y

Investment Function

Investment Multiplier (K)= ΔY/ΔI

Autonomous Investment (Ia)

Induced Investment (Ii)

Marginal Propensity to Save (MPS)= ΔS/ΔY

MPS= ΔS/ΔY

Saving Function

MPS= ΔS/ΔY

ROF R = MEC

At full employment

At over full employment level

Inflationary Gap

AD>AS

Equilibrium of an economy

At under employment level

Deflationary Gap

AS>AD

AD=AS

At Full employment
DETERMINATION OF INCOME AND EMPLOYMENT

AGGREGATE DEMAND

CONSUMPTION EXPENDITURE (C)

INVESTMENT EXPENDITURE (I)

GOVERNMENT EXPENDITURE (G)

NET EXPORTS (X-M)

PROPENSITY TO CONSUME

APC

AGGREGATE SUPPLY

CONSUMPTION

SAVING

PROPENSITY TO SAVE

APS

EQUILIBRIUM LEVEL OF OUTPUT (AS PER PROF. KEYNES)

AD (AGGREGATE DEMAND) = AS (AGGREGATE SUPPLY)

I (PLANNED INVESTMENT) = S (PLANNED SAVINGS)

INVESTMENT MULTIPLIER (K)

K = 1 / 1 - MPC

K = ΔY / ΔI

K = 1 / MPS

EQUILIBRIUM LEVEL OF OUTPUT, AD = AS CAN BE ATTAINED

AT FULL EMPLOYMENT LEVEL

AT UNDEREMPLOYMENT LEVEL

AT OVER FULL EMPLOYMENT LEVEL
FULL EMPLOYMENT • ALL ABLE AND WILLING TO DO THE WORK ARE EMPLOYED AT THE EXISTING WAGE RATE.

VOLUNTARY UNEMPLOYMENT • NOT WILLING TO DO THE WORK EVEN THOUGH WORK IS AVAILABLE AT THE EXISTING WAGE RATE

IN VOLUNTARY UNEMPLOYMENT • ABLE AND WILLING TO DO WORK AT THE EXISTING WAGE RATE DO NOT FIND WORK

EXCESS DEMAND AND DEFICIENT DEMAND

**EFFECT ON**

- **EMPLOYMENT**
  - EXCESS DEMAND: WILL NOT
  - DEFICIENT DEMAND: WILL NOT

- **OUTPUT**
  - EXCESS DEMAND: WILL NOT
  - DEFICIENT DEMAND: WILL NOT

- **PRICE**
  - EXCESS DEMAND: WILL NOT
  - DEFICIENT DEMAND: WILL NOT

**TOOLS**

**FISCAL TOOLS**

i) TAXES
ii) PUBLIC DEBT (INTERNAL)
iii) PUBLIC EXP.
iv) DEFICIT FINANCING

**MONETARY POLICY**

i) BANK RATE
ii) CRR
iii) SLR
iv) REPO RATE
v) MARGIN REQUIREMENT
vi) MORAL SUASION
vii) DIRECT ACTION

**EXCESS DEMAND** (Inflationary Gap)
- Should be restricted

**DEFICIENT DEMAND** (Deflationary Gap)
- Should not be restricted
Q. What is meant by determination of income & output?
Determination of income, output & employment is one of the core issues of the Macro Economics. The level of income, output and employment is determined by the Aggregate demand & Aggregate supply.

Q. Define the term Aggregate Demand (AD)/ Aggregate Expenditure.
It refers to the sum total of demand made by all the economic units in the economy at a given point of time. It can be also defined as the total expenditure incurred by the household, government, & enterprises of the economy at a given point of time.

Q. Explain the components of AD.
There are four components of AD viz. Household Consumption demand, Private Investment demand, Govt. demand, & Net Exports.

1. Household Consumption demand/Consumption expenditure refers to the amount spent on durable & non-durable commodities by the consumer households at a given point of time. The consumption expenditure is influenced by the level of income of the households.

Q. Explain the concept of Consumption Function/ Propensity to consume.
It is an expression which establishes the functional relationship between consumption expenditure(C) & the level of income(Y). It describes that how the change in the level of income influence the consumption expenditure of the households. The rise in income level leads to rise in the consumption expenditure, & vice versa.According to Keynes, the rise in the level of income result into the rise in consumption expenditure but the rise is not as much as the rise in income because the rise in income is also accompanied with the rise in the savings of the households. This is also called as Keynes Psychological law of Consumption.

The consumption function or propensity to consume is represented by C = f (Y) Or, C = a + bY, where, 'C' stands for Consumption expenditure, 'a' stands for autonomous consumption i.e. the consumption expenditure when the level of income is zero, 'b' for slope of the consumption curve, 'Y' stands for level of income.The consumption equation C = a + bY shows the level of consumption for various levels of income. The consumption curve slopes upward from left to right and it originate from the Y- axis.

Fig: Consumption Function

The above figure shows the consumption function. Income curve is a 45° line originating from the point of origin. The Consumption curve is constantly rising from the point 'a' on the Y-axis which indicates the rise in consumption due to rise in income. The point 'a' refers to autonomous consumption i.e. the consumption expenditure incurred when the income is zero. The income curve intersects consumption at the point E which is referred to Break-even point.

Q. Define the term break - even point.
The break-even point is defined as the point at which consumption is equal to income, & saving is zero.
Q. Define the term dissaving.
The saving curve SS intersect X-axis at OY level of income. Before this level the saving is negative, called as dissavings. It is the situation when the consumption is greater than income. The savings are positive when the consumption is less than income.

Q. Explain the two types of consumption function or propensity to consume.
   i) Marginal Propensity to Consume (MPC): It refers to the ratio of change in consumption by change in disposable income. The value of MPC always lies between 0 and 1 i.e. 0< MPC<1. It is obtained by \( \frac{\Delta C}{\Delta Y} \)
   
   ii) Average Propensity to consume: It refers to the ratio of total consumption by total disposable income. \( \frac{C}{Y} \)

Q. Define the term Saving Function or propensity to save.
It refers to the functional relationship between saving & level of income, \( S = f(Y) \). In other words, it is the tendency of the households to save at a given level of income.

Q. Briefly explain the two types of Saving function or propensity to consume.
   I) Marginal propensity to save (MPS):
      It refers to the ratio of change in savings by the change in level of income, i.e. \( \frac{\Delta S}{\Delta Y} \). The MPS lies between 0 & 1 i.e. \( 0 \leq MPS \leq 1 \)
   
   II) Average propensity to save (APS):
      It refers to the ratio of total savings by total income, i.e. \( \frac{S}{Y} \).

Q. State the relationship between MPC & MPS.
\( \text{MPC} + \text{MPS} = 1; \text{So, MPC} = 1-\text{MPS}; &, \text{MPS} = 1-\text{MPC} \)

Similarly, the relationship between APC & APS is that, \( \text{APC} + \text{APS} = 1 \)

Q. Define the term Private Investment Demand.
It refers to the expenditure incurred by the enterprises on the creation of new capital assets viz plants, machineries, transport equipments, implements & tools, building etc.

Q. Differentiate between Investment is of two types.
1. Autonomous investment (I0); 2. Induced investment (I1)

<table>
<thead>
<tr>
<th>Autonomous investment (I0)</th>
<th>Induced investment (I1)</th>
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<tbody>
<tr>
<td>1. It refers to the investment expenditure which is incurred by the Government with the motive to promote the level of growth &amp; development. It is not influenced by the level of profits or income of an economy.</td>
<td>It refers to the investment expenditure which is incurred by the enterprises with the motive to make greater investments &amp; receive higher returns. It is positively related to level of income.</td>
</tr>
<tr>
<td>2. It is influenced by the change in population structure, natural calamities, change in technology &amp; institution, war etc.</td>
<td>It is influenced by the level of income of an economy. Higher the income, greater is the induced investments, &amp; vice versa.</td>
</tr>
</tbody>
</table>
3. The I0 curve is straight line parallel to income axis which shows that it remains same at all levels of income & output, & not influenced by change in income.

The I1 curve is a positive slope which shows the positive relation between induced investment & level of income.

Q. Explain the determinants of Investment. There are three important determinants of Investment viz.

i) Revenue from Investment (ROI): Revenue from investment or expected returns implies the prospective yield of the capital invested. The enterprises would undertake an investment project to increase the production capacity only when that generates the additional revenue.

ii) Cost of Investment: Cost of investment implies supply price of capital asset, and the rate of interest on the loan money borrowed for the purchase of the asset. Higher the cost, lower will be the investment.

iii) Business expectations which implies the enterprises to speculate in the future gains which are uncertain, and is prompted by bullish expectations i.e. the expectation of prices to go up.

Q. Define the term investment/income multiplier & explain its working. This concept has been developed by J. M. Keynes in 1936. This concept explains the resultant change in the level of income in an economy due to change in the investment. In other words, when an economy raises a certain amount of investment, the level of income rises by a certain amount i.e. the investment generates greater amount of income in the economy. The multiplier indicates by what times the level of income rises due to rise in the investment at a given point of time.

For example, if the investment increases by Rs. 100 crores, & the income rises by Rs. 200 crores, the multiplier will be 200/100 = 2.

According to Keynes, “Investment multiplier tells us that when there is an increment of aggregate investment; income will increase by an amount which is K times the increment of investment.”

\[ \Delta Y = K \Delta I; \text{ thus, } K = \Delta Y / \Delta I, \text{ where } K \text{ is the investment multiplier.} \]

The multiplier can be defined as the ratio of change in income to the change in investment.

Working of the Multiplier: Multiplier process can be explained as the change in investment leads to change in income which further leads to change in consumption.
expenditure. This again results into further change in income. This process continues till consumption expenditure becomes zero. The resultant increase in income depends upon the existing MPC which determines the value of K. K = 1/MPL or K = 1/MPS

Q. Define the term Aggregate Supply.

It refers to the total production of commodities in the economy at a given point of time which is measured in terms of value added or the total income generated. It also refers to the disposable income which consist of two components viz, consumption & saving. Since AS = Y, therefore, AS = C + S

Q. Define the term Ex-ante savings & investment, & explain how they are different to ex-post savings & investment.

Ex-ante savings refers to the savings planned by the household for the given year, while ex-ante investment refers to the amount of investment planned by the producers towards the production of commodities in the given year. Ex-post savings refers to the realized or actual savings made by the households in a year, while ex-post investment refers to the actual amount of investment made by the producers towards the production of commodities in a year.

Q. Define voluntary & involuntary unemployment.

Voluntary unemployment refers to the situation when people are willing to remain unemployed in the production activities at the current factor prices. Involuntary unemployment refers to the situation when the willing & able bodied people remain unutilized in the economy due to lack of employment opportunities.

Q. Explain the concept of Excess Demand (Inflationary Gap) & Deficient Demand (Deflationary Gap).

Excess demand refers to that situation in an economy when the AD exceeds the AS at full employment level at a given point of time. In other words, the Excess demand refers to that situation when the Current (Actual) AD exceeds the required AD to maintain full employment equilibrium.

In the first fig, we see that AD is the planned or actual AD curve & AD is the required AD to maintain full employment equilibrium. Y is the full employment level where the AS becomes constant & maximum, and therefore it is a straight line prior to which AS is line indicating proportionate rise in income and employment. The current equilibrium of the economy is at E which exceeds the required one i.e. E to have full employment equilibrium. EE refers to the inflationary gap which leads to inflation in the economy.

In the second fig, we see that AD is the planned or actual AD curve & AD is the required AD to maintain full employment equilibrium. Y is the full employment level where the AS becomes constant & maximum, and therefore it is a straight line prior to which AS is line indicating proportionate rise in income and employment. The current equilibrium of the economy is at E which exceeds the required one i.e. E to have full employment equilibrium. EE refers to the inflationary gap which leads to inflation in the economy.
Deficient Demand refers to the situation in an economy when the AD falls short of AS at full employment level at a given unit of time. In other words, it is the situation when the planned or actual aggregate demand falls short of required aggregate demand to maintain full employment equilibrium. This situation is also referred to as underemployment equilibrium because the actual equilibrium in an economy takes place before the level of full employment, and there exist some amount of involuntary unemployment. This situation is more deteriorating in effect, as in this situation there is drastic fall in price level which leads to decline in income, employment & output. In this situation, the economy operates much below to its production capacity due to which many resources remain unutilized or underutilized. This defers the rate of economic growth & development.

In the first fig, we see that AD is the planned or actual AD curve & AD$_1$ is the required AD to maintain full employment equilibrium. $Y_1$ is the full employment level where the AS becomes constant & maximum, and therefore it is a straight line prior to which AS is $45^\circ$ line indicating proportionate rise in income and employment. The current equilibrium of the economy is at E which fall short of the required one i.e. $E_1$ to have full employment equilibrium.

$EE_1$ refers to the inflationary gap which leads to inflation in the economy.

In the second fig, which shows the conventional diagram of deficient demand situation, the AD=AS at point E which corresponds to under-employment level, and at full employment level the AD (DY$_1$) falls short of AS (SY), Thus ES is the inflationary gap.
Q. **State the causes of excess demand/inflation.**

1. Excess of Money supply due to excess expenditure by the Government & excess credit creation by the Commercial Banks.
2. Excess of Exports over Imports which leads to scarcity in the domestic supply of essential goods.
3. Hoarding & Black marketing of the essential goods by the traders.
4. Tax Evasion by the household & firms.
5. Due to low market rate of interest.
6. Due to Cyclical fluctuations.

Q. **State the causes of deficient demand/deflation.**

1. Lack of Money supply due to curtailed expenditure by the Government & less credit creation by the Commercial Banks.
2. Excess of imports over exports which leads to excess of availability of essential goods.
3. Excess of production by the enterprises due to improper planning and wrong estimation.
4. Due to high market rate of interest.
5. Due to depression prevailing in the economy.

Q. **Explain the Measures to correct excess (inflationary gap) & deficient demand (deflationary gap).**

The measures can be classified into two measures viz.

1. Fiscal measures/policy; 2. Monetary measures/policy

1. **Fiscal measures:** These measures are formulated & implemented by the Government to control inflationary or deflationary situation. The following tools are used to control & combat the inflationary & deflationary situation.

   a) **Public Expenditure:** The govt. expenditure has a large impact on the creation of money supply & further on the rise/fall in AD. During the inflationary situation, the Govt. may curtail the unproductive expenditure to check expansion of money supply which may tend to reduce the AD. This will prevent in the inflow of excess money in the economy. During the deflationary situation, the govt. should raise the expenditure on the economy by funding various developmental projects. This will lead to induce the money supply in the economy & the AD too will rise.

2. **Monetary Measures:** These measures are adopted by the Central Bank of a country in order to control inflation or combat deflation. There are two methods or instruments of monetary policy viz.

   i) **Quantitative Methods or General methods, which refer to the control of quantity of money supply through credit control.** The following instruments are used in quantitative method:

   A) **Bank Rate Policy:** It refers to the rate of interest charged by the Central Bank on the loans & advances given to the Commercial Banks. The Bank Rate is determined by the Central Bank itself. The rise in BR leads to rise in rate of interest which affects the savings & demand for loans. During the excess demand situation, the CB raises the BR which leads to rise in rate of interest. This leads to raise the savings & reduce the demand for loans. Consequently, there is a fall in purchasing power & further fall in AD.

   B) **Open Market Operations:** It refers to the process to sale & purchase of securities by the CB in the economy. During the excess demand situation, the CB sells the bonds &
securities in the market which is purchased by the banks, individuals and other financial institutions of the economy. This helps in wiping out the excess of money supply from the society & further there is a fall in purchasing power of the people. Consequently, the AD falls, this helps in reducing the price level. During the deficient demand situation, the CB purchases the securities of different institutions which induce the inflow of money sully in the economy. This further leads to rise in money supply & thus there is rise in AD.

**C) Cash Reserve Ratio:** The CRR is an important tool which is used to correct the inflationary & deflationary situation, as the rise in CRR leads to fall in the lending capacity of the banks. During the excess demand situation, the CB raises the CRR which leads to fall in the lending capacity of the banks. This results in fall in money supply & further fall in AD. The fall in AD leads to fall in price level. During the deflationary situation, the CB reduces the CRR which raises the lending capacity of the banks. The rise in lending capacity leads to rise in money supply & further rise in AD.

**D) Repo & Reverse repo rate:** During inflation, the RBI increases the repo rate to make the credit dearer in order to restrict its supply. Similarly, RBI increases the RRR to encourage the commercial banks to park more funds with RBI. This helps in restricting money supply in the economy.

**Qualitative Measures:**

1. **Regulation of Margin Requirements:** The margin requirements refers to the difference between current value of the security offered for loans and the value of loans granted. In case of inflationary tendencies in an industry, the CB will raise the margin requirement so as to restrict the flow of credit, & vice versa in case of deflationary situation in an industry.

2. **Rationing of Credit:** The fixation of credit quota for different industries is called as rationing of credit. In order to restrict the flow of credit for speculative activities in a sector, the CB will introduce rationing credit. The quota limits fixed in granting loans by the CB cannot be exceeded by the Commercial Banks.

3. **Moral Suasion & Direct Action:** In case of inflationary or deflationary situations, the CB may issue directives with a view to control the flow of credit. The advices of the CB are generally accepted by the Commercial Banks for expanding or contracting credit. In case the commercial banks do not comply with the directives, the CB may initiate direct action against the member banks.

**Q. Make a schedule to explain that when National Income rises, APC falls & APS rises.**

This schedule proves that when income level of an economy rises, the APC falls & APC rises. When consumption falls short of income, savings are negative called as dissavings. Let \( C = 50 + 0.5Y \)

<table>
<thead>
<tr>
<th>Income</th>
<th>Consumption</th>
<th>Savings</th>
<th>APC</th>
<th>APS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>50</td>
<td>-50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>100</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>200</td>
<td>150</td>
<td>50</td>
<td>0.75</td>
<td>0.25</td>
</tr>
<tr>
<td>300</td>
<td>200</td>
<td>100</td>
<td>0.67</td>
<td>0.33</td>
</tr>
<tr>
<td>400</td>
<td>250</td>
<td>150</td>
<td>0.62</td>
<td>0.38</td>
</tr>
<tr>
<td>500</td>
<td>300</td>
<td>200</td>
<td>0.6</td>
<td>0.4</td>
</tr>
</tbody>
</table>
Q. **Make a schedule to explain the Keynesian Theory of Income & Output. Also show a numerical example that how the economy can reach full employment level of income & output.**

Let \( C = 25 + 0.75Y \), \( I_o = \text{Rs 50 crores} \); Full employment level of income is \( \text{Rs 400 cr} \).

Here all values are representing \( \text{Rs crores} \).

<table>
<thead>
<tr>
<th>Output</th>
<th>Consumption</th>
<th>Savings</th>
<th>Investment</th>
<th>AD</th>
<th>AS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>25</td>
<td>-25</td>
<td>50</td>
<td>75</td>
<td>0</td>
</tr>
<tr>
<td>100</td>
<td>100</td>
<td>0</td>
<td>50</td>
<td>150</td>
<td>100</td>
</tr>
<tr>
<td>200</td>
<td>175</td>
<td>25</td>
<td>50</td>
<td>225</td>
<td>200</td>
</tr>
<tr>
<td>300</td>
<td>250</td>
<td>50</td>
<td>50</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>400</td>
<td>325</td>
<td>75</td>
<td>50</td>
<td>375</td>
<td>400</td>
</tr>
<tr>
<td>500</td>
<td>400</td>
<td>100</td>
<td>50</td>
<td>450</td>
<td>500</td>
</tr>
</tbody>
</table>

| Change in \( \text{AD} \) > \( \text{AS} \) | Economy expands |
| Change in \( \text{AD} \) = \( \text{AS} \) | Equilibrium \( \text{AD} = \text{AS} \) |
| Change in \( \text{AD} \) < \( \text{AS} \) | Economy Contracts |

From the above schedule we can say that presently the economy is in equilibrium at \( \text{Rs 300 crores} \) level of income & output. Now, if economy wants to achieve equilibrium at full employment level \( \text{i.e} \text{Rs 400 crores} \), then it has to increase the autonomous investment in such a manner that the \( \text{AD} \) also reaches to \( \text{Rs 400 cr} \) to get in equilibrium. So, if \( \text{MPC} = 0.75 \), \( K = \frac{1}{1-0.75} = 4 \). So, change in investment \( (\Delta I) \) should be = change in income \( (\Delta Y) / K = 100/4 = \text{Rs 25 cr} \). So, if the economy raise its investment level to 75 cr, the \( \text{AD} \) will be \( \text{Rs 400 cr} \) & now it will be equal to \( \text{AS} \). Thus, the economy attains full employment equilibrium.

**Q. Make a schedule to explain the working of the multiplier.**

Let \( \text{MPC} = 0.5 \), investment is \( \text{Rs 100} \)

<table>
<thead>
<tr>
<th>Round</th>
<th>Change in investment</th>
<th>Change in income</th>
<th>Change in Consumption</th>
<th>Change in savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial</td>
<td>100</td>
<td>100</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>1</td>
<td>50</td>
<td>25</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>25</td>
<td>12.5</td>
<td>12.5</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>12.5</td>
<td>6.25</td>
<td>6.25</td>
<td></td>
</tr>
<tr>
<td></td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>200</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Here we see that initially the investment made in economy \( \text{ie} \text{Rs 100} \), the immediately income should be \( \text{Rs 100} \). Further, half of it is spend by the people & other half is saved since \( \text{MPC} = 0.5 \). The amount of \( \text{Rs 50} \) spend by one section of society will generate income of \( \text{Rs 50} \). This process continues till the leverage effect of multiplier exist. As soon as the effect is over, the working of multiplier stops. Now, if we add the incomes generated at all the rounds, we get \( \text{Rs 200} \). This means the fresh investment of \( \text{Rs 100 crores} \) leads to amplify the income to \( \text{Rs 200 crores} \), as \( \text{MPC} = 0.75 \), so \( K = \frac{1}{1-0.75} = 2 \). So, change in income = \( K \times \text{fresh investment} \) \( = 2 \times 100 \text{ crores} = \text{Rs 200 Crores} \).
Multiple Choice Questions

Select the correct answer of the following questions:

1. Consumption function is a functional relationship between:
   a. Income and saving;  
   b. Price and consumption;  
   c. Income and consumption;  
   d. Income, consumption and saving
   Ans: (c)

2. Average propensity to consume (APC) is equal to:
   a. \( \frac{Y}{C} \);  
   b. \( \frac{\Delta Y}{\Delta C} \);  
   c. \( \frac{C}{Y} \);  
   d. \( \frac{\Delta C}{\Delta Y} \)
   Ans: (c)

3. MPC being equal to 0.5, what will be the change in consumption, if income increases by Rs 100?
   a. Rs 60;  
   b. Rs 50;  
   c. Rs 40;  
   d. Rs 70
   Ans: (b)

4. Average propensity to save (APS) is equal to:
   a. \( \frac{Y}{S} \);  
   b. \( \frac{\Delta Y}{\Delta S} \);  
   c. \( \frac{S}{Y} \);  
   d. \( \frac{\Delta S}{\Delta Y} \)
   Ans: (c)

5. If MPC is 40 per cent, MPS will be:
   a. 70 per cent;  
   b. 60 per cent;  
   c. 50 per cent;  
   d. 40 per cent
   Ans: (b)

NUMERICALS

Q1: The income in an economy increases from Rs 20,000 crores to Rs 70,000 crores, and as a result the level of consumption increases from Rs 15,000 crores to Rs 45,000 crores. Calculate the MPC.

SOLUTION:

<table>
<thead>
<tr>
<th>INCOME (Y) (RS)</th>
<th>CONSUMPTION (C) (RS)</th>
<th>CHANGE IN CONSUMPTION ((\Delta C)) (RS)</th>
<th>CHANGE IN INCOME ((\Delta Y)) (RS)</th>
<th>MPC = (\frac{\Delta C}{\Delta Y})</th>
</tr>
</thead>
<tbody>
<tr>
<td>20,000</td>
<td>15,000</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>70,000</td>
<td>45,000</td>
<td>30,000</td>
<td>50,000</td>
<td>0.06</td>
</tr>
</tbody>
</table>

ANSWER: 0.60
### Q 2: Complete the following table:

<table>
<thead>
<tr>
<th>INCOME (RS)</th>
<th>SAVING (RS)</th>
<th>MPC</th>
<th>APS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>-12</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>20</td>
<td>-6</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>40</td>
<td>0</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>60</td>
<td>6</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

**SOLUTION:**

<table>
<thead>
<tr>
<th>INCOME (RS)</th>
<th>SAVING (RS)</th>
<th>CONSUMPTION (RS)</th>
<th>MPC = ΔC/ΔY</th>
<th>APS = S/Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>-12</td>
<td>12</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>20</td>
<td>-6</td>
<td>26</td>
<td>0.70</td>
<td>-0.30</td>
</tr>
<tr>
<td>40</td>
<td>0</td>
<td>40</td>
<td>0.70</td>
<td>0.00</td>
</tr>
<tr>
<td>60</td>
<td>0</td>
<td>54</td>
<td>0.70</td>
<td>0.10</td>
</tr>
</tbody>
</table>

### Q 3: From the following schedule, compute APC, APS, and MPC AND MPS:

<table>
<thead>
<tr>
<th>INCOME (Y) (RS)</th>
<th>50</th>
<th>100</th>
<th>150</th>
<th>200</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAVINGS (RS)</td>
<td>10</td>
<td>40</td>
<td>75</td>
<td>120</td>
</tr>
</tbody>
</table>

**SOLUTION:**

<table>
<thead>
<tr>
<th>(Y) (RS)</th>
<th>(S) (RS)</th>
<th>(C) (RS)</th>
<th>APC</th>
<th>APS</th>
<th>MPC</th>
<th>MPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>10</td>
<td>40</td>
<td>0.80</td>
<td>0.20</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>100</td>
<td>40</td>
<td>60</td>
<td>0.60</td>
<td>0.40</td>
<td>0.40</td>
<td>0.60</td>
</tr>
<tr>
<td>150</td>
<td>75</td>
<td>75</td>
<td>0.50</td>
<td>0.50</td>
<td>0.30</td>
<td>0.70</td>
</tr>
<tr>
<td>200</td>
<td>120</td>
<td>80</td>
<td>0.40</td>
<td>0.60</td>
<td>0.10</td>
<td>0.90</td>
</tr>
</tbody>
</table>

Formula used: C = Y - S; APC = C/Y; APS = S/Y; MPC = ΔC/ΔY; MPS = ΔS/ΔY

### Q 4: Using the equation of consumption function: C = c + b(Y), calculate consumption expenditure at the income level of Rs 500 crores, if autonomous consumption is Rs 40 crores and 40% of additional income is saved.

**SOLUTION:**

Given: MPS = 0.4 (as 40% of additional income is saved);

MPC OR b = 1 - 0.4 = 0.6 [MPC = 1 - MPS]; given autonomous consumption (c) and y in the consumption function, we get:

\[ C = 40 + 0.6 \times 500 = RS 340 \text{crores} \]
Q 5: In an economy, income generated is four times the increase in investment expenditure. Calculate the value of MPC and MPS?

SOLUTION:

Multiplier = 4 {as increase in income (ΔY) is 4 times the increase in investment (ΔI)}

\[
\text{Multiplier (K) } = \frac{1}{1-MPC}; \quad 4 = \frac{1}{1-MPC}; \quad 1-MPC = \frac{1}{4};
\]

MPC = 0.75; MPS = 1-MPC = 1-0.75 MPS = 0.25; ANS. MPC = 0.75; MPS = 0.25

HOTS

Q. Define investment.
Ans. Investment refers to the expenditure incurred on creation of capital assets.

Q. Define involuntary unemployment.
Ans. Involuntary unemployment refers to a situation in which all those people, who are willing and able to work at the existing wage rate, do not get work.

Q. What is full employment?
Ans. Full employment refers to a situation in which all those people, who are willing and able to work at the existing wage rate, get work.

Q. What are Ex-ante savings?
Ans. Ex-ante savings refers to the amount of savings which savers plan to save at different levels of income in an economy.

Q. Define Ex-ante investments.
Ans. Ex-ante investments refers to the amount of investments which investors plan to invest at different levels of income in an economy.

Q. “Marginal propensity to consume falls with successive increase in the level of income.” It is always true?
Ans. This may be true if there is equitable distribution of income. A rational consumer always attempts to save more as his income increases, but if bigger part of national income is concentrated in a few hands, the marginal propensity to consume will be high for a poor person as he needs to spend more to fulfill his basic requirements.

Q. Define under-employment equilibrium.
Ans. Under-employment equilibrium refers to a situation when aggregate demand is equal to the aggregate supply at a level where the resources are not fully employed.

Q. What is meant by effective demand?
Ans. The level of aggregate demand required to achieve full employment equilibrium is called effective demand.

Q. What is the impact of excess demand?
Ans. Excess demand leads to inflation without any increase in output and employment as economy is already operating at the full employment level.
KEY CONCEPTS:

Govt. Budget: - The term budget has been derived from the French word 'Bougett' which refers to 'a small bag'. A govt. budget is an annual statement of estimated receipts & expenditure of the govt. during a financial year.

Revenue receipts: -It refers to those money receipts which do not create any liability & do not reduce assets. These are non – redeemable receipts of the govt.

Revenue deficit: - it refers to the excess of revenue expenditure over revenue receipts.

Fiscal deficit: - it refers to the excess of total expenditure over the sum of revenue receipts and capital receipts excluding borrowings.

Primary deficit: - it is defined as fiscal deficit less interest payments.

Balanced budget: - it refers to the budget when the public receipts are equal to the public expenditure.

Surplus budget: -Surplus budget is the one in which public receipts exceeds the public expenditure.

Deficit budget: -Deficit budget is the one in which the govt. expenditure exceeds its receipts.

Q. What is Govt. Budget?
Ans : The term budget has been derived from the French word 'Bougett' which refers to 'a small bag'. A govt. budget is an annual statement of estimated receipts & expenditure of the govt. during a financial year.

Q. Explain the objectives of Govt. Budget.
Ans : The govt. prepares budget with the following objectives:

1. **Proper Allocation/Reallocation of resources** is one of the important objectives of govt. budget. The govt. makes a proper allocation of resources through its budgetary policy so as to make a balance between the goals of profit maximization & social welfare. In other words, there is a justifiable allocation of resources which can promote the welfare of the common mass.

2. **Economic Stability** is another objective of budgetary policy of the govt. During the period of depression & inflation, govt. adopts the policy of deficit & surplus budgeting respectively. The govt. adopts certain policies through budget to save the economy from the clutches of business cycles. The economic stability is indispensable for the stimulation of savings & investment which further raises the level of economic growth & development.

3. **Economic Growth** is one of the important objectives of the govt. budget. Government prepares such a favorable budget which can create conducive conditions to raise the level of savings & investment on which the economic growth of a country depends.

4. **Economic Equality** is another important objective of govt. budget as economic disparity is inherent in any economic system which is politically & socially
undesirable for a healthy nation. In order to curb the economic inequality to a socially acceptable level, fiscal policy play as an effective instrument through which the govt. exercise, with the help of taxation & expenditure, in redistribution of income & wealth in the economy. This helps to bring social & economic justice which is an important element of any welfare state.

5. **Management of Public Enterprises** has been also one of the objectives, so as to increase the growth of these enterprises as these are established in social interest in the form of natural monopolies where a single firm can produce at a lower average cost.

The govt. budget consists of two parts viz. Receipts & Expenditures. Receipts refer to estimated revenue of the govt. from various sources in a fiscal year. The receipts are classified as Revenue Receipts and Capital Receipts.

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**ECONOMICS**

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**COMPONENTS OF BUDGET**

**RECEIPTS**

- **Revenue Receipts**
  - Tax Receipts
    - Direct taxes
    - Indirect tax
  - Non-tax Receipts
    - 1. Income tax
    - 1. Excise duty
    - 2. Wealth tax
    - 2. Service tax
    - 3. Interest tax
    - 3. Sales tax
    - 4. Corporate tax
    - 4. Custom duty

**EXPENDITURE**

- **Revenue Expenditure**
  - 1. Recovery of Loans
  - 2. Borrowing and liabilities
  - 3. Other receipts like Public Sector Units disinvestment
  - 3. Interest on debt incurred by the government
  - 4. Grant to state government

- **Capital Expenditure**
  - 1. Subsidies
  - 2. Expenditure incurred on acquisition of fixed assets like land buildings etc.
  - 2. Loans and advances granted by the central government to the state governments and union territories

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**Receipts**

- **Revenue Receipts**
  - Tax Revenue
    - Income Tax, Corporation Tax, Disinvestment;
    - Custom Duties, Expenditure Tax, Provident
    - Excise Duties, Wealth Tax etc. Deposits;
  - Non-Tax Revenue
    - Profits & Dividends of Govt. Enterprises;
    - Fees & Special Assessment; Gifts & Grants;
    - Interest Receipts; Fines & Penalties;
    - Receipt from fiscal, economic & general Services etc.

**Capital Receipts**

- **Borrowings; External Assistance; Recoveries of Loans**
- **Small Savings**
- **Fund & Other**
Q. Explain the sources of Public Expenditure.

Ans: This refers to the expenditure to be incurred on various heads during the fiscal year. Public Expenditure has been classified into Plan & Non-Plan expenditure since 1987-88 budget which are further classified into Revenue & Capital Expenditure. Further this Plan revenue & capital, and Non-Plan revenue & capital expenditure are classified into Developmental & Non-Developmental Expenditure. This can be understood by the help of the above flow chart.

Plan expenditure refers to the amount to be spent on the heads which are prescribed under the current five year plan. Thus it shows the central plan outlay for various projects, programmes, schemes & the central assistance for the state & union territories. Plan Revenue expenditure includes the expenditure on central plans viz. agriculture, rural development, irrigation & flood control, energy, industry & minerals, transport, communication, science & technology, environment & others, and the central assistance for state and union territories. Plan Capital Expenditure includes the expenditure on economic development, social & communal development, defence & general services etc., and loans to states and union territories for financing plan projects.

Non-Plan expenditure includes the expenditure on the items which are not included in the current five year plan but are included in the current fiscal year budget. Non-Plan Revenue Expenditure includes interest payments; defence revenue expenditure; subsidies in food, sugar, export promotion, market development, interest subsidy etc; grants to states and UTs; pensions and economic services, social services, general services; postal deficit; grants to foreign govs. & others. Non-Plan Capital Expenditure includes defence capital; loans to states, UTs & foreign govs.

Revenue expenditure includes the expenditure on those heads which do not create any assets or reduce the liabilities. These expenditures are incurred on the normal functioning of the govt. and the maintenance of the law & order. For example, compensation of employees, pensions, interest payments, subsidies, grants expenditure on central plans etc. Capital expenditure refers to the amount to be spent on those heads which leads to the creation of the assets or reduction in liabilities. For example, expenditure on defence capital; purchase of assets viz. land, buildings & shares; loans to state govs. & union territories etc.

Developmental expenditure refers to the expenditure on those items which are directly related to economic and social development of the economy. For example, expenditure on capital assets, infrastructure, railways, posts, telecommunication, education, health, social welfare, scientific research etc. This expenditure directly contributes to the flow of goods and services.

Non-Developmental expenditure includes the expenditure on those heads which are not productive & give any returns to the economy viz. defence & administrations, natural calamity, interest payments, tax collections, old age pensions & unemployed allowances etc. Although, it does not contribute to the national income but it is not to be considered as unimportant as it lubricates the wheels of economic development i.e. it creates the conducive conditions in the functioning of the process of economic development.
Q. Explain different types of Budget.
Ans: Govt. budget can be classified into Balanced, Surplus & Deficit Budget.

**Balanced budget** refers to the budget when the public receipts are equal to the public expenditure.

**Surplus budget** is the one in which public receipts exceeds the public expenditure.

**Deficit budget** is the one in which the govt. expenditure exceeds its receipts.

Q. Explain different types of budgetary deficit.
Ans: The budgetary deficit is classified into Revenue, Fiscal & Primary deficit.

**Revenue deficit** refers to the excess of revenue expenditure over revenue receipts. It is the difference between the (Plan revenue expenditure and Non-Plan revenue expenditure) and (Tax revenue + Non-tax revenue). **Fiscal deficit** refers to the excess of total expenditure over the sum of revenue receipts and capital receipts excluding borrowings. Thus, **Fiscal Deficit = total Expenditure – Total Receipts (net of Borrowings)**. **Primary deficit** is defined as fiscal deficit less interest payments. Thus, **Primary Deficit = Fiscal Deficit – Interest Payments**.

Q. Define the term Deficit Financing & state its sources.
Ans: It refers to the financing of the budgetary deficits. The sources are expansion in money supply, i.e. the Central Bank may print money equal to the deficit against of treasury bills of the govt., & secondly by borrowing from the public through market loans. It is a very common instrument to finance the deficit if the govt. budget. Usually it is used by the govt. in India, as every year the budgetary deficit is on rise. The deficit financing can be also done by borrowing from the abroad, which may be burdensome in the future. It is used as the best alternative in the less developed countries because in these countries the people cannot be highly taxed.

**Multiple Choice Questions**

Select the correct answer of the following questions:

1. Which of the following are the objectives of government budget?
   a. Redistribution of income and wealth;
   b. Economic stability;
   c. Both (a) and (b);
   d. None of these

Ans: (c)

2. Which of the following is a non-tax receipt?
   a. Gift tax;
   b. Sales tax;
   c. Gifts and grants;
   d. Excise duty

Ans: (c)

3. Which one of the following is indirect tax?
   a. Wealth tax;
   b. Excise duty;
   c. Income tax;
   d. None of these

Ans: (b)
4. Which of the following are capital receipts of the government?
   a. Recovery of loans;  
   b. Borrowings; 
   c. Disinvestment; 
   d. All of these

   Ans: (d)

5. Fiscal deficit =
   (a) Total expenditure - total receipts other than borrowing 
   (b) Revenue expenditure - revenue receipts 
   (c) Capital expenditure - capital receipts 
   (d) Revenue expenditure + capital expenditure - revenue receipts

   Ans: (a)

NUMERICALS:

Q. Calculation Revenue deficit, fiscal deficit, primary deficit from the following data.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>RUPEES (Crores)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Revenue expenditure</td>
<td>22,250</td>
</tr>
<tr>
<td>(2) Capital expenditure</td>
<td>28,000</td>
</tr>
<tr>
<td>(3) Revenue receipts</td>
<td>17,750</td>
</tr>
<tr>
<td>(4) Capital receipts</td>
<td>20,000</td>
</tr>
<tr>
<td>(5) Interest payments</td>
<td>5,000</td>
</tr>
<tr>
<td>(6) Borrowings</td>
<td>12,500</td>
</tr>
</tbody>
</table>

   Ans. Revenue deficit = Revenue expenditure – Revenue receipts 
        = 22,500 crore – 17,750 crore; 
        = 4,500 crore 

   Fiscal deficit = Revenue expenditure + Capital expenditure – Revenue receipts – Capital receipts = Borrowing = 12,500 crore 
   Primary deficit = Fiscal deficit – Interest payments 
                    = 12,500 crore – 5,000 crore; 
                    = 7,500 crore 

Q. Find borrowing by Government if payments of interest is estimated to be of 15,000 crores which is 25% of primary deficit.

   Ans. Here, Interest payment = 25% of primary deficit; Primary deficit = 100/25 x 15,000 = 60,000 

   We know, Primary deficit – Interest payment; 
   Fiscal deficit = Primary deficit + Interest payment = 60,000 crore + 15,000 crore; 
   = 75,000 crore
TRUE OR FALSE

Q. Comment on the following statement true or false, with reason

(1) Construction of school building is revenue expenditure of the government.

(2) Gift tax is capital receipt.

(3) Dividends on investment made by government is a revenue receipt.

Ans.  

(1) False, it is a capital expenditure because it creates asset for the government.

(2) False, Gifts tax is revenue receipts, because it neither creates liability nor leads to reduction in asset of government.

(3) True, Dividends on investment made by government is a revenue receipts, as it does not add to liability.

Q. Categorise the following government receipts into revenue and capital receipt. Give reason for your answer.

(1) Receipt from sale of shares of public sector undertaking.

(2) Borrowing from public.

(3) Profit of public sector undertaking.

(4) Income tax received by government.

Ans.  

(1) Receipt from sale of shares of a public sectors undertaking is a capital receipt, as it causes reduction in assets of government.

(2) Borrowing from public is a capital receipt, as it creates liability for the government.

(3) Profit of public sector undertaking is revenue receipts, because it neither creates liability nor leads to reduction in asset of government.

(4) Income tax received by government is revenue receipt, because it neither creates liability nor leads to reduction in asset of government.

SHORT ANSWER QUESTIONS

1. What is revenue budget?

Ans. Revenue budget contains the details of the current receipts (or called revenue receipts) and current expenditure (also known as revenue expenditure) of the government.

2. What is capital budget?

Ans. Capital budget contains the details of the capital receipts and capital expenditure of the government.

3. What is tax?

Ans. A tax is a compulsory payment imposed by the government on public or firms.

4. Define a direct tax. Give two examples of direct tax?

Ans. When liability to pay a tax and the burden of that tax lies on the same person, it is called direct tax. e.g., income tax and corporate tax.
5. **Define indirect tax. Give two examples of indirect taxes?**

**Ans.** When liability to pay a tax is on one person and the burden of the tax falls on same other person, it is called indirect tax e.g., sales tax and excise duties.

6. **Give example of non-tax revenue receipts?**

**Ans.** Fees, License and Permit, special assessment, escheat etc.

7. **What does zero primary deficit mean?**

**Ans.** Zero primary deficit means that the government has to resort to borrowings only to make interest payments of previous years.

8. **Are fiscal deficits necessarily inflationary?**

**Ans.** Fiscal deficits are not necessarily inflationary. However, if output is less because of lack of demand and high fiscal deficit is accompanied by higher demand and greater output and therefore if would not be inflationary as it is covering the gap required for smooth functioning of the economy by raising the level of aggregate demand.

9. **There carefully planned, government budget reflects deficit because its expenditure exceeds revenue. How can this deficit be reduced?**

**Ans.** Government should increase its revenue by controlling tax evasion; ii. Government should reduce unproductive expenditure like subsidies, financial assistance to all even when some of them may not require it.

10. **There has been constant rise in price of sugar overtime. What measure would you support to bring down the prices?**

**Ans.** Using measures of budgetary policy, government can try to fix prices at a lower level by incurring expenditure through subsides which would reduce cost of production and hence the prices. If the government does not want to add to its expenditure on subsidises, then it should ensure availability of sugar at reasonable prices through its fair price shops. In the situations of emergency, buffer stocks may also be used.

11. **How can government budget be a useful instrument in reducing inequalities in the distribution of income and wealth?**

**Ans.** Government uses budgetary policies to reduce inequalities in the distribution of income and wealth by: i). Imposing new taxes and increasing the rates of existence taxes; ii) Spending more on education, health care and housing for the poor; iii) Strengthening public distribution system(through fair price shops)

12. **What is the relationship between the revenue deficit and the fiscal deficit?**

**Ans.** Fiscal deficit is a wider concept than revenue deficit. Revenue deficit is defined as the excess of government's revenue expenditure over revenue receipt. Thus, Revenue deficit= Revenue expenditure (RE)-Revenue receipt(RR). Where as fiscal deficit is defined as the excess of total expenditure over total receipts excluding borrowings. It does not take into account borrowings. Fiscal deficit= (total budgetary expenditure)-(total budgetary receipt-borrowings)
KEY CONCEPTS

Balance of Payments: - It is a systematic record of all economic transactions between the residents of a country & rest of the world during a financial year.

Balance of Trade: - It refers to the systematic record of visible items in a financial year. In other words, it is the value of imports and exports of commodities.

Autonomous items refer to those items which are taken with the motive of profit maximization. These transactions are not related to the country's BOP position. It is, therefore, these items are called as autonomous items.

Accommodating items refer to those items which are undertaken by the govt. to keep the BOP balanced. These items are transacted when a country faces disequilibrium in the BOP. Through these transactions, the govt. or monetary authorities settle the deficit or surplus in the BOP.

Q. What is Balance of Payments?

Ans: It is a systematic record of all economic transactions between the residents of a country & rest of the world during a financial year. In other words, it is a summary record of all international economic transactions of a resident country with the rest of the world during a given period of time.
Q. Define the term Balance of Trade.
Ans: It refers to the systematic record of visible items in a financial year. In other words, it is the value of imports and exports of commodities i.e. merchandise. If the exports exceed imports, the BOT is said to be favourable, and unfavourable in case of vice versa. Thus, Favourable BOT = Exports receipts > Import payments.

Q. Differentiate between BOP & BOT.
Ans: The term 'Balance of Payments' refers to the account of both visible items & invisible items while 'Balance of Trade' refers to the record of visible items only. BOT is only one of the components of BOP while the BOP is a wider concept & therefore offers a more comprehensive picture of economic transactions of a country with the rest of the world. Moreover, the BOT may be balanced, deficit or surplus, while BOP as a whole always remain balanced. BOT is a simple statements related to the foreign trade of the country while BOP presents a classified record of all receipts on account of goods exported, services rendered and capital received, and payments made on account of goods imported, services rendered from, and capital transferred to abroad.

Q. State the Items included in BOP account.
Ans: 1. **Visible Items** include all merchandise imports and exports i.e. the items which are recorded at the port & made of some material.

   2. **Invisible Items** include receipts & payments for the services viz. shipping, banking, insurance, travel etc.; receipts and payments of income on foreign investments; interest on foreign loans & remittances of NRI's etc; govt's current expenditure in abroad viz. expenditure on embassies etc.; transfer payments & receipts.

   3. **Capital transfers** include the capital receipts & capital expenditure of a resident country.

Q. Explain the Structure of BOP: BOP account is categorized into Current Account & Capital Account.
Ans: **BOP on Current Account** refers to transactions related to goods, services, income on investments & unilateral transfers. BOP on current account reveals the net income of the country generated in abroad. Both visible & invisible items include constitute the current account of BOP. It need not always be in balance. It may show a surplus or deficit. It represents the difference between payments & receipts of currently produced & consumed goods & services. A deficit in current account indicates lowering down the level of income, creating problem of the payments to the foreigners & have adverse impact on country's exchange reserves, & may increase external borrowings.

**The components of BOP on current account are:**

1) Visible trade includes the export and import of the physical goods
2) Invisible items include cost of non-factor services; investment income, & unilateral transfers.

   (i) **The non-factor services** include transportation, finance, tour & travel etc. The services rendered by the resident country to the ROW are recorded on the credit side, while the services rendered by the foreigners for the resident country are recorded on the debit side.
(ii) Income on investment includes interest payments on foreign loans & credits, transfer of profits & miscellaneous for patents, royalties etc. The interest & dividend payments made by the foreigners are recorded on the credit side, and vice versa.

(iii) Unilateral Payments includes foreign gifts & grants, donations, military aid, technical assistance etc. These are also referred to as unrequired transfers. These refer to those receipts or payments which take place without getting anything in return. These transfers are further classified into Official & Private transfer payments. Official unilateral transfers are the foreign donations & aids, while Private transfers refer to the gifts & donations from foreign residents to the domestic residents & vice versa. Payments of these transfers are recorded as debit & receipts are recorded as credit.

Thus, the balance of visible trade, invisible trade & unilateral transfers is recorded as BOP on current account.

**BOP on Capital Account:** It refers to the international transactions in financial assets viz. bonds, equities, loans, bank account etc.; fixed plants & equipments, and direct investments. It is a record of those transactions which leads to change in assets or liability of the resident country. In other words, it is record of capital transactions i.e. the private & the official capital transfers as well as the banking capital flows. BOP on capital account deals with payments of debts and claims. The components of BOP on capital account are:

- **Private Capital Transactions** which refer to those transactions which affect assets or liabilities of the resident country.
- **Official Capital Transactions** refer to the transactions which affect assets & liabilities of the govt. It includes loans, repurchase & resale of securities sold to foreign residents, debt service, gold & foreign exchange reserves, & miscellaneous receipts & payments.
- **Banking Capital Transactions** includes movement in the external financial assets and liabilities of those banks which are authorized to deal in the foreign exchange.

**Q. Differentiate between BOP on current account & capital account.**

**Ans:** The current account deals with the receipts & payments for those goods which are currently produced, while the capital account deals with debts & claims. Secondly, the BOP on current account has a direct influence on the level of income of a country, while the capital account influences the volume of assets of the country.

**Q. Briefly explain the other items in the BOP.**

**Ans:** There are certain items which do not form the part of current & capital account. These items are kept for balancing the BOP. These items are as follows:

**I. Errors & Omissions** are the balancing items in the BOP accounts which are used for correcting the BOP as it is difficult to keep an accurate record of all the transactions which may be due to sample of transactions, dishonesty of traders, smuggling etc.

**II. Official Reserve Transactions** refer to those transactions which are carried out by the govt. and the Central bank on behalf of govt. with regard to certain economic policy & their effect on BOP, & the exchange rates. It includes the Country's Official Reserve Assets & Foreign official Assets in the country.
The Official Reserves are held in the form of foreign currency or foreign securities, gold & Special Drawing Rights (SDR) with the IMF. Reduction in these reserves implies purchase of foreign exchange which is taken as credit items in the BOP since it causes inflow of foreign exchange. On the contrary, an increase in these reserve assets is taken as a debit in the BOP as it causes outflow of foreign exchange.

The Foreign Official assets in the country are in the form of rupee reserves of foreign central banks. Increase in these rupee reserves of foreign banks is taken as a credit item as it causes inflow of foreign exchange in the resident country (India), while decrease in these reserves is taken as debit as it causes outflow of foreign exchange.

Q. Differentiate between Autonomous & Accommodating Items.
Ans: Items in the BOP account can be also classified into two categories viz. Autonomous or above the line items and Accommodating or below the line items.

Autonomous items refer to those items which are taken with the motive of profit maximization. These transactions are not related to the country's BOP position. It is, therefore, these items are called as autonomous items. These items are taken as first items before calculating deficit or surplus in BOP account, therefore these items are called as above the line items. If the receipts from autonomous items exceed the payments for autonomous items; the BOP is called to be as surplus, and vice versa. It implies that the resident country has net claims against the ROW. On the other hand, if the payments for these items exceed the receipts from these items, it implies that the ROW has some net claims against the resident country.

Accommodating items refer to those items which are undertaken by the govt. to keep the BOP balanced. These items are transacted when a country faces disequilibrium in the BOP. Through these transactions, the govt. or monetary authorities settle the deficit or surplus in the BOP.

Q. What is meant by Disequilibrium in the BOP?
Ans: It refers to such a situation when the BOP of the country is deficit or surplus. In other words, it is a situation when the net balance of all receipts & payments is not zero. If the net balance is in (+), it is surplus; while the negative (-) balance is deficit. In both of the situation, the BOP is in disequilibrium.

Q. State the causes for disequilibrium in BOP.
Ans: Disequilibrium in BOP may be due to the following reasons:

Economic Factors viz. Cyclical fluctuations, huge public expenditure on development projects, hike in inflation which induces large imports of essential goods, development of import substitutes, change in cost structure of the trading partner countries etc; Demonstration effect which implies the effect of developed countries on the lifestyle & consumption pattern of the less developed countries which leads to rise in imports; Political instability which may lead to large scale capital outflow; Social factors viz. changes in the social structure & norms which may affect the propensity to consume, comforts & exports; etc.

Q. State the measures to correct adverse BOP:
Ans: Dear money policy, depreciation of the external value of domestic currency, devaluation of the currency, exchange control restrictions, tariff & import duties, fixing of import quotas, export promotion measures, import substitution etc.
FOREIGN EXCHANGE RATE

KEY CONCEPTS:

**Foreign Exchange Rate:** - It refers to the rate at which one unit of currency of a country is exchanged for the currency of another country. In other words, it is the price of one currency in terms of another currency.

**Foreign Exchange Market:** - It refers to the place where foreign currencies are bought & sold. It acts to transfer the purchasing power between the countries (transfer function); provides credit for international trade (credit function); make provision for hedging facilities i.e. protection against the risk related to variations in forex rate (hedging function).

**Fixed exchange rate:** - Fixed Exchange Rate System refers to the system in which the rate of exchange is determined by govt. or monetary authorities. It can be classified into Gold Standard System or Mint Parity of Exchange & Adjustable Peg System.

**Flexible Exchange Rate System:** - Flexible Exchange Rate System refers to such a rate of exchange which is determined by the demand for & supply of the foreign exchange in the foreign exchange market. Under this system, the govt. or central bank does not intervene in the determination of exchange rates.

**Depreciation:** - Depreciation means decline in external value of a domestic currency in relation to a foreign currency.

Q. **Define the term Foreign Exchange Rate.**

Ans : It refers to the rate at which one unit of currency of a country is exchanged for the currency of another country. In other words, it is the price of one currency in terms of another currency.

Q. **Define the term Foreign Exchange Market.**

Ans : It refers to the place where foreign currencies are bought & sold. It acts to transfer the purchasing power between the countries (transfer function); provides credit for international trade (credit function); make provision for hedging facilities i.e. protection against the risk related to variations in forex rate (hedging function).

Q. **Explain the determination of foreign Exchange Rate.**

Ans : The exchange rate is the price of a currency in terms of another currency. It depends upon the different foreign exchange regimes which are Fixed Exchange Rate System & Flexible Exchange Rate System.

**Fixed Exchange Rate System** refers to the system in which the rate of exchange is determined by govt. or monetary authorities. It can be classified into Gold Standard System or Mint Parity of Exchange & Adjustable Peg System.

**The fixed exchange rate system had certain merits** viz. it ensured stability & fluctuations had been avoided; encouraged international trade due to low risk & lesser uncertainty; & coordinated the macroeconomic policies across the different countries. **But it had certain shortcomings** viz. need of huge international reserves of gold; restriction in movement of capital due to the need of huge reserves of gold; discouraged venture capital; & rigid in resource allocation.
Flexible Exchange Rate System refers to such a rate of exchange which is determined by the demand for & supply of the foreign exchange in the foreign exchange market. Under this system, the govt. or central bank does not intervene in the determination of exchange rates. The exchange rate is determined by the free play of two forces viz. demand & supply of concerned foreign currencies. The rate of exchange is determined when both demand & supply of foreign exchange are equal to each other.

Q. State the sources of demand for foreign exchange.
Ans: These are import of goods & services; investment in other countries; gifts & grants to abroad; direct purchase made in abroad; other payments involved in international transactions etc. The demand for foreign exchange is made for the purpose of payments of foreign loans, import of products, making investments & giving loans to other countries, tour & travel in abroad etc. The demand for foreign exchange is inversely related to the exchange rate.

Q. What are the Sources of Supply of foreign exchange?
Ans: These are the export of goods & services; investments by ROW in the resident country; receiving gifts, donations & grants from the ROW; remittances by the non-residents from the ROW; direct purchase made by the non-residents in the domestic country; other receipts involved in international transactions etc. The supply of foreign exchange is directly related to the exchange rate.

Q. Explain how the Equilibrium rate of exchange is determined?
Ans: It refers to the rate at which demand for & supply of foreign exchange is equal to each other. It can be explained with the help of following example:

<table>
<thead>
<tr>
<th>Price of US $ (in Rs.)</th>
<th>Demand for US $</th>
<th>Supply for US $</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>500</td>
<td>100</td>
</tr>
<tr>
<td>50</td>
<td>400</td>
<td>200</td>
</tr>
<tr>
<td>60</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>70</td>
<td>200</td>
<td>400</td>
</tr>
<tr>
<td>80</td>
<td>100</td>
<td>500</td>
</tr>
</tbody>
</table>

Here, the equilibrium exchange rate is 1 US dollar = Rupees 60, because at this price the demand for dollars is equal to its supply.

Q. Explain the role of Central Bank during depreciation.
Ans: Due to depreciation, the price of imports rises due to which the price of essential products viz crude oil rises which leads to increase in petroleum prices & further which leads to inflation in the economy. The central Bank can resolve this under the managed floating system. The Central Bank will release more of dollars in the market & reduce the supply of INR. Consequently, the supply of dollars rises which leads to reduce its price, & on the other hand, the value of INR rises due to decline in availability. This process leads the
exchange rate back to its original one later. Due to this act, the managed floating is also known as dirty floating.

Q. Differentiate between Depreciation and Devaluation.

Ans: Depreciation means decline in external value of a domestic currency in relation to a foreign currency, while the term devaluation also mean the same. But the difference is that depreciation takes place due to the outcome of changes in the market forces i.e increase in demand or decrease in supply of foreign exchange, while devaluation means a deliberate action taken by the Govt. in order to correct its deficit BOP by discouraging imports & encouraging exports which will increase the inflow & reduce the outflow of foreign exchange. Thus, depreciation is the part of flexible exchange rate system while devaluation is the part of fixed exchange rate system.

Q. Differentiate between depreciation & appreciation.

Multiple Choice Questions

Select the correct answer of the following questions:

1. The exchange rate at which demand for foreign currency becomes equal to its supply, is called:
   a. Equal rate of exchange;
   b. Unequal rate of exchange;
   c. Equilibrium rate;
   d. All of these

Ans: (c)

2. What is the relationship between demand for foreign exchange and exchange rate?
   a. Inverse;
   b. Direct;
   c. One to one;
   d. No relationship

Ans: (a)
3. What is the relationship between supply of foreign exchange and exchange rate?
   a. Inverse;  
   b. Direct;  
   c. One to one;  
   d. No relationship  
   Ans: (b)  
4. If Rs 150 are required to buy $ 2, instead of Rs100 earlier, then:
   a. Domestic currency has depreciated;  
   b. Domestic currency has appreciated;  
   c. Rupee value of import bill will increase;  
   d. Both (a) and (c)  
   Ans: (d)  
5. In which of the following categories are economic transactions of balance of trade recorded?
   a. Visible items;  
   b. Invisible items;  
   c. Capital items;  
   d. All of the above  
   Ans: (a)  

Q. Estimate the following related to Current Account BoP from the data given below:


<table>
<thead>
<tr>
<th>Item</th>
<th>US million $</th>
</tr>
</thead>
<tbody>
<tr>
<td>Export</td>
<td>1,66,974</td>
</tr>
<tr>
<td>Import</td>
<td>2,40,188</td>
</tr>
<tr>
<td>Invisibles(net)</td>
<td>55,272</td>
</tr>
<tr>
<td>(a) Non-factor</td>
<td>36,069</td>
</tr>
<tr>
<td>(b) Income</td>
<td>-13,554</td>
</tr>
<tr>
<td>(c) Transfers</td>
<td>32,757</td>
</tr>
</tbody>
</table>

1. Trade Balance  
   \[ X - M \]  
   \[ = 1,66,974 - 2,40,188 \]  
   \[ = (-)73,214 \text{ Trade deficit} \]  

2. Goods and Service Balance  
   \[ = Trade \text{ balance} + Balance \text{ on account of non-factor service} \]  
   \[ = (-)73,214 + 36,069 \]  
   \[ = (-)37,145 \]  

3. Invisible balance  
   \[ = Balance \text{ of non-factor service} + Balance \text{ on income} + Balance \text{ of transfers} \]  
   \[ = 36,069 - 13,554 + 32,757 \]  
   \[ => 55,272 \]  

4. Current Account Balance  
   \[ = Trade \text{ balance} + Invisible \text{ balance} \]  
   \[ = (-) 73,214 + 55,272 \]  
   \[ = (-) 17,942 \]
Q. Calculate the value of imports when the balance of trade is (-) Rs 800 crore and the value of exports is Rs 500 crore.

Ans. Balance of trade = Value of exports – Value of import; (-)800 crore = 500 crore – value of import

Value of imports = 500 crore + 800 crore; = Rs 1,300 crore

HOTS QUESTIONS

1. How do we finance the deficit on current account BOP in case officially reserves with the RBI are not moved?

Ans. We are left with on two alternatives only: 1. We borrow from rest of the world; 2. We sell our assets (financial assets like stock and bonds, and physical assets (like plant and machinery) to rest of the world.

2. What is depreciation of rupee? What is its likely impact on Indian imports and how?

Ans. Depreciation of rupee is the fall in the value of Indian currency in relation with foreign currency. More rupees are now required to buy a unit of foreign currency. This will make foreign goods expensive to the buyers in India. As a result, import are likely to fall.

3. How is depreciation of Indian rupee likely to affect Indian export? Explain.

Ans. Depreciation of the domestic currency implies that the domestic currency (rupee) loses its value in relation to foreign currency (say US Dollar). Now, more rupee are required to buy a dollar, or a dollar can now buy more goods in domestic in the domestic economy. Accordingly, exports are expected to rise.

4. Will you always appreciate a rise in exchange rate as a means to boost our exports?

Ans. No. Because a rise in exchange rate may not always lead to a rise in our export earnings. A rise in exchange rate is beneficial only elasticity of demand for our exports is greater than unity. Because, it is only then that the total expenditure on our exports will rise in response to a fall in prices of domestic goods (in terms of the foreign currency) yields greater revenue only when the elasticity of demand for our exports is greater than unity.

5. How does decrease in FDI in India act as a supply stock for foreign exchange?

Ans. Decrease in FDI leads to a decrease in a supply of foreign exchange, for reasons other than change in exchange rate. It is a supply shock that cause a backward shift of supply curve of foreign exchange for the Indian economy. Consequently, equilibrium exchange will rise. More rupee are to be paid for buying a unit of foreign currency.

6. How do the deficitBoP and surplus BoP impact the exchange rate?

Ans. (i) Deficit Balance of Payment: If the balance of payment of a country show deficit, demand for foreign currency will increase. Accordingly, exchange rate is expected to rise. Domestic currency will depreciate in relation to foreign currency. (ii) Surplus Balance of Payment: If the balance of payment of a country shows surplus, availability of foreign currency will increase. Accordingly, exchange rate is expected to fall. Domestic currency will appreciate in relation to foreign currency.

*******
ECONOMICS-2011

Time allowed : 3 hours

Maximum Marks: 100

General Instructions:

(i) All questions in both the sections are compulsory.

(ii) Marks for questions are indicated against each.

(iii) Question Nos. 1-5 and 17-21 are very short answer questions carrying 1 mark each. They are required to be answered in one sentence each.

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(v) Question Nos. 11-13 and 27-29 are also short answer questions carrying 4 marks each. Answer to them should normally not exceed 100 words each.

(vi) Answers should be brief and to the point and the above word limits should be adhered to as far as possible.

Question Paper Code 58/1/1

Section - A

1. What is market economy? 1

2. When is a firm called ‘price-taker’ 1

3. Define budget set. 1

4. What is meant by ‘increase’ in supply? 1

5. Define supply. 1

6. Why is a production possibilities curve concave? Explain. 3

7. 8 units of a good are demanded at a price of Rs. 7 per unit. Price plasticity of demand is (–) 1. How many units will be demanded if the price rises to Rs. 8 per unit? Use expenditure approach of price elasticity of demand to answer this questions. 3

8. Giving examples, explain the meaning of cost in economics. 3

9. Draw average revenue and marginal revenue curves in a single diagram of a firm which can sell more units of a good only by lowering the price of that good. Explain. 3

For blind candidates in lieu of Q No. 9:

Distinguish between Average Revenue and Marginal Revenue with the help of a numerical example. 3

10. Explain the implication of freedom of entry and exit to the firms’ under perfect competition. 3

OR

Explain the implication ‘perfect knowledge about market’ under perfect competition. 3
11. A consumer consumes only two goods X and Y. State and explain the conditions of consumer’s equilibrium with the help of utility analysis.  

12. Explain how the demand for a good is affected by the prices of its related goods. Give examples.  


OR  
What is a supply? What is the effect on the supply of a good when Government gives a subsidy on the production of that good? Explain.  

14. What is meant by producer’s equilibrium? Explain the conditions of producer’s equilibrium through the ‘total revenue and total cost’ approach. Use diagram.  

For blind candidates in lieu of Q No. 14:  
What is meant by producer’s equilibrium? Explain the conditions of producer’s equilibrium through the ‘total revenue and total cost approach’. Use a schedule.  

15. Explain the three properties of indifference curves.  

16. Market for a good is in equilibrium. There is an ‘increase’ in demand for this good. Explain the chain of effects of this change. Use diagram.  

For blind candidates in lieu of Q No. 16:  
Market for a good is in equilibrium. There is an ‘increase’ in demand for this good. Explain the chain of effects of this change. Use a numerical example.  

OR  
Distinguish between collusive and non-collusive’ oligopoly. Explain the oligopoly firms are interdependent in taking price and output decisions.  

Section - B  
17. What is nominal gross domestic product?  

18. Define flow variables.  

19. Define cash reserve ratio.  

20. Define money supply  


22. State the components of capital account of balance of payments.  

23. Explain how ‘distribution of gross domestic product’ is a limitation in taking gross domestic product as an index of welfare.  

24. Given that national income is Rs. 80 crore and consumption expenditure Rs. 64 crore, find out average propensity to save. When income rises to Rs. 100 crore and consumption expenditure to Rs. 78 crore, what will be average propensity to consume and the marginal propensity to consume?  

25. Explain the relationship between investment multiplier and marginal propensity to consume.

OR

When price of a foreign currency rises, its supply also rises. Explain why.

27. Explain the ‘allocation of resources’ objective of Government budget.

OR

Explain the ‘redistribution of income’ objective of Government budget.

28. From the following data about a Government budget, find out (a) Revenue deficit, (b) Fiscal deficit and (c) Primary deficit:

(Rs. Arab)

(i) Capital receipts net of borrowings 95
(ii) Revenue expenditure 100
(iii) Interest payments 10
(iv) Revenue receipts 80
(v) Capital expenditure 110

29. Giving reasons classify the following into intermediate products and final products:

(i) Furniture purchased by a school.
(ii) Chalks, dusters, etc. purchased by a school.

30. Explain the role of the following in correcting ‘deficient demand’ in an economy:

(i) Open market operations.
(ii) Bank rate.

OR

Explain the role of the following in correcting ‘excess demand’ in an economy:

(i) Bank rate.
(ii) Open market operations.

31. Explain the process of money creation by the commercial banks with the help of a numerical example.

32. Calculate National Income and Gross National Disposable Income from the following:

(Rs. Crore)

(i) Net current transfers to the rest of the world 0  (-) 5
(ii) Private final consumption expenditure 500
(iii) Consumption of fixed capital 20
(iv) Net factor income to abroad  (-) 10
(v) Government final consumption expenditure 200
(vi) Net indirect tax 100
(vii) Net domestic fixed capital formation 120
(viii) Net imports 30
(ix) Change in stocks  (-) 20
CBSE BOARD QUESTION PAPER, 2012  
FOR CLASS – XII

Series : SMA/1  
Code No. 58/1/3

Roll No.   

Candidates must write the code on the title  
page of the answes-book

ECONOMICS

Maximum Marks : 100

Please check that this question paper contains 8 printed pages.

Please check that this question paper contains 32 questions.

Please write down the Serial Number of the question before attempting it.

15 minute time has been allotted to read this question paper. The question paper will be  
distributed at 10.15 a.m. from 10.15 a.m. to 10.30 a.m., the students will read the question

167
(vii) उपरोक्त प्रश्नों के उत्तर संक्षिप्त एवं सही होने चाहिए तथा यथासंभव निर्देशानुसार शब्द सीमा के भीतर उत्तर दिया जाना चाहिए।

General Instructions:

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SECTION-A

1. एक ऐसे बाजार में जिसमें एक फर्म कम करके ही अधिक बेच सकती है, औसत संप्राप्ति (आगम) का व्यवहार क्या रहता है?

What is the behaviour of average revenue in a market in which a firm can sell more only by lowering the price?

2. एक कीमत स्थीरकरक फर्म से क्या अभिव्यक्ति है?

What is a price taker firm?

3. बाजार मौग से क्या अभिव्यक्ति है?

What is Market Demand?

4. जैसे—जैसे उत्पादन में वृद्धि होती है, औसत अचल लागत का व्यवहार क्या रहता है?

What is the bahaviour of average fixed cost as output increases?

5. अर्थव्यवस्था से क्या अभिव्यक्ति है?

Give meaning of an Economy.

6. कारण बताइए कि एक आर्थिक समस्या क्यों उत्पन्न होती है?

State reasons why does an economic problem arise?
7. Draw Average Variable Cost, Average Total Cost and Marginal Cost Curves in a single diagram.

Note: The following questions is for the blind candidates only, in lieu of Q. No. 7.

8. Explain the relation between Marginal Cost and Average Variable Cost.

Explain the implication or large number of buyers in a perfectly competitive market.

OR

Explain why are firms mutually interdependent in an oligopoly market.

9. A producer invests his own saving in starting a business and employs a manager to look after it. Identify implicit and explicit costs from this information. Explain.

10. Given price of a good, how does a consumer decide as to how much of that good to buy?

11. Define an indifference map. Explain why an indifference curve to the right shows higher utility level.

12. A consumer buys 20 units of a good at a price of ₹ 5 per unit. He incurs an expenditure of ₹ 120 when he buys 24 units. Calculate price elasticity of demand using the percentage method. Comment upon the likely shape of demand curve based on this information.

13. What does the Law of Variable Proportions show? State the behaviour of total product according to this law.

OR

Explain how changes in prices of other products influence the supply of a given product.
14. Explain the conditions of a producer’s equilibrium in terms of marginal cost and marginal revenue. Use a schedule.

Note: The following questions is for the blind candidates only, in lieu of Q. No. 14.

15. Market for a good is in equilibrium. There is simultaneous “increase” both in demand and supply of the good. Explain its effect on market price.

OR

Market for a good is in equilibrium. There is simultaneous “decrease” both in demand and supply of the good. Explain its effect on market price.

16. Explain do the following influence demand for a good:
   (i) Rise in income of the consumer.
   (ii) Fall in prices of the related goods.

Section – B

17. Define a tax.

18. Give meaning of managed floating exchange rate.


20. What are demand deposits?

22. 

(i) Output sold (Units) 800
(ii) Price per unit of output (₹) 20
(iii) Excise (₹) 1,600
(iv) Import duty (₹) 400
(v) Net change in stocks (₹) (–) 500
(vi) Depreciation (₹) 1,000
(vii) Intermediate Cost (₹) 8,000

Find Net Value Added at Market Price:

23. Outline the steps taken in deriving saving curve from the consumption curve. Use diagram.

Note: The following questions is for the blind candidates only, in lieu of Q. No. 23.

Distinguish between consumption function equation and saving function equation.


OR

Explain the role of Government budget in allocation or resources.

25. 

(i) Revenue (₹) = 100 (₹)
(ii) Capital (₹) = 0.70
(iii) Current (₹) = 1,000 (₹)
Find consumption expenditure from the following:

Autonomous consumption = 100 (₹)
Marginal propensity to consume = 0.70
National Income = 1,000 (₹)

26. मुद्रा के 'मूल्य संग्रह' कार्य का महत्व समझाइए।

Explain the significance of the 'Store of Value' function of money.

27. कारण बताते हुए समझाइए कि राष्ट्रीय आय मापने में निम्नलिखित के साथ क्या व्यवहार किया जाना चाहिए:

(i) व्यक्तियों की जमाओं पर बैंक द्वारा ब्याज का भुगतान
(ii) राष्ट्रीय ऋण पर ब्याज।

Giving reason explain how should be following be treated in estimating national income:

(i) Interest paid by banks on deposits by individuals.
(ii) National debit interest.

28. सैद्धांतिक आरक्षित अनुपात के घटक समझाइए।

अथावा

राष्ट्रीय बैंक का 'बैंकों का बैंक' कार्य समझाइए।

Explain the components of Legal Reserve Ratio.

OR

Explain 'bankers' bank, function of Central bank.

29. सरकारी बजट में 'राजस्थान' समझाइए। इससे क्या पता चलता है?

Explain 'revenue deficit' in a government budget? What does it indicate?

30. (a) बाजार कीमत पर सकल राष्ट्रीय उत्पाद तथा (b) विदेशों से निवल चालू (पूंजीतर) हस्तांतरण ज्ञात कीजिएः

(करोड़ ₹)

(i) शुद्ध अप्रत्यक्ष कर 35
(ii) निजी अंतिम उपभोग व्यय 500
(iii) निवल राष्ट्रीय प्रयोज्य आय 750
(iv) अंतिम स्टॉक 10
(v) सरकारी अंतिम उपभोग व्यय 150
(vi) निवल देशीय (घरेलू) अचल पूंजी निर्माण 100
(vii) विदेशों को निवल कारक आय (−) 15
(viii) निवल आयात 20
(xi) आरम्भिक स्टॉक 10
(x) अचल पूंजी का उपभोग 50
Find out (a) Gross National Product at Market Price and (b) Net Current Transfers from Abroad:

| (रः crore) | (i) Net indirect tax | 35 |
| (ii) Private final consumption expenditure | 500 |
| (iii) Net national disposable income | 750 |
| (iv) Closing stock | 10 |
| (v) Government final consumption expenditure | 150 |
| (vi) Net domestic fixed capital formation | 100 |
| (vii) Net factor income to abroad | (–) 15 |
| (viii) Net imports | 20 |
| (xi) Opening stock | 10 |
| (x) Consumption of fixed capital | 50 |

31. समस्ति अर्थशास्त्र में ‘आधिक्य मांग’ की अवधारणा समझाइए। इसे ठीक करने में ‘खुले बाजार की प्रक्रियाओं’ की भूमिका भी समझाइए।

32. भुगतान संतुलन में स्वयंत संवयवहार और समायोजित संवयवहार के बीच अन्तर समझाइए। इस संदर्भ में भुगतान संतुलन ‘घाटा’ की अवधारणा भी समझाइए।

Explain the concept of ‘excess demand’ in macroeconomics. Also explain the role of ‘open market operation’ in correcting it.

OR

Explain the concept of ‘deficient demand’ in macroeconomics. Also explain the role of Bank Rate in correcting it.

Explain the distinction between autonomous and accommodating transactions in balance of payments. Also explain the concept of balance of payments ‘deficit’ in this context.
CBSE BOARD QUESTION PAPER, 2013
FOR CLASS – XII

Series : SKS/1/C

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Candidates must write the code on the title
page of the answes-book

58/1/3

fu/kkZfjr le; % 3 ?k.Vs
Time allowed : 3 hours
ECONOMICS
vf/kdre vad % 100
Maximum Marks : 100

Please check that this question paper contains 8 printed pages.
Code number given on the right hand side of the question paper should be written on the title
page of the answer-book by the candidate.
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(i) nksuska [k.Mksa ds lHkh iz'u vfuok;Z gSaA
(ii) izR;sd iz'u ds fu/kkZfjr vad muds lkeus fn, x, gSaA
(iii) iz'u la[k &5 rFkk 17&21 vfr y?kq mÙkjh; iz'u gSa] ftues izR;sd dk 1 vad gSA budk mÙkj dsoy
(iv) iz'u la[k 6&10 vkSj 22&26 y?kq mÙkjh; iz'u gSa] izR;sd iz'u 3 vad dk gSA lHkh iz'uksa ds mÙkj

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ECONOMICS

निर्धारित समय : 3 घण्टे
Time allowed : 3 hours

अधिकतम अंक : 100
Maximum Marks : 100

सामान्य निर्देशः

(i) दोनों खंडों के सभी प्रश्न अनिवार्य हैं।
(ii) प्रत्येक प्रश्न के निर्धारित अंक उनके सामने दिए गए हैं।
(iii) प्रश्न संख्या 1–5 तथा 17–21 अति लघु उत्तरीय प्रश्न हैं, जिनमें प्रत्येक का 1 अंक है। इनका उत्तर केवल
eक वाक्य में ही अपेक्षित है।
(iv) प्रश्न संख्या 6–10 और 22–26 लघु उत्तरीय प्रश्न हैं, प्रत्येक प्रश्न 3 अंक का है। सभी प्रश्नों के उत्तर
सामान्यतः 60 शब्दों से अधिक न हों।
(v) प्रश्न संख्या 11–13 और 27–29 यह भी लघु उत्तरीय प्रश्न हैं, प्रत्येक प्रश्न के 4 अंक है। सभी प्रश्नों के उत्तर
सामान्यतः 70 शब्दों से अधिक न हों।
(vi) प्रश्न संख्या 14–16 और 30–32 व्याख्यात्मक उत्तर वाले प्रश्न हैं, प्रत्येक प्रश्न के 6 अंक है। सभी प्रश्नों के उत्तर सामान्यतः 100 शब्दों से अधिक न हों।

(vii) उपरोक्त प्रश्नों के उत्तर संक्षिप्त एवं सही होने चाहिए तथा यथासंभव निर्देशानुसार शब्द सीमा के भीतर उत्तर दिया जाना चाहिए।

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**SECTION-A**

1. किसी वस्तु को घटिया वस्तु कब कहा जाता है?
   When is a good called an inferior good?

2. “एक सान्त्र के प्रतिसतत” का अर्थ बताइए।
   Give meaning of ‘Returns to a Factor’.

3. एक वस्तु के ऐसे बाजार में जिसमें एक परम्परा निष्ठित कीमत पर कितनी भी मात्रा बेच सकने में सक्षम है, सीमांत सम्माप्ति (आगम) का व्यवहार क्या होगा?
   What will be the behaviour of marginal revenue in a market for a product where a firm can sell any quantity at the given price?

4. अवसन्त सागर की परिभाषा दीजिए।
   Define opportunity cost.

5. अनदिमान चित्र की परिभाषा दीजिए।
   Define indifference map.

6. एक वस्तु की कीमत ₹ 5 प्रति इकाई से बढ़कर ₹ 6 प्रति इकाई हो जाती है लेकिन इससे इस वस्तु की मूँग पर कोई असर नहीं पड़ता। वस्तु की मूँग की कीमत लोच का परिकलन कीजिए।
   Price of a good rises from ₹ 5 to ₹ 6 per unit but it had no effect on demand of that good. Calculate price elasticity of demand of the good.

7. एक ही रेखाचित्र में कुल परिवर्तनीय सागर वक्र और कुल सागर वक्र दीजिए।

Draw a total variable cost curve and total cost curve in a single diagram.

OR

Explain the behaviour of Average Fixed cost. Use diagram.

Note: The following questions is for the blind candidates only, in lieu of Q. No. 7.

State the difference phases in the behaviour of “Total Variable Cost” using a numerical example.

OR

Explain the behaviour of ‘Average Fixed Cost’ using a numerical example.

8. Explain the concept of price elasticity of supply. When is the value of price elasticity of supply equal to one?

9. State any three assumptions on which a ‘Production Possibilities Curve” is based.

10. Explain the concept of ‘marginal utility’ with the help of numerical example.

11. Explain the effect of the following on supply of a good:
(i) Change in prices of inputs
(ii) Technological advancement
Explain how do the following influence supply of a good:
(i) Subsidy on production
(ii) Changes in prices of other goods.

A consumer consumes only two goods X and Y and is in equilibrium. Price of good Y rises. Show that it will lead to fall in demand for good Y.

Explain the outcome of the following features of a perfectly competitive market:
(i) Freedom to the firms to enter the industry
(ii) Freedom to the firms to leave the industry.

State and explain the conditions of consumer’s equilibrium in the indifference curve analysis.

State and explain three properties of indifference curves.

Giving reasons identify the equilibrium level of output and find profit at this output using the “Marginal Cost and Marginal Revenue” approach from the following:

<table>
<thead>
<tr>
<th>Output (units)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Revenue (₹)</td>
<td>11</td>
<td>19</td>
<td>24</td>
<td>28</td>
<td>30</td>
</tr>
<tr>
<td>Total Cost (₹)</td>
<td>10</td>
<td>18</td>
<td>25</td>
<td>30</td>
<td>36</td>
</tr>
</tbody>
</table>
17. Define intermediate consumption.

18. What is barter?

19. Name any one step the government can take through its budget to reduce the gap between the rich and the poor.

20. What is depreciation?


22. Explain the distinction between ‘autonomous investment’ and ‘induced investment’.

23. What is the basis of classifying government expenditure into ‘Revenue Expenditure’ and ‘Capital Expenditure’? Which of these types of expenditure is payment of salaries to government employees and why?

24. In India, exchange rate of U.S. Dollar has risen considerably. What is its likely impact on Indian exports and why?

25. Explain how money has solved the problem of double coincidence of wants.

26. Calculate equilibrium level of income from the following:

   (i) Consumption expenditure at zero income
   (ii) Marginal propensity to consume
   (iii) Investment

   ₹40  
   0.8  
   ₹80

   OR

   Explain the concept of money supply.
27. Distinguish between the autonomous transactions and the accommodating transactions in the Balance of Payments. What is the significance of this distinction?


29. Explain how government can influence allocation of resources through government budget.

**OR**

Explain the distinction between fiscal deficit and primary deficit.

30. Explain the meaning of inflationary gap and deflationary gap with the help of diagrams.

**Note:** The following questions is for the blind candidates only, in lieu of Q. No. 30.

Explain the meaning of inflationary gap and deflationary gap. Explain any one measure by which these gaps can be reduced.

31. **(क) निजी आय और (ख) बाजार कीमत पर सकल देशीय उत्पाद का परिकलन कीजिए:**

<table>
<thead>
<tr>
<th>(अरब रु.)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) निगम कर</td>
<td>10</td>
</tr>
<tr>
<td>(ii) अचल पूँजी का उपभोग</td>
<td>15</td>
</tr>
<tr>
<td>(iii) वैयक्तिक प्रयोजन आय</td>
<td>150</td>
</tr>
<tr>
<td>(iv) विदेशों से निवल चालू वस्त्रांतरण</td>
<td>6</td>
</tr>
<tr>
<td>(v) विदेशों से निवल कारक आय</td>
<td>7</td>
</tr>
<tr>
<td>(vi) निजी निगमित क्षेत्र की प्रतिवाणित बचतें</td>
<td>5</td>
</tr>
<tr>
<td>(vii) सरकार द्वारा चालू वस्त्रांतरण</td>
<td>8</td>
</tr>
<tr>
<td>(viii) वैयक्तिक कर</td>
<td>20</td>
</tr>
<tr>
<td>(ix) राष्ट्रीय ऋण पर व्याज</td>
<td>9</td>
</tr>
<tr>
<td>(x) सरकार को होने वाली देशीय आय</td>
<td>30</td>
</tr>
<tr>
<td>(xi) निवल अप्रत्यक्ष कर</td>
<td>25</td>
</tr>
</tbody>
</table>
Calculate (a) Private Income and (b) Gross Domestic Product at Market Price :

(₹ in arab)

(i) Corporation tax 10
(ii) Consumption of fixed capital 15
(iii) Personal disposable income 150
(iv) Net current transfers from abroad 6
(v) Net factor income from abroad 7
(vi) Retained earning of private corporate sector 5
(vii) Transfer payments by government 8
(viii) Personal tax 20
(ix) National debt interest 9
(x) Domestic income accruing to government 30
(xi) Net indirect tax 25

32. कारण देते हुए समझाइए कि राष्ट्रीय आय का अनुमान लगाते समय निम्नलिखित के साथ क्या व्यवहार किया जाना चाहिए : 6

(i) फर्म द्वारा विजली का उपयोग
(ii) सेवानिवृत्त कर्मचारियों को पेंशन का भुगतान
(iii) हस्पतालों में गरीबों का मुफ्त इलाज

Giving reason explain how should the following be treated in estimating national income?

(i) Electricity consumed by a firm
(ii) Pension paid to the retired employees
(iii) Free treatment of the poor in hospitals

OR

Explain the concept of ‘real income’. Explain why, due to the presence of externalities, real national income in itself cannot be treated as a true index of welfare.
CBSE BOARD QUESTION PAPER, 2014
FOR CLASS – XII

Series: OSR

Code No. 58/1

Candidates must write the code on the title page of the answer-book.

ECONOMICS

Time allowed: 3 hours

Maximum Marks: 100

Please check that this question paper contains 11 printed pages.

Please check that this question paper contains 32 questions.

Please write down the Serial Number of the question before attempting it.

15 minute time has been allotted to read this question paper. The question paper will be distributed at 10:15 a.m. from 10:15 a.m. to 10:30 a.m., the students will read the question

(i) दोनों खण्डों के सभी प्रश्न अनिवार्य हैं।
(ii) प्रत्येक प्रश्न के समाने उनके अंक दर्शाए गए हैं।
(iii) प्रश्न संख्या 1–5 तथा 17–21 अति लघु उत्तरीय प्रश्न हैं, जिनमे प्रत्येक का 1 अंक है। इनका उत्तर केवल एक वाक्य में ही अपेक्षित है।
(iv) प्रश्न संख्या 6–10 और 22–26 लघु उत्तरीय प्रश्न हैं, प्रत्येक प्रश्न 3 अंक का है। सभी प्रश्नों के उत्तर सामान्यतः 60 शब्दों से अधिक न हों।
(v) प्रश्न संख्या 11–13 और 27–29 यह भी लघु उत्तरीय प्रश्न हैं, प्रत्येक प्रश्न के 4 अंक है। सभी प्रश्नों के उत्तर सामान्यतः 70 शब्दों से अधिक न हों।
General Instructions:
(i) All questions in both the sections are compulsory.
(ii) Marks for questions are indicated against each.
(iii) Questions Nos. 1-5 and 17-21 are very short answer questions carrying 1 mark each. They are required to be answered in one sentence each.
(iv) Questions Nos. 6-10 and 22-26 are short answer questions carrying 3 marks each. Answer to them should normally not exceed 60 words each.
(v) Questions Nos. 11-13 and 27-29 are also short answer questions carrying 4 marks each. Answer to them should normally not exceed 70 words each.
(vi) Questions Nos. 14-16 and 30-32 are long answer questions carrying 6 marks each. Answers to them should normally not exceed 100 words each.
(vii) Answers should be brief and to the point and the above word limits should be adhered to as far as possible.

SECTION-A

1. उत्पादन समावेश सीमा के संदर्भ में इसका आर्थिक मूल्य क्या है?
The government has started promoting foreign capital. What is its economic value in the context of Production Possibilities Frontier?

2. अवधारणा वक्त की परिभाषा दीजिए।
Define indifference curve.

3. सीमांत उत्पाद की परिभाषा दीजिए।
Define marginal product.

4. एक उत्पाद की बाजार पूर्ति से क्या अभिप्राय है?
What is market supply of a product?

5. अपूर्ण अल्पसंख्याकार से क्या अभिप्राय है?
What is imperfect oligopoly?

6. उत्पादन समावेश वक्त अवतल घोषित कर दिया गया है? समझाइए।
Why is Production Possibilities Curve concave? Explain.

7. जब एक वस्तु की कीमत ₹ 10 से घटकर ₹ 8 प्रति इकाई हो जाती है, तो इसकी मॊग 20 इकाई से बढ़कर 24 इकाई हो जाती है। इस वस्तु की मॊग की कीमत लोप के बारे में ‘यद्यविच’ द्वारा आप क्या कह सकते हैं?
When the price of a good falls from ₹ 10 to ₹ 8 per unit, its demand rises from 20 units to 24 units. What can you say about price elasticity of demand of the good through the 'expenditure
approach’?

8. Explain how technological progress is a determinant of supply of a good by a firm.

OR

Explain how input prices are a determinant of supply of a good by a firm.

9. Why is Average Revenue always equal to price?

10. Why is the number of firms small in oligopoly? Explain.

11. A consumer consumes only two goods X and Y and is in equilibrium. Show that when the price of good X rises, the consumer buys less of good X. Use utility analysis.

OR

Given the price of a good, how will a consumer decide as to how much quantity of that good to buy? Use utility analysis.

12. Give the meaning of ‘inferior’ good and explain the same with the help of an example.


14. Explain why is an indifference curve (a) downward sloping and (b) convex.

OR

Explain the concept of ‘Marginal Rate of Substitution’ with the help of a numerical example.
Also explain its behaviour along an indifference curve.

15. From the following information about a firm, find the firm’s equilibrium output terms of marginal cost and marginal revenue. Give reasons. Also find profit at this output.

<table>
<thead>
<tr>
<th>Output (units)</th>
<th>Total Revenue(R)</th>
<th>Total Cost(R)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>2</td>
<td>12</td>
<td>13</td>
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<td>3</td>
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<td>17</td>
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<td>4</td>
<td>24</td>
<td>23</td>
</tr>
<tr>
<td>5</td>
<td>30</td>
<td>31</td>
</tr>
</tbody>
</table>

16. Market of a commodity is in equilibrium. Demand for the commodity ‘decreases’. Explain the chain of effects of this change till the market again reaches equilibrium. Use diagram.

Note: The following questions is for the blind candidates only, in lieu of Q. No. 16.

17. What are time deposits?

18. Define inflationary gap.

19. Why do we need unemployment benefits?

Section – B
What is full employment?

Define fiscal deficit.

Define foreign exchange rate.

What are externalities? Give an example of a positive externality and its impact on welfare of the people.

muṣa ka 'lekhā ka ikāi' kārya ka mahatva sambhavai | 3

v Flōk

muṣa ka 'aasthanīt bhūgatāna ka manak' kārya ka mahatva sambhavai.

Explain the significance of the ‘Unit of Account’ function of money.

OR

Explain the significance of the ‘Standard of Deferred Payment’ function of money.

Is the following a revenue receipt or a capital receipt in the context of government budget and why?

(i) Tax receipts
(ii) Disinvestment

Distinguish between ‘autonomous’ and ‘accommodating’ Balance of Payments transactions.

Foreign exchange rate in India is on the rise recently. What impact is it likely to have on exports and how?

Explain ‘Banker to the Government’ function of the central bank.

OR
Explain ‘Bankers Bank’ function of the central bank.

28. एक अर्थव्यवस्था, जो कि संयुक्त में है, के बारे में निम्नलिखित ऑक्संगों से सीमान्त उपभोग प्रवृत्ति का परिकल्पन कीजिए :

राष्ट्रीय आय = 200
स्वायत्त (स्वतंत्र) उपभोग व्यय = 200
निष्पेध व्यय = 100

Calculate Marginal Propensity to consume from the following data about an economy which is in equilibrium :

National income = 200
Autonomous consumption expenditure = 200
Investment expenditure = 100

29. उच्च आय वर्ग पर की की दरें बढ़ा दी गई हैं। यह किस आर्थिक मूल्य को दर्शाता है? समझाइए।

Tax rates on higher income group have been increased. Which economic value does it reflect? Explain.

30. निम्नलिखित से कारक लागत पर निवल राष्ट्रीय उत्पाद और ‘संकल्प राष्ट्र’ :

(₹ in Arab)

(i) कर्मचारियों द्वारा सामाजिक सुरक्षा अंशदान 90
(ii) मजदूरी का वेतन 800
(iii) विदेशों को निवल चालू हस्तांतरण (–) 30
(iv) किराया तथा रॉयलटी 300
(v) विदेशों को विल कारक आय 50
(vi) नियोजकों द्वारा सामाजिक सुरक्षा अंशदान 100
(vii) लाभ 500
(viii) ब्याज 400
(ix) अंतर्र्राष्ट्रीय का उपभोग 200
(x) संयुक्त आयतन कर 250

Calculate (a) Private Income and (b) Gross Domestic Product at Market Price :

(₹ in Arab)

(i) Social security contributions by employees 90
(ii) Wages and salaries 800
(iii) Net current transfers to abroad (–) 30
(iv) Rent and royalty 300
(v) Net factor income to abroad 50
(vi) Social security contributions by employers 100
(vii) Profit 500
(viii) Interest 400
(ix) Consumption of fixed capital 200
31. एक देश की राष्ट्रीय आय का अनुभव लगाते समय निम्नलिखित के साथ क्या व्यवहार किया जाना चाहिए?
अपने उत्तर का कारण अवस्था बतायें।
(i) बृद्ध माता–पिता की देखभाल करना
(ii) निगर कर का भुगतान
(iii) सरकार द्वारा पुलिस सेवाएं देने पर व्यय

How should the following be treated in estimating national income of a country? You must give reason for your answer.
(i) Taking care of aged parents
(ii) Payment of corporate tax
(iii) Expenditure on providing police services by the government.

32. बचत और निवेश पफलन की सहायता से समझाइए कि अर्थव्यवस्था कब संतुलन में होती है। यह भी समझाइए कि जब अर्थव्यवस्था संतुलन में न हो, तो अर्थव्यवस्था में क्या परिवर्तन आते हैं। रेखाचित्र का प्रयोग कीजिए।

बचत बक्से उपभोग बक्स प्राप्त करने के दौरान लिए जाने वाले चरण बताइए। रेखाचित्र का प्रयोग कीजिए।

When is an economy in equilibrium? Explain with the help of Saving and Investment functions. Also explain the changes that take place in an economy when the economy is not in equilibrium. Use diagram.

OR

Outline the steps required to be taken in deriving the consumption curve from the given Saving Curve. Use diagram.

Note: The following questions is for the blind candidates only, in lieu of Q. No. 32.

निवेश की परिभाषा दीजिए। बचत और निवेश फलन द्वारा राष्ट्रीय आय का संतुलन समझाइए। यह भी समझाइए कि जब अर्थव्यवस्था संतुलन में न हो, तो अर्थव्यवस्था में क्या परिवर्तन आते हैं।

उपभोग फलन से क्या अभिव्यक्ति है? बचत फलन से इसे कैसे प्राप्त किया जा सकता है? समझाइए।

Define investment. Explain national income equilibrium through Saving and Investment function. Also explain the changes that take place in an economy when the economy is not in equilibrium.

OR

What is Consumption Function? How can it be derived from the Saving Function? Explain.
CBSE BOARD QUESTION PAPER, 2015
FOR CLASS – XII

ECONOMICS

Time allowed : 3 hours
Maximum Marks : 100

सामान्य निर्देशः
(i) दोनों खण्डों के सभी प्रश्न अनिवार्य हैं।
(ii) प्रत्येक प्रश्न के सामने उनके अंक दर्शाए गए हैं।
(iii) प्रश्न संख्या 1–3 तथा 15–19 अतिलंबर उत्तरीय प्रश्न हैं, जिनमें प्रत्येक का 1 अंक है। इनका उत्तर केवल एक बार से मिला अपेक्षित है।
(iv) प्रश्न संख्या 4–8 और 20–22 लंबाई उत्तरीय प्रश्न हैं, प्रत्येक प्रश्न 3 अंक का है। सभी प्रश्नों के उत्तर सामान्यतः 60 शब्दों से अधिक न हों।
(v) प्रश्न संख्या 9–10 और 23–25 यह भी लंब उत्तरीय प्रश्न हैं, प्रत्येक प्रश्न के 5 अंक हैं। सभी प्रश्नों के उत्तर सामान्यतः 70 शब्दों से अधिक न हों।
General Instructions:
(i) All questions in both the sections are compulsory.
(ii) Marks for questions are indicated against each.
(iii) Questions Nos. 1-3 and 15-19 are very short answer questions carrying 1 mark each. They are required to be answered in one sentence each.
(iv) Questions Nos. 4-8 and 20-22 are short answer questions carrying 3 marks each. Answer to them should normally not exceed 60 words each.
(v) Questions Nos. 9-10 and 23-25 are also short answer questions carrying 4 marks each. Answer to them should normally not exceed 70 words each.
(vi) Questions Nos. 11-14 and 26-29 are long answer questions carrying 6 marks each. Answers to them should normally not exceed 100 words each.
(vii) Answers should be brief and to the point and the above word limits should be adhered to as far as possible.

SECTION-A

1. DD’ एक मांग वक्र है और A और B इस पर दो बिन्दु हैं।
   A बिन्दु पर मांग की कीमत लोच : (सही विकल्प चुनिए)
   (a) B पर मांग की लोच से कम है।
   (b) B पर मांग की लोच देरबार है।
   (c) B पर मांग की लोच से अधिक है।
   (d) 1 से कम है।

   DD’ is demand curve. A and B are two points on it.
   Price elasticity of demand at point A is:
   (Choose the correct alternative)
   (a) less than elasticity of demand at B.
   (b) equal to elasticity of demand at B.
   (c) greater than elasticity of demand at B.
   (d) less than 1.

2. स्वास्थ्य के लिए हानिकारक वस्तु x की मांग कम करने के लिए सरकार क्या आर्थिक उपाय कर सकती है?
   What economic measure can be Government take to reduce demand for commodity x which is harmful for health?
3. The average fixed cost at 4 units of output is ₹ 20. Average variable cost at 5 units of output is ₹ 40. Average cost of producing 5 units is: (Choose the correct alternative)
   (a) ₹ 20  
   (b) ₹ 40  
   (c) ₹ 56  
   (d) ₹ 60

4. ‘या उत्पादन करें’ की समस्या का वर्णन कीजिए।
   Describe the problem of ‘what to produce’.

5. ‘अधिकतम कीमत सीमा’ के अर्थ और आवश्यकता की व्याख्या कीजिए।
   Explain the meaning and need for ‘maximum price-ceiling’.

6. सरकार ने बहुत अधिक संख्या में विज्ञान और प्रौद्योगिक संस्थान स्थापित किये हैं। इससे उत्पादन संभावना सीमा (वृत) कैसे प्रभावित होगी? समझाइए।
   The Government establishes a large number of Institutes of science and technology. How will it affect the production possibility frontier? Explain.

7. कारक के हास्यान्तर के अन्तर्गत कुल उत्पादन और सीमान्त उत्पाद में होने वाले परिवर्तनों की व्याख्या कीजिए।
   Explain the changes that take place in total product and marginal product under diminishing returns to a factor.

8. एकाधिकार की ‘प्रवेश में बाधाएँ’ विषय का महत्व समझाइए।
   v Fk
   एकाधिकारात्मक प्रतियोगिता की ‘उत्पादन विभेद’ विषय का महत्व समझाइए।
   Explain the significance of ‘barriers to entry’ feature of monopoly.
   OR
   Explain the significance of ‘Product differentiation’ feature of monopolistic competition.

9. एक सूच्यात्मक उदाहरण की सहायता से हास्यान्तर सीमान्त प्रतिस्थान दर का अर्थ समझाइए।
   v Fk
   एक उदाहरण की सहायता से हास्यान्तर सीमान्त उपयोगिता के नियम की व्याख्या कीजिए।
   Explain with the help of numerical example, the meaning of diminishing marginal rate of substitution.
   OR
   Explain the Law of Diminishing Marginal Utility with the help of an example.
10. Explain the difference between ‘change in demand’ and ‘change in quantity demand’.

11. Explain the effect of the following on market supply of a good:
   (i) Increase in input prices
   (ii) Reduction in per unit tax

OR

State the relationship between:
   (i) Marginal cost and average variable cost
   (ii) Total cost and marginal cost.

12. Explain the effect of the following on the demand for a good:
   (i) Increase in income of its consumer
   (ii) Rise in price of its substitutes good

13. Giving reasons, state whether the following statements are true or false:
   (i) The supply curve of a good shifts to the right when prices of other goods rise.
   (ii) The difference between average cost and average variable cost is always constant.

14. Explain with the help of a diagram the chain of effects of a rightward shift in demand curve of a good on its equilibrium price, quantity demanded and supplied.

Note: The following questions is for the blind candidates only, in lieu of Q. No. 14.

Explain the meaning of excess demand of a good. Explain its chain of effects on equilibrium price.
15. मुद्रा पूर्ति का नियमन कौन करता है? (सही विकल्प चुनिए)
   (a) भारत सरकार
   (b) रिजर्व बैंक ऑफ इंडिया
   (c) वाणिज्यिक बैंक
   (d) योजना आयोग

   Who regulates money supply? (Choose the correct alternative)
   (a) Government of India
   (b) Reserve Bank of India
   (c) Commercial Banks
   (d) Planning Commission

16. मांग जमाएं क्यों होती हैं?

   What are demand deposits?

17. निम्नलिखित में से कौन-सी राजस्व प्राप्ति नहीं है? (सही विकल्प चुनिए)
   (a) ऋणों की वसूली
   (b) विदेशी अनुदान
   (c) सार्वजनिक उद्योगों के लाभ
   (d) सम्पत्ति कर

   Which of the following is not a revenue receipt? (Choose the correct alternative).
   (a) Recovery of loans
   (b) Foreign grants
   (c) Profits of public enterprises
   (d) Wealth tax

18. निम्नलिखित में से कौन-सा प्राथमिक घाटे का सही माप है? (सही विकल्प चुनिए)
   (a) राजकीय घाटे और राजस्व घाटे का अंतर
   (b) राजस्व घाटे और व्याज का अंतर
   (c) राजकीय घाटे और व्याज भुगतान का अंतर
   (d) पूंजीगत व्यय और राजस्व व्यय का अंतर

   Which of the following is a correct measure of primary deficit? (Choose the correct alternative)
   (a) Fiscal deficit minus revenue deficit
   (b) Revenue deficit minus interest payments
   (c) Fiscal deficit minus interest payments
   (d) Capital expenditure minus revenue expenditure
19. निम्नलिखित में से कौन—सा स्टॉक है? (सही विकल्प चुनिए)
   (a) सम्पत्ति
   (b) बचत
   (c) निर्यात
   (d) लाभ

Which of the following is a stock? (Choose the correct alternative)
   (a) Wealth
   (b) Saving
   (c) Exports
   (d) Profits

20. विदेशी मुद्रा की मौग से तीन स्रोत लिखिए।

िवृक्ष

विदेशी मुद्रा के ‘अवमूल्यन और ‘मूल्यहास्य’ के अर्थ बताएँ।

Describe any three sources of demand for foreign exchange.

OR

Give the meaning of ‘devaluation and depreciation’ of domestic currency.

21. एक अर्थव्यवस्था में निवेश 300 से बढ़कर 500 हो जाता है। इसके फलस्वरूप आय का सन्निलित स्तर 2000 बढ़ जाता है। सीमान्त उपभोग प्रवृति का परिकलन कीजिए।

In an economy investment increases from 300 to 500. As a result of this equilibrium level of income increased by 2000. Calculate the marginal propensity to consume.

22. एक रंगाचित्र की सहायता से अस्फलतकारी अन्तर का अर्थ समझाइए।

Explain the meaning of deflationary gap with the help of a diagram.

उर्ख %शुरुश्वरूप में निवेश 300 से बढ़कर 500 हो जाता है। इसके फलस्वरूप आय का सन्निलित स्तर 2000 बढ़ जाता है। सीमान्त उपभोग प्रवृति का परिकलन कीजिए।

Note: The following questions is for the blind candidates only, in lieu of Q. No. 22.

स्फलतकारी अन्तर और अस्फलतकारी अन्तर में भेद कीजिए।

Distinguish between inflationary gap and deflationary gap.

23. भुगतान संतुलन खाते के संदर्भ में बताइए कि निम्नलिखित कथन सही है। यह गलत हैं। अपने उत्तर के लिए कारण दीजिए।
   (i) विदेश में किए गए निवेश से प्राप्त लाभ को पूंजी खाते दिखाया जाता है।
   (ii) मार्गीनों के आयात को चालू खाते में दिखाया जाता है।

In the context of balance of payments accounts, state whether the following statements are true or false. Give reasons for your answer.
   (i) Profits received from investments abroad is recorded in capital account.
   (ii) Import of machines is recorded in current account.
24. Describe the expenditure method of calculating gross domestic product at market price.

OR

What precautions (any four) should be taken while estimating national income by expenditure method.

25. Calculate gross value added to factor cost.

(i) Domestic sales 3000
(ii) Change in stock (–) 100
(iii) Depreciation 300
(iv) Intermediate consumption 2000
(v) Exports 500
(vi) Indirect taxes 250
(vii) Net factor income from abroad (–) 50

26. The Government decides to give budgetary incentives to investors for making investments in backward regions. Explain these possible incentives and the reasons for the same.

27. Explain any two functions of money.

OR

Explain any two main functions of Central Bank.
28. In an economy planned spending is greater than planned output. Explain all the changes that will take place in the economy.

29. From the following data calculate (i) Gross national product at market price and (ii) Net national disposable income:

(i) Dividends 300
(ii) Compensation of employees 3000
(iii) Rent 500
(iv) Depreciation 200
(v) Interest 800
(vi) Net factor income to abroad 100
(vii) Mixed income 5000
(viii) Net indirect taxes 400
(ix) Profit 1500
(x) Net current transfers to abroad (−) 50
### COMMON ERRORS COMMITTED BY CHILDREN AND REMEDIAL MEASURES

<table>
<thead>
<tr>
<th>S.NO</th>
<th>Errors committed by children</th>
<th>Remedial measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Not going through the questions properly.</td>
<td>Apart from 15 minutes browsing time, the students must go through the questions at least twice very carefully and with calm mind before attempting it.</td>
</tr>
<tr>
<td>2</td>
<td>Reaching the examination late which adds fuel to the already built up tension.</td>
<td>Must reach the examination hall well in time meditate for 2-3 minutes before browsing the question paper.</td>
</tr>
<tr>
<td>3</td>
<td>Not writing the question numbers correctly.</td>
<td>Must be very careful in writing the question numbers.</td>
</tr>
<tr>
<td>4</td>
<td>All parts of an answer to a question are not written at one place.</td>
<td>Should write all parts of a question at one place. In case if it is felt that some points couldn’t be recollected, leave some space and proceed to the next question and whenever recollected come back to it.</td>
</tr>
<tr>
<td>5</td>
<td>Presentation of answer not up to the mark and in a confused manner.</td>
<td>Adequate practice of different types of questions and revision of the topic to be done to avoid it.</td>
</tr>
<tr>
<td>6</td>
<td>Drawing incomplete and incorrect diagrams.</td>
<td>Sufficient practice in drawing diagrams is required to present it correctly and quickly on the paper.</td>
</tr>
<tr>
<td>7</td>
<td>Solution to numerical questions done in a haphazard manner.</td>
<td>Sufficient practice of numerical questions required to present the solution in a systematic manner.</td>
</tr>
<tr>
<td>8</td>
<td>Inability to present the answer as requested due to language problem</td>
<td>Should daily practice at home learning and writing the answers without seeing the book.</td>
</tr>
<tr>
<td>9</td>
<td>Not revising the answer sheet before submitting it to the invigilator</td>
<td>Proper distribution of time to solve the question paper and keeping 5-10 minutes for revision of the answer sheet.</td>
</tr>
<tr>
<td>10</td>
<td>Taking the subject very lightly</td>
<td>Devote time for studying Economics so as to present the answer as required by the CBSE board.</td>
</tr>
<tr>
<td>11</td>
<td>Not attempting all the questions due to lack of time or not knowing the answer correctly.</td>
<td>Must attempt all the questions even if answer is not known correctly/perfectly. Solving previous years papers and writing mock tests will help in proper time-management.</td>
</tr>
</tbody>
</table>
| 12   | Feeling giddiness or losing confidence on seeing the question paper resulting in leaving the exam hall before the ending of time. | 1. Should have healthy breakfast in the morning before proceeding to the exam centre.  
2. If tensed up on seeing the question paper, go for deep breathing technique and positive thinking which help in relieving tension and gaining confidence. |
HELPFUL TIPS FOR EXAMINATION

1. Go through the syllabus well and allocate time for important chapters which carry more weightage. Also specify the content that will be covered during these study hours.

2. Prepare effective notes of terms, definitions and important points chapter wise which will suffice for final revision.

3. Comprehend the relationships between different economic variables with the help of a schedule and a diagram. Evaluate your understanding by doing exercises. It will strengthen your learning process.

4. Practice diagrams and illustrations after reading each topic to avoid wasting time, prepare new illustrations at the time of examination. Diagrams should be supported by appropriate headings and arrow marks. For example, illustration and diagrams showing relationship between AC and MC, AP and MP, AR and MR should be learnt by heart.

5. Numerical problems of 15-20 marks are an important component of the economics exam. Prepare a list of formulas for quick reference before the examination. Practice national income accounting numerical of the three methods of measuring national income ie value added, income and expenditure method. Also practice numerical on cost, product, revenue, producer’s equilibrium and theory of income, output and employment.

6. High-order-thinking-skills questions are tough if you don’t understand them. So, practice questions from various books. Revise from past papers as it is best to familiarize yourself with the format of the exam so that you can complete your paper in three hours.

7. Avoid common errors made by students while attempting the economics paper such as not writing the formulae while attempting numerical and writing incomplete definitions. For eg, while stating law of demand students usually forget to write ‘keeping other factors constant’.

8. Do not get stressed and get enough sleep: Avoid negative interactions with your peers. Stay motivated and aim for excellent results.

9. Revise all the notes, descriptions and short formula’s learned by you all through the year. Memorize only the crisp definitions along with its explanation.

10. A flow chart preparation for every chapter will help shorten your toll of time and would inversely help in the detailed understanding of the subject. Give special attention to diagrams and graphs, along with its labeling as they hold the key to full marking.

11. Care is needed while preparing for the numerical, as a small mistake of figures can lead to loss of marks.

12. Find for new questions on the similar context from Previous Year Question paper, Sample paper and other Model test paper.

13. Always time yourself while answering the sample papers as it will help you manage time during the exam.

14. Try and finish chapters which you find easy to understand as it will boost your confidence.

15. Practice the syllabus as prescribed by the CBSE. CBSE board exam question papers are completely based on the syllabus provided.

16. Extra Questions are available through refresher books. Refer them only after when you are through with your syllabus.

17. Do not start a new topic at the last minute. Revise the topics which you have already completed.