DIRECTORATE OF EDUCATION
Govt. of NCT, Delhi

SUPPORT MATERIAL
(2018-2019)

Class : XII
ECONOMICS

Under the Guidance of

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PREFACE

It gives me immense pleasure to present the Support Material for various subjects. The material prepared for students of classes IX to XII has been conceived and developed by a team comprising of the Subject Experts, Members of the Academic Core Unit and teachers of the Directorate of Education.

The subject wise Support Material is developed for the betterment and enhancement of the academic performance of the students. It will give them an insight into the subject leading to complete understanding. It is hoped that the teachers and students will make optimum use of this material. This will help us achieve academic excellence.

I commend the efforts of the team who have worked with complete dedication to develop this matter well within time. This is another endeavor of the Directorate to give complete support to the learners all over Delhi.

(SANDEEP KUMAR)
SECRETARY
DIRECTOR'S MESSAGE

Dear Students,

Through this Support Material, I am getting an opportunity to communicate directly with you and I want to take full advantage of this opportunity.

In Delhi, there are approximately 1020 other government schools like yours, which are run by Directorate of Education. The Head Quarters of Directorate of Education is situated at Old Secretariat, Delhi-54.

All the teachers in your school and officers in the Directorate work day and night so that the standard of our govt. schools may be uplifted and the teachers may adopt new methods and techniques to teach in order to ensure a bright future for the students.

Dear students, the book in your hand is also one such initiative of your Directorate. This material has been prepared specially for you by the subject experts. A huge amount of money and time has been spent to prepare this material. Moreover, every year, this material is reviewed and updated as per the CBSE syllabus so that the students can be updated for the annual examination.

Last, but not the least, this is the perfect time for you to build the foundation of your future. I have full faith in you and the capabilities of your teachers. Please make the fullest and best use of this Support Material.

[Signature]
DIRECTOR (EDUCATION)
Dr. (Mrs.) Saroj Bala Sain  

Addl. Director of Edn. (School) / Exam

Govt. of NCT of Delhi  
Directorate of Education  
Old Secretariat, Delhi-110054  
Tel.: 23890023

D.O. No.: PA/Addl.DE/Sen2/2018  
Date: 16/07/2018

It gives me immense pleasure and a sense of satisfaction to forward the support material for classes IX to XII in all subjects. The support material is continuously revised, redesigned and updated by a team of subject experts, members of Core Academic Unit and teachers from various schools of DOE.

Consistent use of support material by the students and teachers will make the year long journey seemless and enjoyable. The purpose of providing support material has always been to make available ready to use material which is matchless and most appropriate.

My commendation for all the team members for their valuable contribution.

Dr. Saroj Bala Sain  
Addl.DE (School)
DIRECTORATE OF EDUCATION
Govt. of NCT, Delhi

SUPPORT MATERIAL
(2018-2019)

ECONOMICS
Class : XII
(English Medium)

NOT FOR SALE

PUBLISHED BY : DELHI BUREAU OF TEXTBOOKS
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# ECONOMICS

## Class XII (2018-19)

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<td></td>
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</tbody>
</table>
PART A: INTRODUCTORY MICROECONOMICS

Unit 1: Introduction 8 Periods

Meaning of microeconomics and macroeconomics, positive and normative economics.

What is an economy? Central problems of an economy: what, how and for whom to produce; concepts of production possibility frontier and opportunity cost.

Unit 2: Consumer's Equilibrium and Demand 32 Periods

Consumer's equilibrium - meaning of utility, marginal utility, law of diminishing marginal utility, conditions of consumer's equilibrium using marginal utility analysis.

Indifference curve analysis of consumer's equilibrium-the consumer's budget (budget set and budget line), preferences of the consumer (indifference curve, indifference map) and conditions of consumer's equilibrium.

Demand, market demand, determinants of demand, demand schedule, demand curve and its slope, movement along and shifts in the demand curve; price elasticity of demand - factors affecting price elasticity of demand; measurement of price elasticity of demand; (a) percentage-change method.

Unit 3: Producer Behaviour and Supply 32 Periods

Meaning of production function - Short-Run and Long-Run

Total Product, Average Product and Marginal Product.

Returns to a Factor

Cost : Short run costs - total cost, total fixed cost, total variable cost; Average cost; Average fixed cost, average variable cost and marginal cost-meaning and their relationships.

Revenue - total, average and marginal revenue - meaning and their relationships.
Producer's equilibrium-meaning and its conditions in terms of marginal revenue-marginal cost. Supply, market supply, determinants of supply, supply schedule, supply curve and its slope, movements along and shifts in supply curve, price elasticity of supply; measurement of price elasticity of supply (a) percentage-change method.

Unit 4: Forms of Market and Price Determination under Perfect Competition with simple applications. 28 Periods

Perfect competition - Features; Determination of market equilibrium and effects of shifts in demand and supply.

Other Market Forms - monopoly, monopolistic competition, oligopoly - their meaning and features.

Simple Applications of Demand and Supply: Price ceiling, price floor.

PART B: INTRODUCTORY MACROECONOMICS

Unit 5: National Income and Related Aggregates 28 Periods

Some basic concepts: Consumption goods, capital goods, final goods, intermediate goods; stocks and flows; gross investment and depreciation.

Circular flow of income; Methods of calculating National Income - Value Added or Product method, Expenditure method, Income method.

Aggregates repated to National Income:

Gross National Product (GNP), Net National Product (NNP), Gross and Net Domestic Product (GDP and NDP) - at market price, at factor cost; Real and Nominal GDP, GDP and Welfare
Unit 6: Money and Banking 15 Periods

Money - meaning and supply of money - currency held by the public and net demand deposits held by commercial banks.

Money creation by the commercial banking system.

Money bank and its functions (example of the Reserve Bank of India). Bank of issue, Govt. Bank, Banker’s Bank, Control of Credit through Bank Rate, CRR, SLR, REPO Rate and Reverse REPO Rate, Open Market Operations, Margin requirement.

Unit 7: Determination of Income and Employment 27 Periods

Aggregate demand and its components.

Propensity to consume and propensity to save (average and marginal).

Short-Run equilibrium output; investment multiplier and its mechanism.

Meaning of full employment and involuntary unemployment.

Problems of excess demand and deficient demand; measures to correct them - changes in government spending, taxes and money supply.

Unit 8: Government Budget and the Economy 18 Periods

Government budget - meaning, objectives and components.

Classification of receipts - revenue receipts and capital receipts; classification of expenditure - revenue expenditure and capital expenditure.

Measures of government deficit - revenue deficit, fiscal deficit, primary deficit their meaning.

Unit 9: Balance of Payments 15 Periods

Balance of payments account - meaning and components; balance of payments deficit meaning.

Foreign exchange rate - meaning of fixed and flexible rates and managed floating.

Determination of exchange rate in a free market.
Prescribed Books:

1. Statistics for Economics, Class XI, NCERT
2. Indian Economic Development, Class XI, NCERT
3. Introductory Micro Economics, Class XII, NCERT
4. Macro Economics, Class XII, NCERT
5. Supplementary Reading Material in Economics, Class XII, CBSE

Note: The above publications are also available in Hindi Medium.
SUGGESTED QUESTION PAPER DESIGN  
Economics (Code No. 030)  
Class-XII (2018-19)  
March 2019 (Examination)

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Typology of Questions</th>
<th>Very Short Answer</th>
<th>Short Answer</th>
<th>Long Answer</th>
<th>Total Marks</th>
<th>% age</th>
</tr>
</thead>
<tbody>
<tr>
<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>
<td>2</td>
<td>–</td>
<td>2</td>
<td>22</td>
<td>27%</td>
</tr>
<tr>
<td>2.</td>
<td>Understanding (Comprehension to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase, or interpret information)</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>19</td>
<td>24%</td>
</tr>
<tr>
<td>3.</td>
<td>Application (Use abstract information in concrete situation, to apply knowledge to new situations; Use given content to interpret a situation provide an example, or solve a problem)</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>15</td>
<td>19%</td>
</tr>
<tr>
<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>
<td>1</td>
<td>1</td>
<td>1</td>
<td>14</td>
<td>17%</td>
</tr>
<tr>
<td>5.</td>
<td>Evaluation : Appraise, judge and/or justify the values or worth of a decision or outcome, or to predict outcomes based on values.</td>
<td>1</td>
<td>–</td>
<td>1</td>
<td>10</td>
<td>13%</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td>8×1=8</td>
<td>4×3=12</td>
<td>6×4=24</td>
<td>6×6=36</td>
<td>80(24)</td>
</tr>
</tbody>
</table>

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.)
Guidelines for Project Work in Economics (Class XII)

- Students are supposed to pick any ONE of the two suggested projects.
- Teachers should help the students to select the topic after detailed discussions and deliberations. Teacher should play the role of a facilitator and should supervise and monitor the project work of the student. The teacher must periodically discuss and review the progress of the project.
- The teacher must play a vital role of a guide in the research work for the relevant data, material and information regarding the project work. Also, the students must be guided to quote the source (in the Bibliography/ References section) of the information to ensure authenticity.
- The teacher must ensure that the students actually learn the concepts related to the project as he/ she would be required to face questions related to the project in viva-voce stage of the final presentation of the project.
- The teacher may arrange a presentation in the classroom of each and every student so that students may learn from each others’ project work.
- The teacher must ensure that the students learn various aspects of the concept related to the topic of the project work.
- The teacher must ensure that the students learn various aspects of the concept related to the topic of the project work.

1. Project (Option One) : What’s Going Around Us

The purpose of this project is to

- Enable the student to understand the scope and repercussions of various Economic events and happenings taking place around the country and the world. (eg. The Dynamics of the Goods & Services Tax and likely impacts on the Indian Economy or the Economics behind the Demonetisation of 500 and 1000 Rupee Notes and the Short Run and Long Run impact on the Indian Economy of the impact of BREXIT from the European Union etc.)
- Provide an opportunity to the learner to develop economic reasoning and acquire analytical skills to observe and understand the economic events.
- Make students aware of the different economic developments taking place in the country and across the world.
- Develop the understanding that there can be more than one view on any economic issue and to develop the skill to argue logically with reasoning.
- Compare the efficacy of economic policies and their respective implementations in real world situations and analyse the impact of Economic Policies on the lives of common people.
- Provide an opportunity to the learner to explore various economic issues both from his/her day to day life and also issues which are of broader perspective.

Scope of the project: Student may work upon the following lines:

- Introduction
- Details of the topic
- Pros and Cons of the economic event/ happening
- Major criticism related to the topic (if any)
- Students’ own views/perception/opinion and teaming from the work
- Any other valid idea as per the perceived notion of the student who is actually working and presenting the project-work.
**Mode of presentation and submission of the project:** At the end of the stipulated term, each student will present the work in the project File (with viva voce) to the external examiner.

**Marking Scheme:** marks are suggested to be given as.

<table>
<thead>
<tr>
<th>S. No</th>
<th>Heading</th>
<th>Marks Allotted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Relevance of the topic</td>
<td>3</td>
</tr>
<tr>
<td>2.</td>
<td>Knowledge content/Research Work</td>
<td>6</td>
</tr>
<tr>
<td>3.</td>
<td>Presentation Technique</td>
<td>3</td>
</tr>
<tr>
<td>4.</td>
<td>Viva</td>
<td>8</td>
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<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>20 marks</strong></td>
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</tbody>
</table>

The external examiner should value the efforts of the students on the criteria suggested.

**Suggestive List**

1. Micro and small scale industries
2. Food supply channel in India
3. Contemporary employment situation in India
4. Disinvestment policy
5. Health expenditure (of any state)
6. Goods and Services Tax Act
7. Inclusive growth strategy
8. Human Development Index
9. self help groups
10. Any other topic.

**II Project (Option Two): Analyse any concept from the syllabus**

The purpose of this project is to

- Develop interest of the students in the concepts of Economic theory and application of the concept to the real life situations.
- Provide opportunity to the learners to develop economic reasoning vis-à-vis to the given concept from the syllabus.
- Enable the students to understand abstract ideas, exercise the power of thinking and to develop his/ her own perception.
- To develop the understanding that there can be more than one view on any economic issue and to develop the skill to argue logically with reasoning.
- Compare the efficacy of economic policies in real world situations.
- To expose the student to the rigour of the discipline of economics in a systematic way.
- Impact of Economic Theory/ Principles and concepts on the lives of common people.
Scope of the project:
Following essentials are required to be fulfilled in the project.

Explanation of the concept:
- Meaning and Definition
- Application of the concept
- Diagrammatic Explanation (if any)
- Numerical Explanation related to the concept etc. (if any)
- Students' own views/perception/opinion and learning from the topic.

Mode of presentation and submission of the project:
As the end of the stipulated term, each student(s) will present their work in the project File (with viva voce) to the external examiner.

Marking Scheme:
Marks are suggested to be given as:

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<td>4.</td>
<td>Viva</td>
<td>8</td>
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<tr>
<td></td>
<td>Total</td>
<td>20 Marks</td>
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</tbody>
</table>

The external examiner should value the efforts of the students on the criteria suggested.

Suggested List:
- Price Determination
- Opportunity Cost
- Demand and its determinants
- Production - Returns to a Factor
- Monopoly
- Monopolistic Competition
- Money Multiplier
- Government Budget & its Components
- Exchange Rate systems
- Balance of payments
- Price Discrimination
- Production Possibility Curve
- supply and its determinants
- Cost function and Cost Curves
- Oligopoly
- Credit Creation
- Central Bank and its functions
- Budget deficit
- Foreign Exchange Markets
- Any other topic
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<td>Government Budget and the Economy.</td>
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<td>9.</td>
<td>Balance of Payment</td>
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<td>Solved Question Paper (2016)</td>
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<td>Solved Question Paper (2014)</td>
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Part-I

INTRODUCTORY MICROECONOMICS
UNIT 1

INTRODUCTION

Points to Remember

- **Economics** is social science concerned with analysis of Human behaviour in respect of scarcity of means.

- **Microeconomics** studies the behaviour of an individual economic unit. It has narrow scope and specific study for an economic unit.
  
  Examples: Demand of an individual consumer, Production of a firm etc.

- **Macroeconomics** studies the behaviour of the economy as a whole. It has broad scope and generalise for whole economy.
  
  Example: Aggregate Demand, National Income etc.

- **Positive economics** explains about how the economy operates and what is occurring in the economy. It analyses the relations among variables. It is also known as descriptive economics or pure economics.

- **Normative economics** suggests how the economy ought to be operate and what should be occur in the economy. It analyses results and value judgements. It is also known as prescriptive economics or policy economics.

- **An economy** is a system that helps to produce good and services and enables people to earn their living.

- **Central economic problems** are the problems of making the choices and use of scarce resources for satisfying unlimited human wants.

- Causes of central economic problems are:
  
  (a) Unlimited Human Wants
(b) Scarcity of Economic Resources
(c) Alternative uses of Resources

- **Central Problems of an Economy**
  - Allocation of Resources
    - What to produce (Selection of goods and determination of quantity)
    - How to produce? (Choice of technique and process of production and allocation of resources)
    - For whom to produce? (Distribution of income and Selection of final use of final goods)

- **Opportunity cost** of a given resource can be defined as the value of the next best use to which that resource could be put.

- **Production Possibilities Frontier (PPF) or production possibilities curve (PPC)** shows all possible combinations of two goods that an economy can produce with given resources and available technology, assuming that all resources are fully and efficiently utilised.

- **Economising of resources** means use of resources in best possible manner.

- **Features of Production Possibilities Frontier (PPF)**
  (a) Slopes downward from left to right because to increase the production of one good, some units of other good has to be sacrificed.
  
  (b) Concave to the origin because of increasing Marginal Opportunity Cost (MOC) or MRT (Marginal Rate of Transformation) is increasing because all resources are not equally efficient in the production of both goods.

- Rightward shift of PPF indicates increase in resources or improvement in technology of both goods.

- Leftward shift of PPF indicates decrease in resources or degradation in technology.

- PPC will shift rightwards due to all those reasons which enhances production potential, quantity and efficiency of resources in an economy.
<table>
<thead>
<tr>
<th>Reasons for Rightwards Shift</th>
<th>Reasons for Leftward Shift</th>
<th>No. Change in PPC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Increase in Resources</td>
<td>1. Decrease in Resources</td>
<td>1. Transfer of Resources</td>
</tr>
<tr>
<td>2. Improvement in technology</td>
<td>2. Technological obsoletion</td>
<td>2. Unemployment Eradication Programme</td>
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<td>3. Skill Development Programme (Training)</td>
<td>3. Natural Calamities (Flood, Earthquake, Tsunami, Drought etc.)</td>
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<tr>
<td>4. Education for all (Health)</td>
<td>4. Emigration</td>
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<tr>
<td>5. Clean India Campaign (Health)</td>
<td>5. War, terrorism</td>
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<tr>
<td>6. Yoga Enhancement Plans (Health)</td>
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<td>7. Make in India (Investment)</td>
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<td></td>
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<tr>
<td>8. Increase in Foreign Capital (Foreign Investment)</td>
<td></td>
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<tr>
<td>9. Immigration</td>
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</tbody>
</table>

- **Marginal Rate of Transformation (MRT)** is the ratio of number of units of a good sacrificed to increase one more unit of the other good.

\[ MRT = \frac{\Delta Y}{\Delta X} \]

- MRT can also be called Marginal Opportunity Cost. It is defined as the additional cost in terms of number of units of a good sacrificed to produce an additional unit of the other good.

- When MOC increases, PPF is concave to origin. When MOC decreases PPF is convex to origin and when MOC remains constant, PPF is downward sloping straight line.

### Exam. Oriented Questions with Answer

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

**Q. 1.** Define Economy.

**Ans.** An economy is a system that helps to produce goods and services and enables people to earn their living.
Q. 2. What is the meaning of scarcity of resources?

_ans._ Scarcity of resources means shortage of resources as compared to its demand.

Q. 3. Write the meaning of Economic Problem.

_ans._ Economic problem is the problem of making the choice of the use of scarce resources for satisfying unlimited human wants.

Q. 4. Define MRT.

_ans._ Marginal Rate of Transformation (MRT) is the ratio of number of units of a good sacrificed to increase one more unit of the other good.

\[ MRT = \frac{\Delta Y}{\Delta X} \]

Q. 5. Define opportunity cost.

_ans._ Opportunity cost of a resource is its value in next best alternative use.

Q. 6. Govt. has started promoting Foreign investments. What will be its economic value in the context of PPF?

_ans._ Resources of Production will improve with more foreign investments. Thus PPF will shift rightward.

Q. 7. What is the meaning of economising of resources?

_ans._ Economising of resources means best possible use of available resources.

**SHORT ANSWER TYPE QUESTIONS (3 - 4 MARKS)**

Q. 1. Explain properties of a production possibility curve.

_ans._ There are two properties of a production possibility curve.

1. **Downward sloping**: It is because as more quantity of one good is produced some quantity of the other good must be sacrificed as resources are limited more of both goods can't be produced.

2. **Concave to the origin**: It is because the marginal rate of transformation increases as more of one good is produced.
Q. 2. Explain the problem of 'What to produce'?

Ans. An economy can produce different possible combinations of goods and services with given resources. The problem is that, out of these different combinations, which combinations is produced. If production of one good increases then less resources will be available for other goods.

Q. 3. What is 'Marginal Rate of Transformation'? Explain with the help of an example.

Ans. MRT is the rate at which the units of one good have to be sacrificed to produce one more unit of the other good in a two goods economy. Suppose an economy produces only two goods X and Y. Further suppose that by employing these resources fully and efficiently, the economy produces 1X + 10Y. If the economy decides to produce 2X, it has to cut down production of Y by 2 units. Then 2Y is the opportunity cost of producing 1X. Then 2Y : 1X is the MRT.

Q. 4. Explain the problem 'How to produce'?

Ans. The central problem 'How to Produce' is the problem of choosing the appropriate technique of production for producing goods. There can be more than one method for producing a good. More labour and less capital (i.e., labour intensive technique) or more capital and less labour (i.e., capital intensive technique) can be used for production of a good. Since resources are scarce, decision has to be taken about which technique should be used on the basis of availability of resources.

Example: A given quantity of cloth can be manufactured by combining factors of production in different proportions, making it capital-intensive or labour intensive method.

Q. 5. Explain the central problem 'For whom to produce'.

Ans. For whom to produce means that who will buy the goods and services produced. Clearly those who have income will be able to buy. So, the problem amounts to how the national income is distributed in an economy.
Q. 6. Give the reason and comment on the shape of Production Possibilities curve based on the following schedule:

<table>
<thead>
<tr>
<th>Good X (units)</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good Y (units)</td>
<td>10</td>
<td>9</td>
<td>7</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>

**Ans.**

<table>
<thead>
<tr>
<th>Good X (units)</th>
<th>Good Y (Units)</th>
<th>MRT</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>9</td>
<td>1Y : 1X</td>
</tr>
<tr>
<td>2</td>
<td>7</td>
<td>2Y : 1X</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>3Y : 1X</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>4Y : 1X</td>
</tr>
</tbody>
</table>
UNIT II

CONSUMER'S EQUILIBRIUM & DEMAND

Points to Remember

- Consumer's Equilibrium
  - **Consumer**: A consumer is one who buys goods and services for satisfaction of wants.
  - **Utility**: Wants satisfying capacity of goods and services is called utility.
  - **Cardinal Utility**: When utility is expressed in exact unit or quantity.
  - **Total utility**: It is the sum of utilities a consumer gets from consumption of all the units of a commodity at a given time.
  - **Marginal Utility**: It is a net increase in total utility by consuming an additional unit of a commodity.
  - **Ordinal Utility**: When utility is expressed in rank as per quality.
  - **Law of Diminishing Marginal Utility**: As consumer consumes more and more units of commodity the Marginal Utility derived from each successive units goes on declining.
  - **Consumer's Bundle**: It is a quantitative combination of two goods which can be purchased by a consumer from his given income at given prices.
  - **Budget set**: It is quantitative combination of those bundles which a consumer can purchase from his given income at prevailing market prices.
    
    \[
    \text{Budget Set: } P_x \cdot X + P_Y \cdot Y \leq M
    \]
  - **Budget Line**: It is a line showing different combinations of two goods which a consumer can buy by spending his whole income at given price of the goods.
Budget Line : \( M = P_x \cdot X + P_y \cdot Y \)

- **Consumer's Budget**: It states the real income or purchasing power of the consumer from which he can purchase the certain quantitative bundles of two goods at given price.

- **Monotonic Preferences**: Consumer's preferences are called monotonic when between any two bundles, one bundle has more of one good or both and no less of other goods.

- **Convex Preference**: Consumer preferences are called convex preferences if consumers' willingness to exchange or substitution for one good in terms of another goods would go on declining as he has more any more of one goods.

- **Change in Budget Line**: There can be parallel shift (leftwards or rightwards) due to change in income of the consumer and change in price of goods.

- **Marginal Rate of Substitution (MRS)**: It is the rate at which a consumer is willing to substitute good Y for good X.

  \[
  MRS = \frac{\text{Loss of Good Y}}{\text{Gain of Good X}} \quad \text{or} \quad \frac{\Delta Y}{\Delta X}
  \]

- **Indifference Curve**: Indifference curve is a curve showing different combination of two goods, each combinations offering the same level of satisfaction to the consumer.

- **Indifference Map**: It refers to a set of indifference curves placed together in a diagram.

- **Characteristics of IC**

  1. **Indifference curves are negatively sloped**: Because to increase quantity of one good some units of other has to be sacrificed to remain on same satisfaction level due to decreasing MRS.

  2. **Indifference curves are convex to the point of origin**: Due to decreasing MRS MRS decreases due to law of diminishing marginal utility & convex preferences.

  3. **Indifference curves never touch or intersect each other**: Each indifference curve shows different level of satisfactions.
Intersection point shows same satisfaction level which is not possible.

4. Higher Indifference curve represents higher level of satisfaction: Due to monotonic preference; Higher indifference curve shows bundles having more of one commodity and not less of other good in comparison of lower Indifference curve (IC).

- **Consumer's Equilibrium**: It is a situation where a consumer is spending his income in such a way that he is getting maximum satisfaction and has no tendency to change.

- **Condition of Consumer's Equilibrium**

  **(A) Cardinal approach (Utility Analysis)**: According to this approach utility can be measured. "Utils" is the unit of utility.

  **Condition of Consumer's Equilibrium:**

  (i) **In case of one commodity**

  (a) \( MU_x \) must be decline.

  (b) \( MU_m = \frac{MU_x}{P_x} \) [If \( MU_m = 1, MU_x = P_x \)]

  Where, \( MU_m \) = Marginal Utility of money

  \( MU_x \) = Marginal Utility of 'x', \( P_x \) = Price of 'x'.

  (ii) **In case of two commodity(s)**:

  \[
  \frac{MU_x}{P_x} = \frac{MU_y}{P_y} = MU_m
  \]

  Where \( P_x \) = Price of X & \( P_y \) = Price of Y.

  (a) \( MU_x \) and \( MU_y \) must be decline.

  **(B) Ordinal approach (Indifference Curve Analysis)**:

  According to this approach utility can't be measured but can be expressed in order or ranking.

- **Conditions of Consumer's Equilibrium**:

  (i) MRS must be decreasing or

  Indifference curve must be convex to the origin.
(ii) \[ MRS_{xy} = \frac{P_x}{P_y} \]

\[ P_x = \text{Price of 'x'} \]
\[ P_y = \text{Price of 'y'} \]

Slope of IC = Slope of Budget Line

or budget line must be tangent to indifference curve.

❖ Demand Analysis

- **Demand**: The quantity of commodity that a consumer is willing and able to buy at given price, over a given period of time.

- **Market Demand**: It is the total quantity purchased by all the consumers in the market at given price and in a given period of time.

- **Demand Function**: It is the functional relationship between the demand of a good and factors affecting demand.

  \[ D = f(P_x, P_r, Y, T, E, N). \]

- **Law of Demand**: If remaining things are being constant as price of a commodity increases quantity demanded of the commodity decreases and as price of a commodity decreases quantity demanded of the commodity increases, it is called law of demand.

- **Determinants of Demand**: When factor other than price changes of the goods affect the demand called determinants of demand.

- **Determinants of Demand (Shift factors of Demand)**

  - Other factor
  - Income of Consumer
  - Taste & Preference of Consumer
  - Change in Price of Related goods
  - Future Expectation to Change in price
  - Change in Quantity Demand and Change in Demand
- **Change in Demand**: Change in demand is caused for a change in determinants.

- **Change in Quantity Demanded**: Change in quantity demanded is caused for a change in its own price of the goods.

- **Demand Schedule**: Demand schedule is a table which shows the quantity demanded of a commodity at various prices.

- **Demand Curve**: It is a graphical presentation of demand schedule, which shows quantity demanded at various prices of commodity.
Demand curve and its slope:

\[
\text{Slope of demand curve} = \frac{\text{Change in price}}{\text{Change in quantity demanded}} = \frac{\Delta P}{\Delta Q}
\]

**Elasticity of Demand**

- **Price Elasticity of Demand**: Price Elasticity of Demand is a measurement of change in quantity demanded in response to a change in price of the commodity.

- **Percentage Method**:

  \[
  Ed. = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q}
  \]

  
  Ed. → Elasticity of Demand
  
  \(\Delta Q\) → Change in quantity
  
  \(\Delta P\) → Change in Price
  
  P → Initial Price
  
  Q → Initial Quantity
Ed. = \frac{\text{Percentage Change in Quantity demanded}}{\text{Percentage Change in Price}}

\text{Percentage change in quantity demanded} = \frac{\Delta Q}{Q} \times 100

\text{Percentage change in price} = \frac{\Delta P}{P} \times 100

Factors affecting Price elasticity of Demand

(a) Nature of the Commodity.
(b) Availability of Substitute goods.
(c) Income of the consumer & spend proportion of income
(d) Possibility of postponement of commodity
(e) Share of the commodity in total expenditure.
(f) Time period of response

Exam. Oriented Questions with Answer

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

Q. 1. Why the demand of water is Inelastic?
Ans. Because water is a necessary good.

Q. 2. Define Market Demand.
Ans. Market Demand refers to various quantities that all the consumers in a market are ready and able to purchase at various prices in a given period of time.

Q. 3. What is the meaning of Marginal Rate of Substitution?
Ans. MRS is the rate at which a consumer is willing to substitute good Y for good X, assuming that there is no change in the level of satisfaction.

Q. 4. What is the meaning of 'Monotonic Preference'.
Ans. Consumer's preference is called monotonic when between any two bundles, consumer give preference to that bundle, which contains more quantity of at least one commodity and not less quantity of other commodity.

Q. 5. Write equation of Budget line.
Ans. \( M = P_x \cdot X + P_y \cdot Y \)

Ans. \( P_x \cdot X + P_y \cdot Y \leq M \)

**SHORT ANSWER TYPE QUESTIONS (3-4 MARKS)**

Q. 1. Distinguish between increase in demand and increase in quantity demanded of a commodity.

Ans. When demand increase at given Price due to the change of other factor. It is called increase in demand. On the other hand when other things remain constant and demand increase by decrease in the price of a commodity then, it is called increase in quantity demanded.

Q. 2. Given price of a good, how does a consumer decide as to how much of that good to buy?

Ans. Consumer purchases upto the point where marginal utility is equal to the price (\( MU = P \)). So long as marginal utility is greater than price, he keeps on purchasing. As he makes purchases MU falls and at a particular quantity of the good MU becomes equal to price. Consumer purchases upto this point.

Q. 3. A consumer consumes only two goods X and Y. State and explain the conditions of consumer's equilibrium with the help of utility analysis.

Ans. There are two conditions of consumer equilibrium.

\[
(i) \quad \frac{MU_x}{P_x} = \frac{MU_y}{P_y}
\]
If \( \frac{\text{MU}_x}{P_x} > \frac{\text{MU}_y}{P_y} \) the consumer is not in equilibrium because he can raise his total utility by buying less of \( Y \) and more of \( X \) and vice versa in case of \( \frac{\text{MU}_x}{P_x} < \frac{\text{MU}_y}{P_y} \).

(ii) **MU falls as consumption increases**: If MU does not fall as consumption increases the consumer will end up buying only good which is unrealistic or consumer will never reach the equilibrium position.

**Q. 4.** Explain how the demand for a good is affected by the price of its substitute goods. Give examples.

**Ans.** Related goods are either substitutes or complementary.

**Substitute Goods**: When price of a substitute falls, it becomes cheaper than the given good. So the consumer substitutes it for given good then demand of given good will decreases.

Similarly, a rise in the price of substitute will result in increase in the demand for given good. For example: Tea and Coffee.

**Q. 5.** Distinguish between Normal Goods and Inferior Goods. Explain with Example.

**Ans.** **Normal Goods**: These are the goods the demand for which increase as Income of the buyers rise. There is a positive relationship between Income and demand or in case of normal goods income effect is positive.

**Inferior Good**: There are the goods the demand for which decreases as income of buyer rises. Thus, there is negative relationship between income and demand or income effect is negative.

**Q. 6.** Explain any four factors that affect price elasticity of demand.

**Ans.** 1. **Nature of Commodity**: Necessities like Salt, Kerosene oil etc. have inelastic demand and luxuries have elastic demand.
2. **Availability of substitutes**: Demand for goods which have close substitute is relatively more elastic and goods without close substitutes have less elastic demand.

3. **Different uses**: Commodities that can be put to different uses have elastic demand for instance electricity has different uses.

4. **Habit of the consumer**: Goods to which consumer become habitual will have inelastic demand.

   *Example*: Liquor and Cigarette.

**Q. 7.** Explain relationship between total utility and marginal utility with help of a schedule.

**Ans.**

<table>
<thead>
<tr>
<th>Quantity (Units)</th>
<th>Total Utility</th>
<th>Marginal Utility</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>—</td>
</tr>
<tr>
<td>1</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>2</td>
<td>14</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>18</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>20</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>18</td>
<td>—2</td>
</tr>
</tbody>
</table>

(1) As long as MU decreases but is positive, TV increases at decreasing rate.

(2) When marginal utility is equal to zero then total utility is maximum.

(3) When marginal utility is negative. Total utility starts diminishing.

**Q. 8.** Define marginal utility. State the law of diminishing marginal utility.

**Ans.** **Marginal Utility**: It is addition to the total utility as consumption is increased by one more unit of the commodity.

**Law of Diminishing Marginal Utility**: It states that as consumer consumes more and more units of a commodity, the utility derived from each successive unit goes on decreasing. According to this law TU increases at decreasing rate and MU decreases.
LONG ANSWER TYPE QUESTION  
(6 MARKS)

Q. 1. Explain the three properties of indifference curves.

Ans. Three properties of indifference curves are as follows:

1. **Slopes downward from left to right**: To consume more of one good the consumer must give up some quantity of the other good so that total utility remains the same.

2. **Convex towards the origin**: MRS declines continuously due to the operation of the law of diminishing marginal utility.

3. **Higher indifference curves represents higher utility**: Higher indifference curve represent large bundle of goods. Which means more utility because of monotonic preference.

Q. 2. Explain the conditions of consumer's equilibrium using indifference curve analysis. Use diagram.

Ans. There are two conditions for consumer's equilibrium.

(i) \( \text{MRS} = \frac{P_x}{P_y} \)

(ii) MRS is continuously falling.

**Explanation**

Suppose there are two goods X and Y the first condition of consumer's equilibrium is MRS must be equal to the ratio of prices of two goods \( \frac{P_x}{P_y} \).

If \( \text{MRS} > \frac{P_x}{P_y} \), it means consumer values X more than what market values and willing to give more price than market price he will purchase more of X this cause fall in MRS and it will continue up to that when \( \text{MRS} = \frac{P_x}{P_y} \).

If \( \text{MRS} < \frac{P_x}{P_y} \), it means consumer values X less than what market values. Consumer is willing to give less price than market price and he will purchase less of X, by this MRS will increase and it will continue till \( \text{MRS} = \frac{P_x}{P_y} \).

(ii) MRS is continuously falling unless the equality between the MRS
and \( Px/Py \) will not be reached.

Consumer is in equilibrium at point \( E \). \( OX \) of \( X \) and \( OY \) of \( Y \) is optimum bundle of both goods.

**Q. 3.** A consumer consumes only two goods \( X \) and \( Y \) both priced at Rs. 3 per unit. If the consumer chooses a combination of these two goods with Marginal Rate of Substitution equal to 3, is he consumer in equilibrium? Give reason. What will a rational consumer do in this situation? Explain.

**Ans.** Given \( Px = 2 \), \( Py = 3 \) and \( MRS = 3 \), a consumer is said to be in equilibrium when

\[
MRS = \frac{Px}{Py}
\]

Substituting the given values, we find that

\[
3 > \frac{3}{3}
\]

i.e., \( MRS > \frac{Px}{Py} \)

Therefore consumer is not in equilibrium \( MRS > \frac{Px}{Py} \) means that consumer is willing to pay more for one more unit of \( x \) as compared to what market demands.

(i) The consumer will buy more and more of \( x \).
(ii) As a result MRS will fall due to the law of Diminishing Marginal Utility.

(iii) This will continue till \( \frac{M_{X}}{P_{X}} = \frac{M_{Y}}{P_{Y}} \) and consumer is in equilibrium again.

Q. 4. A consumer consumes only two good X and Y whose prices are Rs. 4 and Rs. 5 per unit respectively. If the consumer chooses a combination of the two goods with marginal utility of X equal to 5 and that of Y equal to 4, is the consumer in equilibrium? Give reason. What will a rational consumer do in this situation? Use utility analysis.

Ans. Given \( P_{X} = 4, P_{Y} = 5 \) and \( M_{U_{X}} = 5, \) and \( M_{U_{Y}} = 4, \) consumer will be in equilibrium when

\[
\frac{M_{U_{X}}}{P_{X}} = \frac{M_{U_{Y}}}{P_{Y}}
\]

Substituting values, we find that

\[
\frac{5}{4} > \frac{4}{5} \text{ or } \frac{M_{U_{X}}}{P_{X}} > \frac{M_{U_{Y}}}{P_{Y}}
\]

Since per rupee \( M_{U_{X}}, \) is higher than per rupee \( M_{U_{Y}}, \) consumer is not in equilibrium.

The consumer will buy more of \( X \) and less of \( Y, \) As a result \( M_{U_{X}} \) will fall and \( M_{U_{Y}} \) will rise. The reaction will continue till \( \frac{M_{U_{X}}}{P_{X}} \) and \( \frac{M_{U_{Y}}}{P_{Y}} \) are equal and consumer is in equilibrium again.
UNIT III

PRODUCER BEHAVIOUR & SUPPLY

Points to Remember

❖ Production

☐ **Production Function**: Production function is purely a technical relation between physical inputs and physical output.

It can be expressed as \( Q = (I_1, I_2, I_3 \ldots I_n) \). Where \( Q = \) Physical output of a good; \( I_1, I_2, I_3, \ldots \ldots, I_n = \) Physical inputs. Technology remains constant

☐ **Types of Production Function**:

There are two types of Production Function.

1. **Short-run Production Function**: In this production function one factor of production is variable and all others are fixed. So, law of return to a factor is applied. It is also called law of variable proportion.

2. **Long-run Production Function**: In this production function all the factors of production are variable. So, law of returns to scale is applied. It is also called constant proportion type production function.

☐ **Total production** (TP) refers to total amount of a good which is produced by a firm in a given period of time.

☐ **Average production** (AP) is the per unit output of variable factor (labour) employed.

\[
AP = \frac{TP}{\text{Units of Variable input}}
\]

☐ **Marginal product** (MP) is the change in total product resulting from employing one additional unit of variable input.
\[ MP = \frac{\Delta TP}{\Delta L} \quad \text{or} \quad MP_n = TP_n - TP_{n-1} \]

- **Relation between Total Product (TP) and Marginal Product (MP)**
  1. So long as marginal product rises, total product increases with increasing rate.
  2. When marginal product starts falling but remains positive, total product rises with diminishing rate.
  3. When \( MP = 0 \), TP is maximum.
  4. When marginal product becomes negative, then total product starts falling.

- **Relation between MP & AP**
  (i) When \( MP > AP \), AP rises.
  (ii) When \( MP = AP \), AP is maximum and constant.
  (iii) When \( MP < AP \), AP falls.

- **Law of variable proportion**: The law states that as we increase the quantity of only one variable input, keeping other inputs fixed, the total product increases at increasing rate in the beginning, then increases at decreasing rate and finally TP falls. According to this law, change in TP and MP are classify into three phases.

  - **Phase I**: TP **Increases at increasing rate**: In the initial phase as more and more units of variable factor are employed with fixed factor total physical production increases at increasing rate, MP increases.
  
  - **Phase II**: TP **Increases at decreasing rate**: As more and more units of variable factors are employed with fixed factors then total product increases at diminishing rate, MP decreases but remains positive. At the end of this phase TP maximum and MP becomes zero.

  - **Phase III**: TP **falls**: As more and more units of variable factors are employed with fixed factors, total production starts decreasing and marginal product becomes negative.
Cost

- **Cost**: It is the sum of direct (explicit cost) and indirect cost (implicit cost).
- **Cost**: Explicit cost + implicit cost
- **Explicit Cost**: Actual money expenditure incurred by a firm on the purchase and hiring the factor inputs for the production is called explicit cost. For example—payment of wages, rent, interest, purchases of raw materials etc.
- **Implicit cost**: Implicit cost is the estimated cost of self owned resources of the production used in production process, by the producer or estimated value of inputs supplied by owner itself.

![Diagram of Short Term Costs]

- **Total Cost (TC)**: Total cost refers to total expenditure incurred by a firm on production of a given quantity of output.
- Total cost is the sum of total fixed cost and total variable cost
  \[ TC = TFC + TVC \quad \text{or} \quad TC = AC \times Q \]
- **TFC**: Total fixed costs is the cost which remains constant at all levels of output. It is not zero even at zero output level. Therefore, TFC curve is parallel to OX-axis.
  \[ TFC = TC - TVC \quad \text{or} \quad TFC = AFC \times Q \]
- **TVC**: Total variable cost is the cost which vary with the quantity of output produced. It is zero at zero level of output. TVC curve is parallel to TC curve but it start from origin or zero point.
  \[ TVC = TC - TFC \quad \text{or} \quad TVC = AVC \times Q. \]
- **AC**: Average cost is per unit cost of production of a commodity.
It is the sum of average fixed cost and average variable cost.

\[ AC = \frac{TC}{Q} \text{ or } AC = AFC + AVC \]

* **AFC**: Average fixed cost is per unit fixed cost of production of a commodity.

\[ AFC = \frac{TFC}{Q} \text{ or } AFC = AC - AVC \]

AFC goes on decreasing as the level of output increase.

* **AVC**: Average variable cost is per unit variable cost of production of a commodity.

\[ AVC = \frac{TVC}{Q} \text{ or } AVC = AC - AFC \]

* **Marginal Cost**: It refers to change in TC, due to additional unit of a commodity is produced. \( MC = \frac{\Delta TC}{\Delta Q} \) or \( MC_n = TC_n - TC_{n-1} \)

But under short run, it is calculated from TVC.

\[ MC_n = TVC_n - TC_{n-1} \text{ or } MC = \frac{\Delta TVC}{\Delta Q} \]

**Relation Between Short-Term Costs**

* Total cost curve and total variable cost curve remains parallel to each other. The vertical distance between these two curves is equal to total fixed cost.

* TFC curve remains parallel to X-axis and TVC curve remains parallel to TC curve from origin.

* With increase in level of output, the vertical distance between AFC curve and AC curve goes on increasing. On contrary the vertical distance between AC curve and AVC curve goes on decreasing because their difference is AFC which keep decreasing while increase in output but these two curves never intersect because average fixed cost is never zero.

* **Relation between MC and AVC**.
  (i) When \( MC < AVC \), AVC falls.
  (ii) When \( MC = AVC \), AVC is minimum and constant
  (iii) When \( MC > AVC \), AVC rises.
Relation between MC and ATC (AC)

(i) When \( MC < ATC \), ATC falls.
(ii) When \( MC = ATC \), ATC is minimum and Constant
(iii) When \( MC > ATC \), ATC rises.

Revenue

Money received from the sale of product is called revenue.

Total revenue is the total amount of money received by a firm from the sale of given units of a commodity at a market price.

\[ TR = AR \times Q \quad \text{or} \quad TR = \Sigma MR \]

\[ TR = \text{Price} \times \text{Quantity Sold} = P \times Q \]

\[ \text{Price} = \text{AR i.e.} \quad P = AR \]

\( AR \) : Per unit revenue received from the sale of given units of a commodity is called average revenue. Average revenue is equal to price. Per unit price of a commodity is also called AR.

\[ AR = \frac{TR}{Q} \quad \text{or} \quad \frac{P \times Q}{Q} = P = \text{Price} \]

\( MR \) : Marginal revenue is net addition to total revenue when one additional unit of output is sold.

\[ MR = \frac{\Delta TR}{\Delta Q} \quad \text{or} \quad MR_n = TR_n - TR_{n-1} \]

Relation between TR, AR and MR when more quantity sold at the same price : under perfect competition.

(a) Average revenue and marginal revenue remains constant at each levels of output and AR and MR curves are parallel to X-axis. AR = MR.

(b) Total revenue increases at constant rate MR is constant and TR curve is positively sloped straight line passing through the origin.

Relation between TR, AR and MR when more quantity by sold at the lower price or there is monopoly or monopolistic competition in the market.
(a) Average revenue and marginal revenue curves have negative slope. MR curve lies below AR curve. AR > MR.

(b) Marginal revenue falls, twice the rate of average revenue it AR & MR are linear.

(c) So long as marginal revenue decreases and positive, total revenue increases at diminishing rate. When marginal revenue is zero, total revenue is maximum and when marginal revenue becomes negative, TR starts falling.

- **Relation between AR and MR (General)**
  
  (i) When MR > AR, AR rises.

  (ii) When MR = AR, AR is maximum and constant.

  (iii) When MR < AR, AR falls.

- **Producer's Equilibrium**

- **Concept of Producer's Equilibrium**: If refers the stage where producer is getting maximum profit with given cost and he has no incentive to increase or decrease the level of output.

  (A) **MR and MC Approach**: Conditions of producer equilibrium according to this approach are:

  (a) \( MC = MR \)

  (b) MC curve should cut the MR curve from below at the point of equilibrium.

  Or

  MC should be more than MR after the equilibrium point, with increase in output.

- **Supply**

  - **Supply**: Refers to the amount of the commodity that a firm or seller is willing to offer or ready to sell at a certain price and in a given period of time.

  - **Factors affecting supply of a commodity**:
    1. Technological Progress
    2. Govt. Policy of Taxation & Subsidy
3. Prices of Inputs
4. Goal of the firm

- **Individual Supply**: Refers to quantity of a commodity that an individual firm is willing and able to offer for sale at a certain price during a given period of time.

- **Market supply**: It is the sum total of quantity supplied of a commodity by all sellers or all firms in the market at a certain price and in a given period of time.

- **Supply Schedule**: Refers to a tabular presentation which shows various quantities of a commodity that a producer is willing to supply at different prices, during a given period of time.

- **Supply curve**: Refers to the graphical representation of supply schedule which represents various quantities of a commodity that a producer is willing to supply at different prices during a given period of time.

Slope of supply curve = \( \frac{\Delta P}{\Delta Q} \)

- **Law of Supply**: States the direct relationship between price and supply of a commodity, keeping other factors constant.

- **Elasticity of Supply**

- **Price Elasticity of Supply**: It refers to the degree of responsiveness of supply of a commodity with reference to a change in price of the commodity. It is always positive due to direct relationship between price and quantity supplied.
Price Elasticity of Supply (Es)

\[
Es = \frac{\text{Percentage change in quantity supplied}}{\text{Percentage change in price}}
\]

- **Methods for measuring price elasticity of supply:**
  1. **Percentage Method**
  
  \[
  Es = \frac{\% \text{ change in a quantity supplied}}{\% \text{ change in price}}
  \]

  Or

  \[
  Es = \frac{\Delta Q}{\Delta P} \times \frac{P_0}{Q_0}
  \]

**Change in Quantity Supplied Vs change in Supply**

- **Change in Quantity Supplied or Movement along supply curve**
  - due to change in price of Commodity other factors remain constant

  - **Expansion of supply or Upward movement along with a supply curve**

  - **Contraction of supply or Downward movement along with a supply curve**

- **Change in Supply or Shift in supply curve**
  - Due to change in factors other than price of the commodity

  - **Increase in supply or right ward shift in supply curve**
  - **Decrease in supply or leftward shift in supply curve**

  - **Causes**
    1. (i) Rise in price of inputs
    2. (ii) Rise in price of related goods
    3. (iii) Obsolete Technology
    4. (iv) Decrease in no. of firms

  - **Cases**
    1. (i) Fall in price of inputs
    2. (ii) Fall in price of related goods
    3. (iii) Improvement in Technology
    4. (iv) Increase in no. of firms

---

*Class XII - Economics*
Exam. Oriented Questions with Answer

VERY SHORT ANSWER QUESTIONS
(1 MARK)

Q. 1. Define production function.
Ans. The function showing technical relationship between inputs and output is called production function.

Q. 2. State the changes in marginal product when total product increases at decreasing rate.
Ans. When total product increases at diminishing rate, marginal product decreases but remains positive.

Q. 3. What is breakeven point?
Ans. The point where TR is equal to TC or AR = AC is called breakeven point.

Q. 4. When with the change in price there will be no change in quantity of supply what will be the elasticity of supply.
Ans. Elasticity of supply will be equal to zero $\epsilon_s = 0$.

Q. 5. Define cost.
Ans. Cost refers to the sum of explicit cost, implicit cost and Normal profit.

Ans. Marginal cost refers to change in total cost due to additional unit of a commodity is produced.

Ans. Market Supply refers to the sum total of quantity supplied of a commodity by all sellers or all firms in the market at a certain price and in a given period of time.

SHORT ANSWERS TYPE QUESTIONS
(3-4 MARKS)

Q. 1. Explain the likely behaviour of total product under the phase of increasing return to a factor with the help of numerical example.
Ans. Increasing return to a factor is the first phase of the Law of return to a factor. When more and more units of a variable factor is combined with fixed factor up to a certain level total physical product increases with increasing rate.

<table>
<thead>
<tr>
<th>Machine</th>
<th>Unit of Labour</th>
<th>Total Physical Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>24</td>
</tr>
<tr>
<td>1</td>
<td>3</td>
<td>42</td>
</tr>
</tbody>
</table>

Q. 2. With the help of example distinguish between total fixed cost and total variable cost.

Ans. **Total fixed cost**  
1. Fixed cost remains constant at each level of output i.e., it do not change with change in level of output.  
2. It can not be zero when output is zero.  
3. Its curve is parallel to x-axis.  
4. Example : Rent, wages of permanent staff.  

**Total Variable Cost**  
1. Variable cost changes with the changes in level output, it increases or decrease as the output change.  
2. It is zero when output is zero.  
3. It curve is parallel to the curve of total cost.  
4. Example : cost of raw material, wages of casual labourer.

Q. 3. Draw average cost, average variable cost and marginal cost curves on a single diagram and explain their relations.

Ans.
Relation of AC, AVC and MC

1. MC intersects AC and AVC at their minimum level.
2. AC and AVC decreases before the intersection by MC, but remain greater than MC.
3. AC and AVC starts to increase after the intersection by MC, and becomes less than MC.
4. As output increases, AC and AVC tends to be closer but the difference between AC and AVC can never be zero.

Q. 4. Draw average cost, average variable cost and average fixed cost curves on a single diagram and explain their relation.

![Diagram of AC, AVC, and AFC curves]

1. AC is the vertical summation of AVC and AFC.
2. The difference between AC and AVC falls as output increases but the difference of AC and AFC increase.
3. As output increases AC and AVC tends to be closer but their curves do not intersect each other because AFC always remains more than zero.

Q. 5. Explain the relation between average revenue and marginal revenue when a firm can sell an additional unit or a good by lowering the price.

Ans. 1. AR and MR both decreases.
2. MR decrease at the rate of twice than AR.
3. MR become zero and negative but AR can never be zero.
Q. 6. Distinguish between 'change in quantity supplied' and 'change in supply'.

**Ans.**

<table>
<thead>
<tr>
<th>Change in Quantity Supplied</th>
<th>Change in Supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. It refers to the change in supply due to change in price of the good</td>
<td>1. It refers to the change in supply due to the change in the price determinants of supply other than price.</td>
</tr>
<tr>
<td>2. Determinants of supply other than price remains unchanged.</td>
<td>2. Price of the good remains unchanged.</td>
</tr>
<tr>
<td>3. Law of supply apply.</td>
<td>3. Law of supply does not apply.</td>
</tr>
<tr>
<td>4. There is upward and downward movement along with curve in this situation.</td>
<td>4. Supply curve shifted to leftward or rightward under this supply condition.</td>
</tr>
</tbody>
</table>

Q. 7. Explain how does change in price of input affect the supply of a good.

**Ans.** **Increase in price of Input**: Increase in price of input is cause of a decrease in the supply of a good because the production cost of a good will increases due to increase in price of input. It will reduce the profit. So producer will decrease the supply of the good.

**Decrease in the good**: Decrease in price of input is cause of increase in supply because when the price of input decrease the production cost of a good also decreases. Decreases in cost increases the profit margin. It motivate to producer to increase the supply of the good.

Q. 8. Explain how changes in prices of other products influence the supply of a given product.

**Ans.** The supply of a good is inversely influenced with the change in price of other product which can explain as follows:

A. **Rise in Price of Other product**: When there is rise in the price of other product the production of these product become more profitable due to unchanged cost in comparison of the production of given product. As a result the producer will produce more quantity of other product so the supply of given good will decrease.
B. **Fall in the price of Other Product**: When there is fall in the price of other product the production of these product become less profitable due to unchanged cost in comparison of the production of given product. As a result producer will produce less quantity of other product so the factors of production shifted for the production of given good. It cause an increase in supply of given good.

**Q. 9.** Explain how technology advancement bring a positive impact in the supply of a given product.

**Ans.** Technology advancement reduces per unit cost and increase the productivity of given factors of production. Due to these reasons production of given production becomes more profitable.

**Q. 10.** What is the behaviour of average fixed cost as output is increased? Why is it so?

**Ans.** AFC falls continuously as output is increased. It is because, even when output is increased TFC remains unchanged.

**Q. 11.** An individual is both the owner and the manager of a shop taken on rent. Identify implicit cost and explicit cost from this information. Explain.

**Ans.** Implicit cost: Estimated salary of the owner. Because the owner would have earned this salary if he had worked with a firm not owned by him.

Explicit cost: Rent paid. Because it is actual money expenditure on input.

**Q. 12.** What is a supply schedule? What is the effect on the supply of a good when Government gives a subsidy on the production of that good? Explain.

**Ans.** A supply schedule is a schedule that shows the quantity supplied of a commodity at different prices during a period of time.

Due to Subsidy, Cost remaining unchanged, profit rise.

As a result supply increases.
LONG ANSWER TYPE QUESTIONS
(6 MARKS)

Q. 1. Explain the law of variable proportion with the help of diagram/schedule.

OR

What is the likely behaviour of total product/marginal product when only one input is increased for increasing production? Used diagram/Schedule.

Ans. Law of variable proportion state the impact of change in unit of a variable factor on the physical output. When more and more unit of a variable factor combined with fixed factor then total product increases at increasing rate in the beginning. Then increases at decreasing rate and finally it starts falling.

Phase I: TP increase at an increasing rate
Phase II: TP increases at diminishing rate
Phase III: TP falls

Behaviour of MP

Phase I  MP increases and becomes maximum.
Phase II MP decreases and becomes zero.
Phase III MP becomes negative

<table>
<thead>
<tr>
<th>Machine</th>
<th>Unit of Labour</th>
<th>TPP (Unit)</th>
<th>MPP (Unit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>1</td>
<td>3</td>
<td>12</td>
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<tr>
<td>1</td>
<td>4</td>
<td>16</td>
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<tr>
<td>1</td>
<td>7</td>
<td>22</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>8</td>
<td>22</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>9</td>
<td>21</td>
<td>-1</td>
</tr>
</tbody>
</table>
First Phase: TPP increases with increasing rate up to A point. MPP also increase and becomes maximum at point C.

Second Phase: TPP increases with diminishing rate and it is maximum at point B. MPP start to decline and becomes zero at D point.

Third Phase: TPP starts to decline and MPP becomes negative.

- Important instruction for giving the answer of above question.
- Do not use diagram for the explanation of this question if it is instructed to use schedule and do not use schedule if the explanation of this question asked with the help of diagram.
- Do not explain the behaviour of marginal product with the help of schedule and diagram. If there is instruction to explain only the behaviour of total product.
- Do not explain the behaviour of total product with help of schedule and diagram if there is instruction to explain only the behaviour of marginal product.

Q. 2. What is producer’s equilibrium? Explain the conditions of producer’s equilibrium through the ‘marginal cost and marginal revenue’ approach. Use diagram/schedule.
Ans. Producer’s equilibrium refers to the stage under which with the help of given factor’s of production producer attain the level of production at which he is getting maximum profit. The conditions of producer’s equilibrium through the marginal cost and marginal revenue approach are as follows.

1. Marginal cost should be equal to marginal revenue.
2. With the increase in output after equilibrium marginal cost should be greater than marginal revenue.

<table>
<thead>
<tr>
<th>Output (units)</th>
<th>MR (Rs.)</th>
<th>MC (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
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<td>4</td>
<td>4</td>
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<tr>
<td>5</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

OR

<table>
<thead>
<tr>
<th>Output (Units)</th>
<th>MR (Rs.)</th>
<th>MC (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
<td>5</td>
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<td>2</td>
<td>8</td>
<td>4</td>
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<td>3</td>
<td>6</td>
<td>3</td>
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<tr>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>

[Graphs showing marginal revenue (MR) and marginal cost (MC) curves intersecting at equilibrium (E)]
Explanation of Conditions

(i) So longs as MC is less than MR, it is profitable for the producer to go on producing more because it adds to its profits. He stops producing more when MC becomes equal to MR.

(ii) When MC is greater than MR after equilibrium it means the profit will decline if producer will produce more units of the good.

Important instruction for giving the answer of the above question:

- Use only one schedule/diagram given as above for the explanations.

- Do not use diagram for the explanation of this question if it is instructed to use schedule and do not use schedule if the explanation of this questions is asked with the help of diagram.
UNIT IV

FORMS OF MARKET & PRICE DETERMINATION

Points to Remember

- Market is a system through which the buyers and sellers of a commodity or service comes in contact of each other for sale and purchase of the commodity or service on specific price.

- Forms of Market
  1. Perfect Competition
  2. Monopoly
  3. Monopolistic competition
  4. Oligopoly

PERFECT COMPETITION

- Perfect competition is that type of market in which there are very large no. of buyers and sellers selling homogenous product at same price and possessing perfect to knowledge at a time.

- Under perfect competition, per unit price remains constant therefore, average and marginal revenue curves coincide each other and becomes parallel to X-axis.
Under perfect competition price is determined by the market forces of demand and supply in an industry. No individual firm or buyer can influence the price of the product. So industry is price maker and firm is price taker.

Features of Perfect Competition:
(a) Very large no. of buyers and sellers.
(b) Homogeneous product.
(c) Free entry and exit of firms in the market.
(d) Perfect knowledge.
(e) Firm is a Price Taker
(f) Perfectly elastic demand curve

MONOPOLY MARKET

Monopoly is that type of market where there is a single seller, selling a unique product which does not have close substitutes.

Features of Monopoly
(a) Single Seller
(b) Bannedor prohibited entry and exit of new firms.
(c) Unique product which have no close substitute
(d) Firm is a Price Maker
(e) Price discrimination may be exist
(f) Inelastic demand curve

AR (Demand) curve is left to right downward sloping curve and less elastic than that of monopolistic competition.

MONOPOLISTIC COMPETITION

Monopolistic competition is that type of market under which there are large number of buyers and sellers, Selling differentiated product to the consumer who have imperfect knowledge about the product.
Features:

(a) Large number of buyer & large group model of sellers or firms
(b) **Product Differentiation**: In this feature every firms make its product different on the basis of colour, taste, packing, size and shape.
(c) **Selling Cost**: Cost on advertisement and sales promotion.
(d) Controled Freedom of entry and exit of new firm into the large group.
(e) Lack of perfect knowledge.
(f) Elastic demand curve

**OLIGOPOLY**

- Oligopoly is the form of market in which there are few large firms, mutually dependent for taking price and output decisions.

**Features of Oligopoly**

(a) Few firms or sellers
(b) All the firms under oligopoly produce homogeneous or differentiated product.
(c) Under oligopoly demand curve is undefined/indeterminate.
(d) Barriers under certain limitations & conditions to the entry and exit of firm into industry.
(e) All the firms are interdependent in respect of price and output determination under oligopoly market.
(f) Non-price competition may be exist.

- Oligopoly can be categorised in two categories following ways.
  (i) Collusive oligopoly is that form of oligopoly in which all the firms determine price and quantity of output on the basis of cooperative behaviour.
  (ii) Non-collusive oligopoly is that form of oligopoly in which all the firms determine the price and quantity of output according to the action and reaction of the firms.
(iii) **Perfect Oligopoly**: If firms produce homogeneous product then it is called perfect oligopoly.

(iv) **Imperfect Oligopoly**: If firms produce heterogeneous product it is called imperfect Oligopoly.

### FORMS OF MARKET STRUCTURE

<table>
<thead>
<tr>
<th>Basis</th>
<th>Perfect Competition</th>
<th>Monopoly</th>
<th>Monopolistic Competition</th>
<th>Oligopoly</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Number of sellers</td>
<td>Very Large</td>
<td>Only one</td>
<td>Large</td>
<td>Few</td>
</tr>
<tr>
<td>2. Nature of product</td>
<td>Homogeneous</td>
<td>Unique and having no. close substitute</td>
<td>Differentiated Product with close substitutes</td>
<td>Homogeneous &amp; differentiated product</td>
</tr>
<tr>
<td>3. Entry/Exit of firms</td>
<td>Free entry exit of firm</td>
<td>Banned Entry</td>
<td>Controlled entry &amp; exit</td>
<td>Controlled</td>
</tr>
<tr>
<td>4. Firm’s Demand Curve</td>
<td>Parallel to X-axis</td>
<td>Downward sloping In elastic</td>
<td>Elastic</td>
<td>Undefined</td>
</tr>
<tr>
<td>5. Perfect Knowledge</td>
<td>Perfect knowledge of market</td>
<td>No-requirement of knowledge</td>
<td>Lack of knowledge</td>
<td>Lack of knowledge</td>
</tr>
<tr>
<td>6. Selling cost</td>
<td>No-requirement</td>
<td>Not required</td>
<td>Very significant</td>
<td>Less significant</td>
</tr>
</tbody>
</table>

- **Equilibrium Price**: Refers to the price at which market demand and market supply of a commodity are equal.
- **Market Equilibrium**: Market equilibrium is a state in which market demand is equal to market supply. There is no excess demand or excess supply in the market.
Application of Demand and Supply

(a) **Maximum Price Ceiling**: It means the maximum price the producers of goods or service are allowed to charge. Government imposes such a ceiling below the equilibrium price when it finds that the demand for necessary goods exceeds its supply. That is, when consumers are facing shortages and equilibrium price is too high. Government does it in the interest of consumers.

(b) **Minimum Price Ceiling**: Government imposes a lower limit on the price, which is higher than the equilibrium price to safeguard the interest of producers. The price is also called minimum support price.

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**Exam. Oriented Questions with Answer**

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

**Q. 1.** Define equilibrium price.

**Ans.** Equilibrium price refers to that price which equates market demand for a commodity with its market supply.

**Q. 2.** Define perfect competition.

**Ans.** Perfect competition refers to a market situation in which (i) there are very large numbers of buyers and sellers (ii) products are homogeneous and (iii) there is free entry and exit.

**Q. 3.** What is Cartel?

**Ans.** A Cartel is a group of firms which jointly set output and price of its product in such a way so as to keep benefit of monopoly.
Ans. Price Ceiling refers to the maximum price of a commodity lower than equilibrium price at which the seller can legally sell their product.

Q. 5. What is meant by excess demand for a product.
Ans. Excess demand refers to the situation in which market demand is more than market supply of a commodity at a given price.

**SHORT ANSWER TYPE QUESTIONS (3-4 MARKS)**

Q. 1. Explain the implication of large number of buyers in a perfect competitive market.
Ans. The implication is that no single buyer is in a position to influence market price on its own because an individual buyer’s purchase for negligible proportion of the total purchase of the good in the market.

Q. 2. Explain why are firms mutually interdependent in an oligopoly market.
Ans. Firms are mutually interdependent because an individual firms take decision about price and output after considering the possible reactions by the rival firms.

Q. 3. Explain the implication of 'freedom of entry and exit of the firms' under perfect competition.
Ans. The firms enter the industry when they find that the existing firm earning super normal profits. Their entry raises output of the industry brings down the market price and thus reduce profits. The entry continue till profits are reduced to normal (or zero). On the other hand the firms start leaving industry when they are facing losses. This reduces output of the industry raises market price and reduces losses. The exit continues till the losses are wiped out. Hence in the long run, firms earn only normal profit.

Q. 4. Explain the implication of 'perfect knowledge about market' under perfect competition.
Ans. Perfect knowledge means that both buyers and sellers are fully informed about the market price. Therefore no firm is in a position
to charge different price and no buyer will pay a higher price. As a result uniform price prevails in the market.

Q. 5. Why is the demand curve more elastic under monopolistic competition than under monopoly.

Ans. The elasticity of demand is high when the product has close substitutes and elasticity of demand tends to be low when the products have no close substitutes. As we know in monopolistic competition large number of close substitutes are present and in monopoly there is no close substitutes. Hence the demand curve under monopolistic competition is more elastic than that under monopoly.

Q. 6. Why is a firm under perfect competition a price taker while under monopoly a price maker Explain in brief.

Ans. A firm under perfect competition a price taker by the following reasons :

1. **Number of Firms**: The number of firms under perfect competition is so large that no individual firm by changing sale, can cause any meaningful change in the total market supply. Hence, market price remains unaffected.

2. **Homogeneous Product**: All firms in a perfectly competitive industry product homogeneous product. Hence, price remains same.

3. **Perfect Knowledge**: All the buyers and sellers have perfect knowledge about market price so no firm charge a different price than market price. Hence a uniform price prevails in the market.

A firm under monopoly a price maker by the following reasons :

1. A monopolist is a single seller of the product in the market. Hence it has full control over supply.

2. There are no close substitutes of the monopoly product hence the demand is less elastic or 'inelastic.'

3. There are legal, technical and natural barriers to the entry of new firms so that there is no fear of increase in market supply.
Q. 7. Differentiate between price discrimination and product differentiation.

Ans. **Price Discrimination**: Price discrimination is a situation when a monopolist charges different price from different buyers of the same product. This is generally done to maximise profits.

**Product Differentiation**: Product differentiation is a situation when different producers under monopolistic competition, try to differentiate their product in terms of its shape, size, packaging, trade mark or brand name. This is done to attract buyers from the rival firms in the market.

Q. 8. Distinguish between perfect competition and monopoly.

Ans. **Perfect Competition**

<table>
<thead>
<tr>
<th>Perfect Competition</th>
<th>Monopoly</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Large number of buyers and sellers.</td>
<td>1. One seller &amp; large no. of buyers.</td>
</tr>
<tr>
<td>2. Products are homogeneous.</td>
<td>2. There is no close substitutes of goods.</td>
</tr>
<tr>
<td>3. Free Entry and exit.</td>
<td>3. Barriers to entry</td>
</tr>
<tr>
<td>4. There is no control over price.</td>
<td>4. There is full control over market price.</td>
</tr>
</tbody>
</table>


Ans. **Monopoly**

<table>
<thead>
<tr>
<th>Monopoly</th>
<th>Monopolistic competition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Single seller and large number of buyers</td>
<td>1. Large number of buyers and sellers.</td>
</tr>
<tr>
<td>2. No close substitutes</td>
<td>2. There is product differentiation.</td>
</tr>
<tr>
<td>3. Product Barriers to entry.</td>
<td>3. Free entry and exit.</td>
</tr>
<tr>
<td>4. Selling cost is zero.</td>
<td>4. Heavy selling costs are incurred.</td>
</tr>
</tbody>
</table>

Q. 10. What is oligopoly? State its main properties/features.

Ans. **Oligopoly**: It is a form of the market in which there are a few big sellers of a commodity and a large number of buyers. There is a high degree of interdependence among the sellers regarding their price and output policy.
Following are some principal features of oligopoly:
1. A few firms
2. High degree of interdependence
3. Non-price competition
4. Entry barriers
5. Formation of cartels
6. High selling cost

LONG ANSWER TYPE QUESTIONS
(6 MARKS)

Q. 1. Distinguish between collusive and non-collusive oligopoly. Explain how the oligopoly firms are interdependent in taking price and output decisions.

Ans. Collusive oligopoly is one in which the firms cooperate with each other in deciding price and output where as, noncollusive oligopoly is one in which the firms compete with each other.

The firms are interdependent because each firm takes into consideration the likely reactions of its rival firms when deciding its output and price policy.

It makes a firm dependent on other firms. The firm may have to reconsider the change in the light of the likely reactions.

Q. 2. 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.

Ans. Increase in demand shifts the demand curve from D₁ to D₂ to the right leading to excess demand E₁F at the given price OP₁.
Since the consumers will not be able to buy all they want to buy at this price, there will be competition among buyers leading rise in price.

As price rises, demand starts falling (along $D_2$) and supply, starts rising (along $S$) as shows by arrows in the diagram.

The quantity rises to $OQ_2$ and price to $OP_2$.

Q. 3. 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.

Ans. There are three possibilities:

1. If the relative (percentage) decrease in demand is greater than the decrease in supply, price will fall. The price will fall because of excess supply in the market.

2. If the relative (percentage) decrease in demand is less than the decrease in supply price will rise. The price will rise because of excess demand in the market.

3. If the relative (percentage) decrease in demand is equal to the decrease in supply price will remain unchanged.

The price will remain unchanged because there is neither excess demand nor excess supply in the market.

Q. 4. Explain why the equilibrium price of commodity is determined at that level of output at which its demand equals its supply.

Ans. Suppose demand is greater than supply. Since the buyers will not be able to buy all what they want, there will be competition among the buyers. It will have on upward influence on the price. As a result demand will start falling and supply rising. It will go on till demand is equal to supply again. It demand is less than supply. Since the sellers will not able to sell all what they want, there will be competition among the sellers. It will have a downward influence on the price. As a result demand will start rising and supply falling. It will go on till demand is equal to supply again.

Hence, the equilibrium price of a commodity is determined at that level of output at which its demand equals its supply.
Part-II

INTRODUCTORY MACROECONOMICS
UNIT V

NATIONAL INCOME AND RELATED AGGREGATES

Points to Remember

- **Consumption Goods**: Those final goods which are used by the consumers to satisfy human wants directly. All goods and services purchased by consumers are consumer goods.

- **Capital Goods**: Those final goods which are used for investment by the producers in production of goods and services. These goods are of durable nature.

- **Final Goods**: Those goods which are purchased either for final consumption by consumers (consumers goods) or for investment by producers (capital goods). These are not for resale or for further processing.

- **Intermediate Goods**: Those goods and services which are purchased for as a raw material for further production or for resale in the same year. These goods do not fulfill needs of mankind directly. Services used by the producers are intermediate goods. E.g. Service of Lawyers, Mechanics, Charted Accountants, Raw Material etc.

- **Investment**: Value of addition made to the physical stock of capital during a period of time (financial year) is called investment. It is also called capital formation.

- **Depreciation**: Means fall in value of fixed capital goods due to normal wear and tear, expected obsolescence and efflux of time. It is also known as consumption of fixed capital. Depreciation
can be calculated by dividing the value of fixed capital by its expected life in years.

- **Gross Investment** : Total addition made to physical stock of capital during a period of time. It includes depreciation. It is also known as Gross Capital formation.


- **Stock** : Variables whose magnitude is measured at a particular point of time are called stock variables. e.g., Wealth, assets, money, Inventory etc. A stock variable is nothing but an accumulated sum of flows.

- **Flow** : Variables whose magnitude is measured over a period of time are called flow variable. Eg. National income, change in stock etc.

- **Circular flow of income** : It refers to continuous flow of goods and services and money income between firms and households in two sector economy. It is circular in nature. It has neither any end nor any beginning point. Real flow shows the flow of produced goods and services and factor services between firms and households. Money flow shows the flow of consumption/investment expenditure and factor payments between firms and households.

- **Leakage** : It is the amount of money which is withdrawn from circular flow of income. For e.g. Taxes, Savings and Imports.

- **Injection** : It is the amount of money which is added to the circular flow of income. For e.g., Govt. Exp., Investment and Exports.

- **Economic Territory** : Economic (or domestic) Territory is the geographical territory administrated by a Government within which persons, goods and capital circulate freely.
Scope of Economic Territory:

(a) Political frontiers including territorial waters and airspace.
(b) Embassies, consulates, military bases etc. located abroad.
(c) Ships and aircraft operated by the residents between two or more countries.
(d) Fishing vessels, oil and natural gas rigs operated by residents in the international waters.

Normal Resident of a Country: is a person or an institution who normally resides in a country and whose centre of economic interest lies in that country.

Factor Income: Income earned by the factors of production (Labour, Land, Capital and Entrepreneurship) for rendering factor services in the production process. e.g., Rent, Interest, wages and profit.

Transfer payments: refers to income received without rendering any productive service in return. They are one sided payments made without getting anything in return e.g., old age pension, taxes, scholarships etc.

Capital gain: An increase in the value of capital assets or financial assets over the time that gives it a higher worth than the purchase price. The gain is not realized until the asset is sold.

Compensation of employees: Payment to labour factor (employees and workers) in cash or kind for providing factor services during the production of goods and services. It includes salary, wages, bonus, pension, contribution by employer in social security schemes etc.

Operating Surplus: During the operation of production money left after the payment of compensation of Employees is called operating surplus. It is the sum of Rent, Interest and Profit.

Subsidies: A subsidy is an amount of money given directly to firms by the government to encourage production and consumption. It reduce the market price.
Value of Output: Market value of all goods and services produced by an enterprise during an accounting year. Value of Output = Sales + Change in Stock.

Value added: It is the difference between value of output of a firm and value of intermediate goods bought from the other firms during a particular period of time. Value added = Value of output - Intermediate consumption.

Domestic Income (NDP_{FC}): It is the factor income accruing to owners of factors of production for supplying factor services with in domestic territory during an accounting year.

$$NDP_{FC} = GDP_{MP} - Depreciation - NI_T.$$ 

Gross Domestic Product at Market Price (GDP_{MP}): is the market value of all the final goods and services produced by all producing units located in the domestic territory of a Country during an Accounting year.

Net Domestic Product at Market Price (NDP_{MP}): NDP_{MP} = GDP_{MP} - Depreciation (Consumption of fixed capital)

NATIONAL AGGREGATES

Gross National Product at Market Price (GNP_{MP}) is the market value of all the final goods and services produced by normal residents (in the domestic territory and abroad) of a country during an accounting year. GDP_{MP} + NFIA = GNP_{MP}

National Income (NNP_{FC}): It is the sum total of all factors incomes earned by normal residents of a country in the form of wages. Rent, Interest and profit during an accounting year in domestic economic territory as well as abroad.

$$NNP_{FC} = NDP_{FC} + NFIA = National Income.$$ 

Some Important Relations

Gross = Net + Depreciation (consumption of fixed capital)

National = Domestic + NFIFA (Net factor income from abroad)

Market Price = Factor Cost + NI_T (Net Indirect Tax)
Net Indirect Tax (NIT) = Indirect Tax – Subsidies

Net Factor Income from Abroad (NFIFA) = It is difference between factor income received/earned by normal residents of a country and factor income paid to nonresidents of the country.

**Components of NFIA**

1. Net Compensation of Employees
2. Net Income from Property and entrepreneurship
3. Net Retained earning of resident companies from abroad

**Methods of estimation of National Income**

**Value Added Method (Product Method):**

Gross Value Added at Market Price (GVA<sub>MP</sub>)

= Sales + change in stock – Intermediate Consumption.

= GDP<sub>MP</sub> = ΣGVA<sub>MP</sub> of all sectors

OR

= Value of output – Intermediate consumption

NVA<sub>FC</sub> = GVA<sub>MP</sub> – Depriciation – NIT

National Income = NNP<sub>FC</sub> = GDP<sub>MP</sub> – Depreciation + NFIFA – NIT

**Steps to be followed:**

1. Write Sales value (Add sales of all sectors if given sector wise)
2. Add : Change in stock (Closing stock – opening stock if given separately).
3. Subtract : Intermediate consumption
   
   Capital goods are not intermediate good.
   
   You have reached GDP<sub>MP</sub>
   
   National Income (NNP<sub>FC</sub>) = GDP<sub>MP</sub> – Depreciation + NFIFA – NIT
- **Income Method (Factor Income distribution method):**
  Domestic Income ($NDP_{FC}$) = Compensation of Employees + Operating Surplus + Mixed Income

  National Income ($NNP_{FC}$) = $NDP_{FC}$ + NFIA

  **Steps to be followed:**
  1. Write compensation of Employees (if not given add salary, wages, bonus, contribution by employer in social security schemes).
  2. Add: Operating Surplus (if not given add interest, Rent & Royalty and Profit).
  3. Add: Mixed Income of self-employed. You have reached $NDP_{FC}$

  National Income ($NNP_{FC}$) = $NDP_{FC}$ + NFIA

- **Expenditure Method:**

  $$GDP_{MP} = C + G + I + (X - M)$$

  **Steps to be followed:**
  1. Write Private Final Consumption Expenditure
  2. Add: Government Final Consumption Expenditure
  3. Add: Gross Domestic Capital Formation
  4. Add: Net Exports (Export – Imports)

    You have reached at $GDP_{MP}$

    National Income ($NNP_{FC}$) = $GDP_{MP}$ – Depreciation + NFIA – NIT

- **Problem of Double Counting:** Counting the value of a commodity more than once while estimating national income is called double counting. It leads to overestimation of national income. So, it is called problem of double counting.
Components of Final Expenditure

1. Final Consumption Expenditure
   i) Private Final Consumption Expenditure (C)
   ii) Government Final Consumption Expenditure (G)

2. Gross Domestic Capital Formation (I)
   i) Gross Domestic Fixed Capital Formation
   (a) Gross business Fixed Investment
   (b) Gross Residential Construction Investment
   (c) Gross public Investment
   ii) Change in Stock or inventory investment

3. Net Export (X-M)
   i) Export (X)
   i) Import (M)

Components of Domestic Income

1. Compensation of Employees
   a. Wages and salaries (Cash or kinds)

2. Operating surplus
   b. Employers Contribution to Social security Schemes

3. Mixed Income of self-Employed person
   Rent & Royalty
   Interest
   Profit
   Corporate Tax
   Dividend
   Undistributed corporate profit
GDP and Welfare: In general Real GDP and Welfare are directly related with each other. A higher GDP implies that more production of goods and services. It means more availability of goods and services. But more goods and services may not necessarily indicate that the people were better off during the year. In other words, a higher GDP may not necessarily mean higher welfare of the people.

Real GDP: When the goods and services are produced by all producing units in the domestic territory of a country during an accounting year and valued at base year's prices or constant price, is called real GDP or GDP at constant prices. It changes only by change in physical output not by change in price level. It is called a true indicator of economic development.

Nominal GDP: When the goods and services are produced by all producing units in the domestic territory of a country during an accounting year and valued at current year's prices or current prices, is called Nominal GDP or GDP at current prices. It is influenced by change in both physical output and price level. It is not considered a true indicator of economic development.

Conversion of Nominal GDP into Real GDP

\[
\text{Real GDP} = \frac{\text{Nominal GDP}}{\text{Price index}} \times 100
\]

Price index plays the role of deflator deflating current price estimates into constant price estimates. In this way it may be called GDP deflator.

Welfare mean material well being of the people. It depends on many economic factors like national income, consumption level quantity of goods etc and non-economic factor like environmental pollution, law and order etc. the welfare which depends on economic factors is called economic welfare and the welfare which depends on non-economic factor is called non-economic welfare. The sum total of economic and non-economic welfare is called social welfare. The limitations in taking GDP as welfare measure are as follows:

1. **Externalities**: Externalities refer to benefits or harms of an
activity caused by a firm or an individual, for which they are not paid or penalized. For example, environmental pollution caused by industrial plants is a negative externality and building a flyover is a positive externality.

2. **Composition of GDP**: GDP does not exhibit the structure of the product. If the increase in GDP is mainly due to increased production of war equipment's and ammunitions, then such an increase cannot improve welfare in economy.

3. **Distribution of GDP**: When GDP is unevenly distributed, increase in GDP does not increase welfare.

4. **Non-monetary exchanges**: Many activities in an economy are not evaluated in monetary terms, they are not included in GDP, due to non-availability of data. However, such activities influence the economic welfare of people of the economy.

Finally, it can be concluded that GDP may not be taken as a satisfactory measure of economic welfare due to above mentioned limitations, yet it does reflect some index of economic welfare.

### PRECAUTIONS IN MAKING ESTIMATES OF NATIONAL INCOME

1. **Value added (Production) method**:
   
   (a) Avoid double counting
   
   (b) Do not include sale of second hand goods.
   
   (c) Self-consumed output must be included.

2. **Income Method**
   
   (a) Avoid transfer income
   
   (b) Avoid capital gain
   
   (c) Include income from self-consumed output
   
   (d) Include free services provided by the owners of the production units.

3. **Final expenditure Method**
   
   (a) Avoid intermediate expenditure

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(b) Do not include expenditure an second hand goods and financial assets.
(c) Include expenditure an self use of own produced final products.
(d) Avoid transfer expenditure.

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Exam. Oriented Questions with Answer

<table>
<thead>
<tr>
<th>VERY SHORT ANSWER QUESTION</th>
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**Q. 1.** What are the two types of circular flows?
**Ans.** The two types of circular flows are: (i) Real flow (ii) Money flow

**Q. 2.** Define stock variables.
**Ans.** Stock variables refer to the variables, which are measured at a particular point of time.

**Q. 3.** Define consumption goods?
**Ans.** Consumption goods refer to those goods which satisfy the wants of the consumer directly.

**Q. 4.** Define current transfers.
**Ans.** Current transfer refers to transfers made out of the current income of the payer and added to the current income of the recipient.

**Q. 5.** Define capital formation.
**Ans.** Capital formation refers to addition to the capital stock of an economy.

**Q. 6.** Defined mixed income.
**Ans.** Mixed income refers to the income generated by own account worker and unincorporated enterprises.

**Q. 7.** Why do export form a part of domestic income?
Ans. Exports are produced within the domestic territory, therefore it form a part of domestic income.

Q. 8. What is real gross domestic product.

Ans. When gross domestic product of a given year is estimated on the basis of price of the base year, it is called real GDP.

Q. 9. When is value of output equal to value added?

Ans. Value of output is equal to value added if there are zero intermediate costs.

Q. 10. Define national income.

Ans. National income refers to net money value of all the final goods and services produced by the normal residents of a country during a period of one year. It is the factor income earned by normal residents of a country during financial year.

**SHORT ANSWER TYPE QUESTION (3-4 MARKS)**

Q. 1. Calculate gross value added of factor cost:

(i) Units of output sold (units) 1000
(ii) Price per unit of output (Rs.) 30
(iii) Depreciation (Rs.) 1000
(iv) Intermediate cost (Rs.) 12000
(v) Closing Stock (Rs.) 3000
(vi) Opening Stock (Rs.) 2000
(vii) Excise duty (Rs.) 2500
(viii) Sales Tax (Rs.) 3500

Ans. \( GVA_{FC} (i \times ii) + (v - vi) - (iv) - (vii + viii) \)

\[ = (1000 \times 30) + [3000 - 2000] - 12000 - [2500 + 3500] \]

\[ = Rs. 13000 \]
Q. 2. Calculate Net Value added at factor cost:
   (i) Consumption of Fixed Capital (Rs.) 600
   (ii) Import Duty (Rs.) 400
   (iii) Output sold (units) 2000
   (iv) Price per unit of output (Rs.) 10
   (v) Net change in stock (Rs.) (-)50
   (vi) Intermediate cost (Rs.) 10000
   (vii) Subsidy (Rs.) 500

\[ \text{NVA}_{FC} = (\text{iii} \times \text{iv}) + \text{v} - \text{vi} - \text{ii} + \text{vii} - \text{i} \]
\[ = (2000 \times 10) + (-50) - 10000 - 400 + 500 - 600 \]
\[ = \text{Rs. 9450}. \]

Q. 3. Find Net Value added at market price:
   (i) Output sold (units) 800
   (ii) Price per unit of output (Rs.) 20
   (iii) Excise duty (Rs.) 1600
   (iv) Import duty (Rs.) 400
   (v) Net Change in Stock (Rs.) (-)500
   (vi) Depreciation (Rs.) 1000
   (vii) Intermediate Cost (Rs.) 8000

\[ \text{NVA}_{mp} = (\text{i} \times \text{ii}) + \text{v} - \text{vii} - \text{vi} \]
\[ = (800 \times 20) + (-500) - 8000 - 1000 = \text{Rs. 6500}. \]

Q. 4. Assuming real income to be Rs. 200 Crore and price index to be 135, Calculate nominal income.

\[ \text{Real Income} = \frac{\text{Nominal Income}}{\text{Price Index}} \times 100 \]
\[ \text{Nominal Income} = \frac{200 \times 135}{100} = \text{Rs. 270 Cr.} \]
Q. 5. Given nominal income to be Rs. 375 Crore and price index 125 calculate real income.

Ans. Real Income = \( \frac{\text{Nominal Income}}{\text{Price Index}} \times 100 \)

\[ = \frac{375 \times 100}{125} \]

Real Income = Rs. 300 Crore.

Q. 6. If the real gross product is Rs. 200 and the nominal gross product is Rs. 210, calculate the price index (base = 100)

Ans. Real GDP = \( \frac{\text{Nominal GDP}}{\text{Price Index}} \times 100 \)

Price Index = \( \frac{\text{Nominal GDP}}{\text{Real GDP}} \times 100 = \frac{210}{200} \times 100 \)

Price Index = 105

Q. 7. Giving reasons classify the following into intermediate products and final products:

(i) Computer purchased by a school.

(ii) Cold drinks purchased by a school canteen.

Ans. (i) It is final product because it is purchased for final investment.

(ii) These are intermediate products because these are taken for resale in the same year.

Q. 8. Giving reasons, explain the treatment assigned to the following while estimating national income.

(i) Family members working free on the farm owned by the family.

(ii) Payment of interest on borrowings by general government.

Ans. (i) Imputed salaries of these members will be included in national income.

(ii) It will not be included in national income because it is non-factor payment as it is considered that general government borrows only for consumption purpose.
Q. 9. Giving reasons, explain the treatment assigned to the following while estimating national income.

(i) Payment of pocket money by parents.

(ii) Interest free loan given by employer to employee.

Ans. (i) Not included, as it is transfer payment from parents to children.

(ii) Included, as it is treated in national income because it is part of compensation of employees in kinds.

Q. 10. Explain the basis of classifying goods into intermediate and final goods. Give suitable examples.

Ans. Goods which are purchased by a production unit from other production units and meant for resale or for using up completely during the same year are called intermediate goods. For example: raw material.

Goods which are purchased for consumption and investment are called final goods.

For Example: Purchase of machinery for installation in factory.

Q. 11. Giving reason classify the following into intermediate and final goods. (i) Machine Purchased by a dealer of machine. (ii) A car purchased by a household.

Ans. (i) It is an intermediate good because it is meant for resale in the market.

(ii) It is a final good because it is meant for final consumption.

Q. 12. How will you treat the following in estimating national income of India? Give reasons for your answer.

(i) Value of bonus shares received by shareholders of a company.

(ii) Interest received on loan given to a foreign company in India.

Ans. (i) It is not included in national income because it is the return of financial capital and not of the goods and services.

(ii) It is included in the national income as interest is a factor income and a part of domestic income.

Ans. Government expenditure on child immunization programme raises GDP because it is government's is final consumption expenditure. It also raises welfare of the people because child immunization programme improve health and thus raise efficiency of the people.


Ans. 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 reducing the welfare of the people. Pollution thus, has bad effects on the health of the people.

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

Q. 1. How will you treat the following while estimating national income of India? Give reasons.

(a) Dividend received by an Indian from his investment in shares of a foreign company.

(b) Money received by a family in India from relatives working abroad.

(c) Interest received on loans given to a friend for purchasing a car.

(d) Dividend received by a foreigner from investment in shares of an Indian company.

(e) Profit earned by a branch of an Indian Bank in Canada.

(f) Scholarship given to Indian students studying in India by a foreign company.

(g) Fees paid by students to school.

(h) Profits earned by branch of a Foreign Bank in India.

(i) Interest paid by an individual on a loan taken to buy a car.

(j) Expenditure on machines for installation in a factory.
(k) Government expenditure on street lighting.
(l) Increase in prices of the shares of a company.
(m) Interest received by an Indian resident from firms abroad.
(n) Expenditure incurred by a foreign tourist in the country.
(o) Construction of a new house.
(p) Rent paid by embassy of Japan in India to an Indian resident.
(q) Imputed rent of self occupied house
(r) Interest received on debentures.
(s) Financial help received by flood victims.
(t) Furniture purchased by household.

**Ans.**

(a) It is factor income from abroad so will be included in national income.

(b) It is transfer receipts, so it is not included in national income.

(c) Not included in National Income, because it is a non-factor receipt as it is used for consumption.

(d) Not included as NF to abroad.

(e) It is a part of NFIA and will be included in national income.

(f) It is transfer receipts, so it is not included in national income.

(g) It is included in national income because it is a part of the private/final consumption expenditure of the house hold.

(h) included in national income because it is part of factor income to abroad.

(i) Not included because it is a non-factor income as loan is not used for production but for consumption.

(j) Included because it results in flow of income through productive activities.

(k) Includes, because it is final consumption expenditure by government.

(l) Not included, because it is capital gain and nothing to do with production.
(m) Included, as it is the part of NFIA.

(n) Included, as it is earned within the domestic territory of India.

(o) Included, because it is currently produced output.

(p) Included as it is paid to an Indian resident out side the domestic territory of a country. It will be included in NFIA.

(q) Included, as a part of rent as it is payment to self for housing services.

(r) Included, because it is a factor earning.

(s) Not included as it is a transfer payment.

(t) Included, because it is a private final consumption expenditure.

Q. 2. How will you treat the following while estimating domestic factor income of India? Give reasons.

(i) Remittances from non-resident Indian to their families in India.

(ii) Rent paid by the embassy of France in India to a resident Indian.

(iii) Profit earned by branches of Foreign Bank in India.

(iv) Payment of salaries to its staff by embassy located in India.

(v) Interest received by an Indian resident from firms abroad.

(vi) Scholarships given by the Government of India.

Ans. (i) Not included as it is a transfer payment

(ii) Not included because French embassy in India does not fall within the domestic territory of India.

(iii) Included because it falls within the domestic territory of India.

(iv) Not included as an embassy located in India is not fall within the domestic territory of India.

(v) Not included in domestic income as it is does not fall with in the domestic territory of India.
(vi) Not included, as it is transfer payment.

Q. 3. Giving reasons explain how should the following be treated in estimating gross domestic product at market price?

(i) Fees to a mechanic paid by a firm.

(ii) Interest paid by an individual on a car loan taken from a bank.

(iii) Expenditure on purchasing a car for use by a firm.

Ans. (i) Fees paid to mechanic by a firm is not included because it is an intermediate cost of the firm and to avoid double earning.

(ii) Interest paid by an individual is not included because the loan is taken to meet consumption expenditure and therefore interest paid on such a loan is not a factor payment.

(iii) Expenditure on purchase a car by a firm is included because it is an investment expenditure, a final expenditure.

NUMERICAL EXERCISE

1. Calculate "Sales" from the following data : (Rs. in Lakh)
   
   (i) Net value added at factor cost 560
   (ii) Depreciation 60
   (ii) Change in Stock (-)30
   (iv) Intermediate cost 1000
   (v) Exports 200
   (vi) Indirect taxes 60

2. Calculate $NVA_{FC}$ from the following data (Rs. Crore)
   
   (i) Subsidy 40
   (ii) Sales 800
   (iii) Depreciation 30
   (iv) Exports 100
   (v) Closing stock 20
(vi) Opening stock 50
(vii) Intermediate purchases 500
(viii) Purchases of machinery for own use 200
(ix) Import of raw material 60

3. From the following information about a firm in an economy, calculate $GVA_{MP}$ of the firm. (Rs. Crore)
   (i) Domestic Sales 300
   (ii) Exports 100
   (iii) Production for self-consumption 50
   (iv) Purchases from firm X 110
   (v) Purchases from firm Y 70
   (vi) Imports of raw materials 30
   (vii) Change in stock 60

4. Calculate (a) $NNP_{FC}$ by expenditure method and (b) $NNP_{FC}$ by value added method: (Rs. Crore)
   (i) Net Domestic capital formation 250
   (ii) Net Export 50
   (iii) Private final consumption expenditure 900
   (iv) Value of output
      (a) Primary sector 900
      (b) Secondary sector 800
      (c) Territory sector 400
   (v) Value of intermediate consumption
      (a) Primary sector 400
      (b) Secondary sector 300
      (c) Territory sector 100
   (vi) Consumption of fixed capital 80
(vii) Indirect Tax 100
(viii) Government final consumption expenditure 100
(ix) Subsidy 10
(x) Net factor income from abroad (-)20

5. From the following data calculate National Income by income and expenditure method:
(Rs. Crore)
(i) Government final consumption expenditure 100
(ii) Subsidies 10
(iii) Rent 200
(iv) Wages and salaries 600
(v) Indirect Taxes 60
(vi) Private final consumption expenditure 800
(vii) Gross domestic capital formation 120
(viii) Social security contribution by employers 55
(ix) Royalty 25
(x) Net factor income paid to abroad 30
(xi) Interest 20
(xii) Net domestic capital formation 110
(xiii) Profit 130
(xiv) Net Export 70

6. Calculate 'Intermediate consumption' from the following data:
(Rs. Lakh)
(i) Value of output 200
(ii) Net value added at factor cost 80
(iii) Sales tax 15
(iv) Subsidy 5
(v) Depreciation 20
7. Calculate (a) GDP<sub>MP</sub> (b) Factor income earned from Abroad:
   (Rs. Crore)
   (i) $\text{GNP}_{FC}$ 2800
   (ii) Profit 500
   (iii) Export 40
   (iv) Compensation of Employees 1500
   (v) Change in Stock 50
   (vi) Net Indirect Tax 250
   (vii) Net domestic capital formation 650
   (viii) Gross domestic fixed capital formation 700
   (ix) Net current transfers from rest of the world 90
   (x) Factor income paid to abroad 120
   (xi) Interest 400
   (xii) Rent 300

8. Calculate (a) Domestic Income (b) Compensation of employers.
   (Rs. Crore)
   (i) Net factor income from abroad −20
   (ii) Net exports 10
   (iii) Net indirect taxes 50
   (iv) Rent and royalty 20
   (v) Consumption of fixed capital 10
   (vi) Private final consumption expenditure 400
   (vii) Corporate tax 10
   (viii) Interest 10
   (ix) Net domestic capital formation 50
   (x) Dividends 22
   (xi) Government final consumption expenditure 100
   (xii) Undistributed profits 5
   (xiii) Mixed income 23
9. Calculate Net National Product at Market Price Income

(Rs. Crore)

(i) Net current transfers to abroad 10
(ii) Private final consumption expenditure 500
(iii) Current transfers from government 30
(iv) Net factor income to abroad 20
(v) Net exports (−)20
(vi) Net indirect tax 120
(vii) National debt interest 70
(viii) Net domestic capital formation 80
(ix) Income accruing to government 60
(x) Government final consumption expenditure 100

10. Calculate value of output from the following data : (Rs. Crore)

(i) NVA\textsubscript{FC} 100
(ii) Intermediate consumption 75
(iii) Excise duty 20
(iv) Subsidy 5
(v) Depreciation 10

11. Calculate GDP\textsubscript{FC} and factor income to abroad from following data :

(Rs. Crore)

(i) Compensation of employees 800
(ii) Profit 200
(iii) Dividends 50
(iv) Gross National Product at Market price 1400
(v) Rent 150
(vi) Interest 100
(vii) Gross Domestic fixed capital formation 200
(viii)  Net domestic capital formation        200
(ix)   Change in stock                       50
(x)    Factor income from abroad             60
(xi)   Net indirect taxes                    120

**SOLUTIONS OF NUMERICAL EXERCISE**

1. Sales    \[= (i) - (iii) + (iv) + (ii) + (vi)\]
   \[= 560 - (-30) + 1000 + 60 + 60\]
   \[= \text{Rs. 1710 Lakh}\]

2. \(NVA_{FC}\) \[= \text{Sales} + \Delta S - \text{IC} - \text{NIT} - \text{Depr.}\]
   \[= (ii) + (v - vi) - (vii) + (i) - (iii)\]
   \[= 800 + (-30) - 500 + 40 - 30\]
   \[= \text{Rs. 280 lakh.}\]

3. \(GVA_{MP}\) \[= \text{Sales} + \text{Change in stock} - \text{IC}\]
   \[= [(i) + (ii) + (iii)] + (vii) - [(iv) + (v) + (vi)]\]
   \[= (300 + 100 + 50) + 60 - [110 + 70 + 30]\]
   \[= \text{Rs. 300 crore.}\]

4. \(NNP_{FC}\) (Expenditure Method)
   \[= (i) + (ii) + (iii) + (viii) - (vii) + (ix) - (vi) + (x)\]
   \[= 250 + 50 + 900 + 100 - 100 + 10 - 80 + (-20)\]
   \[= \text{Rs. 1110 Cr.}\]

\(NNP_{FC}\) (Value added method)
   \[= (iv) - (v) - (vi) - (vii) + (ix) + (x)\]
   \[= (900 + 800 + 400) - (400 + 300 + 100) - 80 - 100\]
   \[+ 10 + (-20)\]
   \[= \text{Rs. 1110 Cr.}\]
5. National Income $NNP_{FC}$ (Income Method)
   
   $\begin{align*}
   &= (iv) + (viii) + (iii) + (ix) + (xi) + (xii) - (x) \\
   &= 600 + 55 + 200 + 25 + 20 + 130 + (-30) \\
   &= \text{Rs. 1000 Cr.}
   \end{align*}$

   National Income (Exp. Method)
   
   $\begin{align*}
   &= (vi) + (i) + (vii) + (xv) - (vii - xiii) - (v - ii) - (x) \\
   &= 800 + 100 + 120 + 70 - 10 - 50 - 30 \\
   &= \text{Rs. 1000 Cr.}
   \end{align*}$

6. Intermediate consumption
   
   $\begin{align*}
   &= \text{Value of output} - NVA_{FC} - \text{NIT} - \text{Depreciation} \\
   &= 200 - 80 - (15 - 5) - 20 \\
   &= 200 - 80 - 10 - 20 \\
   &= \text{Rs. 90 Lakh.}
   \end{align*}$

7. (a) $NDP_{FC} = (iv) + (ii) + (xi) + (xii)$
   
   $\begin{align*}
   &= 1500 + 500 + 400 + 300 \\
   &= 2700
   \end{align*}$

   $\begin{align*}
   GDP_{MP} &= NDP_{FC} + \text{depreciation} + \text{NIT} \\
   &= 2700 + [(vii + v) - vii] + (vi)\cdot \text{dep.} = \text{GDCF - NDCF} \\
   &= 2700 + [(700 + 500) - 650] + 250 \\
   &= \text{Rs. 3050 Cr.}
   \end{align*}$

   (b) Factor Income from abroad (FIFA)

   \[ GNP_{FC} = GDP_{MP} - \text{NIT} + \text{NFIA} \]

   \[ 2800 = 3050 + 250 + \text{NFIA} \]

   \[ 2800 = 2800 + (\text{FIFA} - \text{FITA}) \]

   \[ 0 = \text{FIFA} - 120. \]

   \[ \text{FIFA} = \text{Rs. 120 Cr.} \]
8. (a) Domestic income = (ii) + (vi) + (ix) + (xi) – (iii)
   = 10 + 400 + 50 + 100 – 50
   = Rs. 510 Cr.

(b) Compensation of employees
   = Domestic income – (iv) – (viii) – (vii) – (x) – (xii) – (xiii)
   = Rs. 400 Cr.

9. \( \text{NNP}_{MP} = (ii) + (viii) + (vii) + (v) – (iv) \)
   = 500 + 100 + 80 + (–20) – (20)
   = Rs. 640 Cr.

10. Value of output
    \( \text{NVA}_{FC} = \text{VO} – \text{IC} – \text{NIT} – \text{Depreciation} \)
    \( \text{VO} = \text{NVA}_{FC} + \text{IC} + \text{NIT} + \text{Depreciation} \)
    = 100 + 75 + (20 – 5) + 10
    \( \text{VO} = \text{Rs. 200 Cr.} \)

11. (a) \( \text{GDP}_{FC} = (i) + (ii) + (v) + (vi) + [(vii + ix) – viii] \)
    = 800 + 200 + 150 + 100 + [(200 + 50) – 200]
    \( \text{GDP}_{FC} = \text{Rs. 1300 Cr.} \) \[ \therefore \text{Dep} = \text{GDCF} – \text{NDCF} \]

(b) Factor income to abroad
    \( \text{GNP}_{MP} = \text{GDP}_{FC} + \text{NIT} + \text{NFIA} \)
    1400 = 1300 + 120 + FIFO – FITA
    = 1300 + 120 + 60 – FITA
    1400 – 1480 = – FITA
    Rs. 80 Cr. = FITA
UNIT VI

MONEY AND BANKING

Points to Remember

- **Money**: Money may be defined as anything which is generally acceptable as a medium of exchange and also acts as common measures of value, store of value and standard of deferred payment.

- **Supply of Money**: Total stock of money (currency notes, coins and demand deposit of banks) in circulation are held by the public at a given point of time.

- **Measures of Money Supply = Currency held by Public + Demand Deposit of a Bank**

  \[ M = C + DD \]

- **Commercial Bank**: Commercial Bank is a financial institution who accepts deposits from the general public and provide loans facilities for investment with the aim of earning profit.

- **Demand Deposit**: Demand deposit are those deposit which can be withdrawn from the bank on demand or by writing a cheque any time.

- **Central Bank**: The central Bank is an apex institution of monetary and banking system of country. It makes monetary policy of the country in public interest. It manages, supervises and facilitates the banking system of the country.

![Diagram](Image)
MONEY CREATION OR CREDIT CREATION BY COMMERCIAL BANKS

Commercial Bank’s demand deposits are a part of money supply. Commercial banks lend money to the borrowers by opening demand deposit account in their names. The borrowers are free to use this money by writing cheques. According to definition demand deposits are a part of money supply. Therefore, by creating additional demand deposits bank create money. Money creation depends upon two factor: Primary deposits and Legal Reserve Ratio (LRR). Deposit Multiplier = 1/LRR
Total Deposit creation = Initial deposit × 1/LRR.

Functions of Central Banks

1. Bank of Issue
2. Banker of the Government
4. Controller of Credit.

TOOLS OF CREDIT CONTROL BY CENTRAL BANK AS RBI

Cash Reserve Ratio (CRR): This refers to the proportion of total deposit of the commercial bank which they must keep as cash Reserves with Central Bank.

Statutory Liquidity Ratio (SLR): This refers to liquid assest of the commercial banks which they must maintain (on daily basis) as a minimum percentage of their total deposits.

Repo Rate: It is the rate of interest at which the Central Bank gives short-period loan to the commercial banks.

Reverse Repo Rate: It is the rate of interest at which the central bank of a country borrows money from commercial banks.

Bank Rate: It is the rate of interest at which the central Bank gives long-term loan to the commercial banks.
- **Open Market Operations**: Open market operations refer to the sale and purchase of securities in the open market by the central bank. By selling the securities (like, National Saving Certificates—NSCs), the central bank soaks liquidity (cash) from the economy. And, by buying the securities, the central bank releases liquidity.

- **Margin Requirement**: The margin requirement refers to the difference between the current value of the security offered for loan (called collateral) and the value of loan granted.
Exam. Oriented Questions with Answer

**VERY SHORT ANSWER TYPE QUESTIONS**

(1 MARK)

Q. 1. What are demand deposits?

Ans. Demand deposits refers to those deposits which are repayable by the banks on demand.

Q. 2. Define cash reserve ratio.

Ans. This refers to the proportion of total deposit of the commercial bank, which they must keep as cash reserves with central bank.

Q. 3. Define money supply.

Ans. Money supply refers to the total volume of money held by public at a particular point of time in an economy.

Q. 4. State the components of money supply.

Ans. (1) Currency with public (coins and notes).
(2) Demand Deposits with Commercial Banks.

Q. 5. Define Bank Rate.

Ans. Bank Rate is the rate at which the central bank of a country lends money to commercial banks to meet their long term needs.

Q. 6. What is a Central bank?

Ans. Central Bank is an apex body that controls, operates, regulates and directs the entire banking and monetary structure of the country.

**SHORT ANSWER TYPE QUESTIONS**

(3-4 MARKS)

Q. 1. Explain the "Bankers' Bank function" of the central bank.

Ans. As the banker to the banks, the central Bank holds a part of the cash reserves of commercial banks. From these reserves it lends to commercial banks when they are in need of funds. Central bank also provides cheque clearing and remittance facilities to the commercial banks.
Q. 2. Explain the "Issue function" of the Central Bank.

Ans. The central bank is the sole authority for the issue of currency in the country. It promotes efficiency in the financial system. It leads to uniformity in the issue of currency, and it gives Central Bank control over money supply.

Q. 3. Explain the 'Government's Banks' function of a Central Bank.

Ans. A Central Bank conducts the banking account of government departments. It performs the same banking functions for the government as Commercial Bank performs for its customers. It accepts their deposits and undertakes inter-bank transfer. It also gives loans to the government. A Central Bank also provides various services as agent of the government. It manages public debt. It also gives advice to the government regarding money market, capital market, government loans and economic policy matters.

LONG QUESTION TYPE QUESTION
(6 MARKS)

Q. 1. What do you mean by credit/money creation? Explain the process of money creation by the commercial banks with the help of a numerical example.

Ans. Money creation is a process in which a Commercial Bank creates total deposits many times the initial deposits.

The capacity of Commercial Bank to create depends on two factors:

1. Amount of initial fresh deposit
2. Legal Reserve Ratio LRR

Money Multiplier = \( \frac{1}{LRR} \)

Money Creation = Initial Deposit \( \times \) Money multiplier.

Working: Suppose (i) Initial Deposit = Rs. 1000
(ii) LRR = 20%
As required, the bank keeps 20% i.e., Rs. 200 as cash reserve and lend the remaining Rs. 800. Those who borrow use the money for making payments. As assumed those who receive these payments put the money back into their bank accounts. This creates a fresh deposit of Rs. 800. The bank again keep 20% i.e., Rs. 160 and lend Rs. 640. In this way the money goes on multiplying leading to total money creation of Rs. 5000.

\[
\text{Money Creation} = \text{Initial Deposit} \times \frac{1}{\text{LRR}}
\]

\[
= 1000 \times \frac{1}{0.2} = \text{Rs.}5000
\]
UNIT VII

DETERMINATION OF INCOME & EMPLOYMENT

Points to Remember

- AD refers to total value of all final goods and services that are planned to buy by all the sectors of the economy at a given level of income during a period of time. AD represents the total expenditure on goods and services in an economy during a period of time.

- Components of Aggregate demand are:
  1. Household consumption expenditure (C).
  2. Investment expenditure (I)
  3. Govt. consumption expenditure (G).

Thus, \( AD = C + I + G + (X - M) \)

In two sector economy \( AD = C + I \).

- Aggregate supply (AS) refers to total value of all final goods and services that are planned to be produced by all the producing units in the economy during a given period of time. It is also the value of total output available in an economy during a given period of time.

\[ AS = C + S \]

- Aggregate supply represents the national income of the country.

\[ AS = Y \text{ (National Income)} \]

- Consumption function shows functional relationship between income and consumption.

\[ C = f(Y) \]
where \( C = \text{Consumption} \)
\( Y = \text{National Income} \)
\( f = \text{Functional relationship} \)

Equation of Consumption Function
\[ C = \bar{C} + \text{MPC} \cdot Y \]
\( \bar{C} = \text{Autonomous consumption.} \)

\( \bar{C} \) does not change affect by change in income. Consumption expenditure at zero level of income is called autonomous consumption.

- **Consumption function (propensity to consume)** is of two types:
  - (a) Average propensity to consume (APC)
  - (b) Marginal propensity to consume (MPC)

- **Average propensity to consume (APC)**: It refers to the ratio of consumption expenditure to the corresponding level of income.

\[
\text{APC} = \frac{\text{Consumption (C)}}{\text{Income (Y)}} = \frac{C}{Y}
\]

Break even point \( C = Y \)

**Important Points about APC**

(i) **APC is more than 1**: as long as consumption is more than national income. It means before the break-even point, APC > 1,

(ii) **APC = 1**, at the break-even point, consumption is equal to national income.

(iii) **APC is less than 1**: beyond the break-even point. Consumption is less than national income.

(iv) **APC falls with increase in income.**

(v) **APC can never be zero**: because even at zero level of national income, there is autonomous consumption.

- **Marginal Propensity to Consume (MPC)**: Marginal propensity to consume refers to the ratio of change in consumption expenditure to change in income.
\[
\text{MPC} = \frac{\text{Change in Consumption}}{\text{Change in Income}} = \frac{\Delta C}{\Delta Y}
\]

**Important Points about MPC**

- **Value of MPC varies between 0 and 1**: But if the entire additional income is consumed, then \( \Delta C = \Delta Y \), making MPC = 1. However, if entire additional income is saved then \( \Delta C = 0 \), making MPC = 0.

- Saving function refers to the functional relationship between saving and national income.
  
  \[ S = f(Y) \]

  **Equation of Saving function**
  
  \[ S = \overline{C} + \text{MPS}.Y \]

  where \( S = \text{saving} \)
  
  \( Y = \text{National Income} \)
  
  \( f = \text{Functional relationship.} \)

- Saving function (Propensity to Save) is of two types
  
  (i) Average Propensity to Save (APS)
  
  (ii) Marginal Propensity to Save (MPS)

- **Average Propensity to Save (APS)**: Average propensity to save refers to the ratio of savings to the corresponding level of income.
  
  \[ \text{APS} = \frac{\text{Savings}}{\text{Income}} = \frac{S}{Y} \]

- **Important Point about APS**
  
  1. **APS can never be 1 or more than 1**: As saving can never be equal to or more than income.
  2. **APS can be zero**: At break even point \( C = Y \), hence \( S = 0 \).
  3. **APS can be negative**: At income levels which are lower than the break-even point, APS can be negative when consumption exceeds income.
  4. APS rises with increases in income.
Marginal Propensity to Save (MPS): Marginal propensity to save refers to the ratio of change in saving to change in total income. It can't be negative.

\[ MPS = \frac{\text{Change in Savings}}{\text{Change in Income}} = \frac{\Delta S}{\Delta Y} \]

MPS varies between 0 and 1, but

(i) if the entire additional income is saved. In such a case, \( \Delta S = \Delta Y \), then MPS = 1.

(ii) If the entire additional income is consumed. In such a case, \( \Delta S = 0 \), then MPS = 0.

Relationship between APC and APS

The sum of APC and APS is equal to one. It can be proved as under we know:

\[ Y = C + S \]

Dividing both sides by Y, we get

\[ \frac{Y}{Y} = \frac{C}{Y} + \frac{S}{Y} \]

\[ 1 = APC + APS \]

\[ \begin{align*}
\text{APC} &= \frac{C}{Y} \\
\text{APS} &= \frac{S}{Y}
\end{align*} \]

APC + APS = 1.

because income is either used for consumption or for saving.

Relationship between MPC and MPS

The sum of MPC and MPS is equal to one. It can be proved as under:

We know

\[ \Delta Y = \Delta C + \Delta S \]

Dividing both sides by \( \Delta Y \), we get
\[
\frac{\Delta Y}{\Delta Y} = \frac{\Delta C}{\Delta Y} + \frac{\Delta S}{\Delta Y}
\]

\[1 = MPC + MPS \quad \therefore \quad \frac{\Delta C}{\Delta Y} = MPC, \quad \frac{\Delta S}{\Delta Y} = MPS\]

MPC + MPS = 1 because total increment in income is either used for consumption or for saving.

- Capital Formation / Investment refers to increase the stock of capital goods during a financial year.

- The investment expenditure is classified under two heads:
  
  (i) Induced investment
  
  (ii) Autonomous investment.

- **Induced Investment**: Induced investment refers to the investment which depends on the profit expectations and is directly influenced by income level (only for reference).

- **Autonomous Investment**: Autonomous investment refers to the investment which is not affected by changes in the level of income and is not induced solely by profit motive. It is income inelastic.

- **Ex-Ante Savings**: Ex-ante saving refers to amount of savings which all the household intended to save at different levels of income in the economy at the beginning of period. It is also known as planned savings.

- **Ex-Ante Investment**: Ex-ante investments refers to amount of investment which all the firms plan to invest at different levels of income in the economy at the beginning of the period. It is also known as planned investment.

- **Ex-Post Saving**: Ex-post savings refer to the actual or realised savings in an economy during a financial year at end of the period.

- **Ex-Post Investment**: Ex-post investment refers to the actual or realised investment in an economy during a financial year at the end of the period.
Equilibrium level of income is determined only at the point where $AD = AS$ or $S = I$. But it cannot always be at full employment level also. It can be at less than full employment level or over full employment level.

**Full employment** is a situation when all those who are able and willing to work at prevailing wage rate, get the opportunity to work.

**Voluntary unemployment** is a situation where person is able to work but not willing to work at prevailing wage rate.

**Involuntary unemployment** is a situation where worker is able and willing to work at prevailing wage rate but does not get work.

**Investment multiplier ($K$)** is the ratio of change in income ($\Delta Y$) due to change in investment $\Delta I$.

\[
K = \frac{\Delta Y}{\Delta I} \quad \text{or} \quad K = \frac{1}{1 - \text{MPC}} \quad \text{or} \quad K = \frac{1}{\text{MPS}}
\]

Value of investment multiplier lies b/w 1 to infinity.

**Excess demand** refers to a situation when aggregate demand exceeds aggregate supply corresponding to full employment.

**Inflationary gap** is the gap by which actual aggregate demand exceeds the level of aggregate demand required to establish full employment. It measures the amount of excess of aggregate demand.

**Deficient Demand** : When $AD$ falls short of $AS$ at full employment it is called deficient demand.

**Deflationary gap** is the gap by which actual aggregate demand is less than the level of aggregate demand required to establish full employment. It measures the amount of deficiency of aggregate demand.

**Ex-ante Consumptions** : Ex-ante refers to the planned consumption at certain level of national income in an economy.

**Induced consumptions** : This refers to that level of consumptions which directly depends on the level of income.
Measures to correct excess demand or deficient demand

Excess Demand
Fiscal measures
(a) Increase in tax
(b) Decrease in govt. spending
(c) Increase in public debt/borrowing
Monetary measures
(a) Increase in Bank rate/
Repo rate
(b) Increase in CRR
(c) Increase in SLR
(d) Sale of govt. securities through open market operation

Deficient Demand
Fiscal measures (Opposite of excess Demand measures)
Monetary Measures (opposite of excess demand measures)

EXAM ORIENTED QUESTIONS WITH ANSWERS

VERY SHORT ANSWER QUESTIONS (1 MARK)

Q. 1. What is 'aggregate supply' in macroeconomics?
Ans. Aggregate supply is the value of total quantity of final goods and services planned to be produced in an economy during a period.

Q. 2. Define Marginal propensity to consume.
Ans. MPC is the ratio of change in consumption expenditure to 'change in income'.

Q. 3. Give meaning of full employment.
Ans. Full employment is a situation in which all those who are able and willing to work at the prevailing wage rate get the job.
Q. 4. Define Cash Reserve Ratio (CRR).
Ans. CRR can be defined as the ratio (or fraction) of bank deposits that a commercial bank is required to keep with the central bank.

Q. 5. Define Repo Rate.
Ans. Repo rate is the rate of interest charged by central bank on short term loans given to commercial banks.

Q. 6. Value of MPC can never exceed. Why?
Ans. Because increase in consumption can never exceed increase in income.

**SHORT ANSWER TYPE QUESTIONS**

**(3-4 MARKS)**

Q. 1. In an economy the MPC is 0.75. Investment expenditure in the economy increase by Rs. 75 Crore. Calculate total increase in national income.
Ans.

\[
K = \frac{1}{1 - \text{MPC}} = \frac{1}{1 - 0.75}
\]

\[K = 4\]

\[K = \frac{\Delta Y}{\Delta I}\]

\[4 = \frac{\Delta Y}{75}\]

\[\Delta Y = 4 \times 75 = 300 \text{ Crore.}\]

Q. 2. An economy is in equilibrium. Its consumption function is \(C = 300 + 0.8Y\) and investment is Rs. 700 find national income.
Ans.

\[C = 300 + 0.8Y\]

\[Y = C + I\]

\[Y = 300 + 0.8Y + 700\]

\[0.2Y = 1000\]

\[Y = 5000\]

National Income = Rs. 5000
Q. 3. Giving reasons' state whether the following statements are true or false.

1. When MPC is zero, the value of investment multiplier will also be zero.
2. Value of APS can never be less than zero.
3. When MPC > MPS, the value of investment multiplier will be greater than 5.
4. The value of MPS can never be negative.
5. When investment multiplier is 1, then value of MPC is zero.
6. The value of APS can never be greater than 1.

Ans. 1. False because when MPC = 0
   Value of investment multiplier is one K = 1/(1 – MPC).
2. False because APS is negative when there are dissavings
3. True, if MPC is greater than 0.8 and false if MPC > 0.5 but not greater than 0.8. Hence, the statement is false under given terms & conditions.
4. True, since MPS = ΔS/ΔY and with increase in Income Savings can not decrease.
5. True, because K = 1/1 – MPC = 1/1 – 0 = 1.
6. True, because savings can't be greater than Income.

Q. 4. Explain the distinction between voluntary and involuntary employment.

Ans. Voluntary unemployment is a situation where person is able to work but not willing to work at prevailing wage rate. Involuntary unemployment is a situation where worker is able and willing to work at prevailing wage rate but does not get work.

Q. 5. Explain the relationship between investment multiplier and MPC?

Ans. K = 1/(1 – MPC), it shows direct relationship between MPC and the value of multiplier. Higher the proportion of increased income spend on consumption, higher will be value of investment multiplier.
Q. 6. Saving curve of an economy makes a negative intercept of Rs. 30 Crores and 20% of the increased income is saved. Give saving and consumption function.

\[ \bar{C} = \text{Rs. 30 Crore} \]

\[ \text{MPS} = 0.2 \]

\[ S = -\bar{C} + (1 - b)Y \]

\[ = -30 + 0.2Y \]

\[ \text{MPC} = 1 - 0.2 = 0.8 \]

Consumption \[ C = \bar{C} + bY \]

Function \[ C = 30 + 0.8Y \]

Q. 1. Explain the role of the following in correcting deficient demand in an economy.

1. Open Market Operation
2. Bank Rate

Ans. 1. Open market operation refer to the sale and purchase of securities by the Central Bank. In case of deficient demand when AD falling short of AS at full employment, the Central Bank buys securities in the open market and makes payment to the sellers. The money flow out of the Central Bank and reaches the Commercial Bank as deposits. This raises the lending capacity of the banks, people can borrow more. This will raise AD.

2. Incase of deficient demand Central Bank decrease the bank rate which the Central Bank charges on the loan given to commercial bank. This forces the Commercial Banks to reduce lending rate. Since borrowing become cheaper and people borrow more. This will raise AD.
Q. 2. Explain the role of the following in correcting 'Excess Demand in an Economy'.

1. Bank Rate
2. Open Market Operation

Ans. 1. To correct excess demand Central Bank can rise the bank rate. This forces Commercial Bank to increase lending rates. This reduces demand for borrowing by the public for investment and consumption. Aggregate demand falls.

2. When there is excess demand. Central Bank sells securities. This leads to flow of money out of the Commercial Banks to the Central Bank. This reduces deposits with the banks leading to decline in their lending capacity. Borrowing decline. AD declines.

Q. 3. Explain the role of following in correcting the deflationary gap in an economy.

1. Govt. Expenditure
2. Cash Reserve Ratio

Ans. 1. In a situation of deflationary gap or deficient demand the govt. should raise its expenditure i.e., there will be more economic activities in the economy like, building of roads, bridges, canal etc. This will raise the level of employment. It will in turn increase the income and the purchasing power of community. Thus aggregate demand will rise.

2. During deficient demand, Central Bank reduces the CRR. The result of reducing CRR will be seen in the surplus cash reserves with the banks which can be offered for credit. This will have expansionary effect on the credit position of the banks leading to increase in their lending capacity. As a result borrowing will increase and AD will rise.

Q. 4. Explain the role of margin requirements for correcting the deflationary gap.

Ans. Deflationary gap refers to a situation when at full employment level of income AD falls short of AS. It is also called deficient demand.
Margin requirements refers to the margin on the security provided by the borrower. In case of deflationary gap, Central Bank lowers the margin. As a result the borrowing capacity of the borrowers increase. This will raise AD.

Q. 5. In an economy 75% of the increase in income is spent on consumption. Investment increased by Rs. 1000 Crore. Calculate.

1. Total increase in income
2. Total increase in consumption expected.

Ans. \( MPC = 75\% = 75/100 = 3/4. \)

\( MPC = 1 - 3/4 = 1/4 \) \( K = 4 \)

1. \( \Delta Y = \Delta I \times K \)
   \( DY = 1000 \times 4 \)
   \( = 4000 \) Crores

2. \( MPC = \frac{\Delta C}{\Delta Y} \)
   \( 0.75 = \frac{\Delta C}{4000} \)
   \( 0.75 \times 400 = \Delta C \)
   \( \Delta C = 3000 \) Crores

Q. 6. In an economy equilibrium level of income of Rs. 1200 Crores. The ratio of MPC to MPS is 3 : 1. Calculate the additional investment needed to reach a new equilibrium level of income of Rs. 2000 crores.

Ans. \( MPC = \frac{3}{4} = 0.75 \)

\( K = 1/(1 - MPC) = 1/(1 - 0.75) = 4 \)

\( \Delta Y = 2000 - 1200 = 800 \) Crores

\( K = \Delta Y / \Delta I \)

\( 4 = 800 / \Delta I \)

\( \Delta I = 200 \) Crores
Q. 7. Differentiate between Repo Rate & Bank Rate.

Ans. Repo Rate is concerned with short-term lending by the Central Bank to commercial banks and is governed by the short-term interest rate. While Bank rate is applicable to long-term lending by the central bank to commercial banks and is governed by the long-term interest rate.

Q. 7. Explain the steps taken in derivation of the saving curve from the given consumption curve. Use diagram.

Ans. Consumption and saving are the two components of income. i.e., \( Y = C + S \). At all income levels total of consumption and savings is equal to income. This means consumption and income are complementary to one another. If consumption function is known then saving curve can easily be made.

Steps

1. Draw a line at 45° from the origin.

2. This will intersect consumption curve CC at point B. Consumption (C) = Income (Y) at Point B.

3. Draw a perpendicular from Pt. B on X-axis. Foot of the perpendicular meets x-axis at point A. Savings is zero at Point A.

4. Now take a point S, on the negative on y-axis such that OS, equal OC, So \( S_{1} \) is the initial point of saving.

5. In the last, draw a line from \( S_{1} \) to A, and extend it upto S. Thus SS, is the required saving curve.
Q. 9. Explain the steps taken in derivation of the consumption curve from the given saving curve. Use diagram.

Ans. For the saving curve $S_1S$, consumption curve can be drawn.

Steps

1. First of all, draw a line at 45° from the origin.
2. Take a point C on the y-axis positive intercept such that $OS_1 = OC$. Thus C is the initial point of the consumption curve.
3. Point B on the x-axis represents zero saving. Draw a perpendicular from B point which intersect as line at E. At Point E, consumption ($C$) = Income ($Y$).
4. In the last, draw a line connecting C and point E. Thus Cc is the required consumption curve.

![Diagram of consumption and saving curves]

**VERY SHORT AND SHORT ANSWER TYPE QUESTIONS**

**1 MARK AND 3 MARKS**

1. State whether the following statement are true or false. Give reason for your answer.

   (a) When investment multiplier is 1, the value of MPC is zero.

   (b) The value of average propensity to save can never be greater than 1.
2. Giving reasons, state whether the following statements are true or false:
   
   (i) When marginal propensity to consumer is zero, the value of investment multiplier will also be zero.

   (ii) Value of average propensity to save can never be less than zero.

3. Find national income from the following: autonomous consumption = Rs. 100, marginal propensity to consume = 0.80, investment = Rs. 50.

4. Calculate APS and MPS from the following table:

   | Income (Rs. 000) | 0  | 100 | 200 | 300 | 400 |
   | Consumption (Rs. 000) | 40 | 120 | 200 | 280 | 360 |
   | Expenditure |

5. Complete the table

   | Income (Rs.) | MPC (Rs.) | Saving (Rs.) | APS (Rs.) |
   | 0            | –         | –90          | –         |
   | 100          | 0.6       | –            | –         |
   | 200          | 0.6       | –            | –         |
   | 300          | 0.6       | –            | –         |

LONG ANSWER TYPE QUESTIONS
(6 MARKS)

1. Why must aggregate demand be equal to aggregate supply at the equilibrium level of income and output? Explain with the help of a diagram?

2. Explain the equilibrium level of income with the help of saving and investment curves. If planned saving exceed planned investment, what changes will bring about the equality between them?

3. Explain the working of multiplier with the help of a numerical example.
4. When planned investment is more than planned savings, what will be its impact on income and employment. Explain with the help of diagram.

5. Distinguish between excess demand and deficient demand.

6. In an economy $S = -50 + 0.5Y$ is the saving function (where $S$ - saving and $Y =$ national income) and investment expenditure is 700. Calculate.
   (i) Equilibrium level of national income
   (ii) Consumption expenditure at equilibrium level of national income.

7. In an economy consumption function $(C) = 75 + 0.9y$ and investment expenditure of Rs. 400 crore. Calculate :
   (i) Equilibrium level of income
   (ii) Saving at equilibrium level of national income.

8. Given below is the consumption function in an economy.
   \[ C = 100 + 0.5 Y \]
   With the help of a numerical example show that in this economy, as income increases APC will decrease.

9. Draw a straight line saving curve from the given consumption curve, explaining the steps of derivation. Show a point on the consumption curve at which APC is equal to 1.

10. Briefly explain the concept of under employment equilibrium with the help of diagram. How increase in investment helps in achieving, full employment equilibrium?

11. What is 'deficient demand' in macroeconomics? Explain the role of open market operations in correcting it.

12. Explain the step taken in derivation of the saving curve from the given consumption curve use. Use diagram.
13. If MPC in the economy is 0.8. Complete the following table:

<table>
<thead>
<tr>
<th>Income (Rs.) (Y)</th>
<th>Consumption (Rs.) (C)</th>
<th>Saving (Rs.) (S)</th>
<th>Investment (Rs.) (I)</th>
<th>AD (C+I)</th>
<th>AS (C+S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td>-60</td>
<td>40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100</td>
<td></td>
<td>40</td>
<td></td>
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<td>200</td>
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<td>600</td>
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<td>40</td>
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<tr>
<td>700</td>
<td></td>
<td>40</td>
<td></td>
<td></td>
<td>40</td>
</tr>
</tbody>
</table>

14. In an economy total autonomous spending $\bar{A} \left( \bar{C} + \bar{I} \right)$ is Rs. 50 and MPS is 0.2. Equilibrium level of income is Rs. 4000 crore, find planned AD and also explain that economy is in equilibrium?

15. At a result of increase in investment by Rs. 100 Crore, national income rises by Rs. 500 crore. Find out marginal propensity to consume and value of investment multiplier.

16. We know that value of investment multiplier directly depends upon MPC. More MPC means more value of investment multiplier. It leads to more generation of national income Why does under developed economy is less even though there is more MPC? Explain.

**ANSWER OF 3 MARKS QUESTIONS**

3. \[ K = \frac{1}{1 - \text{MPC}} = \frac{1}{1 - 0.8} = \frac{1}{0.2} = 5 \]

\[ \Delta Y = K \cdot \Delta I = 5 \times 50 = \text{Rs. 250 Crore} \]
4.

<table>
<thead>
<tr>
<th>Income (Rs. 1000)</th>
<th>Consumption Expenditure (Rs. 1000)</th>
<th>MPC (DC/DY)</th>
<th>APS (S/Y)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>40</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>100</td>
<td>120</td>
<td>0.8</td>
<td>−0.2</td>
</tr>
<tr>
<td>200</td>
<td>200</td>
<td>0.8</td>
<td>0</td>
</tr>
<tr>
<td>300</td>
<td>280</td>
<td>0.8</td>
<td>0.067</td>
</tr>
<tr>
<td>400</td>
<td>360</td>
<td>0.8</td>
<td>0.1</td>
</tr>
</tbody>
</table>

5.

<table>
<thead>
<tr>
<th>Income</th>
<th>MPC</th>
<th>Savings</th>
<th>APS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>–</td>
<td>−90</td>
<td>–</td>
</tr>
<tr>
<td>100</td>
<td>0.6</td>
<td>−50</td>
<td>−0.5</td>
</tr>
<tr>
<td>200</td>
<td>0.6</td>
<td>−10</td>
<td>−0.05</td>
</tr>
<tr>
<td>300</td>
<td>0.6</td>
<td>30</td>
<td>0.1</td>
</tr>
</tbody>
</table>

6 MARKS QUESTIONS

6. Given \( S = −50 + .5Y \) \( 00 \leq l \leq 00 \)

(i) At equilibrium

\[ S = L \]

\[ So − 50 + .5Y = > 00 \]

\[ .5Y = > 50 \]

\[ Y = \frac{> 50}{.5} = 1500 \]

(ii) \( Y = C + S \)

\[ C = Y − S \]

\[ = 1500 − > 00 \text{ (as } l = S) \]

\[ = 800 \]
7. Here C = 75 + .9Y 
   I = 400
   So S = 75 + .1Y

   (i) at equilibrium
   I = S
   - 75 + .1Y = 400
   0.1Y = 475

   \[ Y = \frac{475}{0.1} = 4750 \]
   \[ Y = 4750 \]

   (ii) at equilibrium
   S = I
   So saving = 400

13.

<table>
<thead>
<tr>
<th>Income (Y)</th>
<th>Consumption (C)</th>
<th>Saving (S)</th>
<th>Investment (I)</th>
<th>AD (C+I)</th>
<th>AS (C+S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>60</td>
<td>-60</td>
<td>40</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>100</td>
<td>140</td>
<td>-40</td>
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<td>100</td>
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<td>-20</td>
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<td>260</td>
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<td>600</td>
<td>540</td>
<td>60</td>
<td>40</td>
<td>580</td>
<td>600</td>
</tr>
<tr>
<td>700</td>
<td>620</td>
<td>80</td>
<td>40</td>
<td>660</td>
<td>700</td>
</tr>
</tbody>
</table>

14. Given

   MPS = 0.2

   MPC = 0.8  \[ C = \bar{C} + 0.8Y \]

   \[ AD = C + I \]

   \[ = \bar{C} + 0.8Y + \bar{I} \]

   \[ \bar{C} + \bar{I} = \bar{A} = 50 \]

   \[ = \bar{A} + 0.8Y \]

   AD = 50 + 0.8Y
AD = 50 + 0.8 \times 4000
= 3250

In Equilibrium

AS = AD
Y = AD

4000 \neq 3250

Economy will not be in equilibrium because AD is not equal to AS.

15. \quad K = \frac{\Delta Y}{\Delta I} = \frac{500}{100} = 5

K = 5

K = \frac{1}{1 - \text{MPC}}

5 = \frac{1}{1 - \text{MPC}}

5 - 5 \text{ MPC} = 1
5 = 1 + 5 \text{ MPC}
5 - 1 = 5 \text{ MPC}
4 = 5 \text{ MPC}

\text{MPC} = \frac{4}{5} = 0.8

\text{MPC} = 0.8.
UNIT VIII

GOVERNMENT BUDGET AND THE ECONOMY

Points to Remember

☑ Budget is a financial statement showing the expected receipt and expenditure of Govt. for the coming fiscal or financial year.

☑ Main objectives of budget are:
   (i) Reallocation of resources.
   (ii) Redistribution of income and wealth
   (iii) Economic Stability
   (iv) Management of Public enterprises.

☑ There are two components of budget:
   (a) Revenue budget
   (b) Capital budget

☑ Revenue Budget consists of revenue receipt and revenue expenditure of the government.

☑ Capital budget consists of capital receipts and capital expenditure of the government.
Direct Tax: When Government imposes a tax on a person and paid by the same person is called direct tax. Its burden cannot be shifted to others. For example: Income Tax, Property Tax.

Indirect Tax: When Government imposes a tax on a person but partially or wholly paid by other person is called indirect tax. Its burden can be shifted to others. For example: Sales Tax, Excise duty VAT, GST.

Revenue Receipts:
(i) Neither creates liabilities for government.
(ii) Nor causes any reduction in assets.
(iii) Recurring in nature.

Capital Receipts:
(i) Either creates liabilities of the government.
(ii) or reduces assets of the government.
(iii) Non-recurring in nature.

BUDGET EXPENDITURE

Revenue Expenditure
- e.g. Interest Payment, subsidies, Defence Services, Salaries etc.

Capital Expenditure
- e.g. Construction of school building
  * Repayment of loans
  Purchasing of shares, land and Machines etc.

Revenue Expenditure:
(i) Neither creates assets
(ii) Nor reduces liabilities
(iii) Recurring

Capital Expenditure:
(i) Either creates assets
(ii) or reduces liabilities.
(iii) Non-recurring

Revenue deficit is the excess of total revenue expenditure over total revenue receipts of the government.

Revenue Deficit: Total revenue expenditure > Total revenue receipts

Implications of Revenue Deficit are:
(i) It leads to repayment burden in future without investment.
(ii) It shows wasteful expenditures of Govt. on administration.
(iii) It increase the burden of taxes.
- **Fiscal Deficit**: Total expenditures – Total Receipts excluding borrowing.

- **Fiscal Deficit**: Fiscal deficit is the excess of the government total expenditure over total receipts excluding borrowing.

- **Implications of Fiscal Deficits are**:
  1. It leads to inflationary pressure.
  2. A country has to face debt trap.
  3. It reduces future growth and development.

- **Primary Deficit**: By deducting interest payment from fiscal deficit we get primary deficit.

- **Primary Deficit**: Fiscal deficit – Interest payments.

---

**Exam. Oriented Questions with Answer**

<table>
<thead>
<tr>
<th>VERY SHORT ANSWER QUESTION (1 MARK)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q. 1. Why is recovery of loans treated as a capital receipts?</td>
</tr>
<tr>
<td>Ans. Because it reduces assets of the government.</td>
</tr>
<tr>
<td>Q. 2. Why are borrowing a capital receipt?</td>
</tr>
<tr>
<td>Ans. Because they create a liability for the government.</td>
</tr>
<tr>
<td>Q. 3. Give two examples of revenue receipts?</td>
</tr>
<tr>
<td>Ans. (i) Tax receipts (ii) Income from Public enterprises</td>
</tr>
<tr>
<td>Ans. Government Budget is an annual statement of estimated receipts and expenditure during a fiscal year.</td>
</tr>
<tr>
<td>Q. 5. Define revenue Budget.</td>
</tr>
<tr>
<td>Ans. Revenue Budget is the statement of estimated revenue receipts and estimated revenue expenditure during a year.</td>
</tr>
<tr>
<td>Ans. It refers to the selling of shares of PSU held by the government.</td>
</tr>
</tbody>
</table>
Q. 7. What is capital budget.

Ans. Capital Budget shows estimated capital receipts and capital expenditure during a fiscal year.

Q. 8. What is direct tax? Give an example.

Ans. A direct tax is one final burden of which falls on that very person who is liable to pay it to the government. Example: Income tax.


Ans. An Indirect tax is that tax which is initially imposed on and paid by one individual, but the burden of which is passed over to some other person who ultimately bears it.

Example: (i) Sales tax (ii) VAT.

QUESTIONS WITH ANSWERS
3-4 MARKS

Q. 1. Explain the 'redistribution of income' objective of a government budget.

OR

Explain how the government budget can help in a fair distribution of income in the economy.

Ans. Budgetary policies are useful medium to reduce inequalities of income or the fair distribution of income. Government can use tax policy and public expenditure as a tool. Government can reduce the disposable income and wealth of Rich by imposing heavy tax and can spend more on providing free services to the poor. It raises the disposable income and welfare of the poor.

Q. 2. Explain the "Reallocation of resources" objective of a government budget.

Ans. Through its Budgetary policy the government directs the allocation of resources in a manner such that there is a balance between the goal of profit maximisation and social welfare. Government can provide subsidy and reduction in tax rate to
motivate investment into areas where private sector initiative is not coming.

**Q. 3.** Distinguish between revenue receipts and capital receipts with the help of example:

**Ans.**

<table>
<thead>
<tr>
<th><strong>Revenue Receipts</strong></th>
<th><strong>Capital Receipts</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. These receipt do not create any liability for government.</td>
<td>1. These receipt create liability for the Govt.</td>
</tr>
<tr>
<td>2. These receipts do not cause any reduction in assets.</td>
<td>2. These receipts cause a reduction in assets of the Govt.</td>
</tr>
</tbody>
</table>

**Q. 4.** Distinguish between Revenue Expenditure and Capital Expenditure with the help of example:

**Ans.**

<table>
<thead>
<tr>
<th><strong>Revenue Expenditure</strong></th>
<th><strong>Capital Expenditure</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. These expenditure do increase govt. assets</td>
<td>1. These expenditure increase not the govt. assets.</td>
</tr>
<tr>
<td>2. These expenditure do not cause any reduction in govt. liability.</td>
<td>2. These expenditure cause reduction in govt. liability.</td>
</tr>
<tr>
<td>3. Example: Transfer payment by government.</td>
<td>3. Example: Repayment of loan by government.</td>
</tr>
</tbody>
</table>

**Q. 5.** Distinguish between Direct and Indirect Tax:

**Ans.**

<table>
<thead>
<tr>
<th><strong>Direct Tax</strong></th>
<th><strong>Indirect Tax</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Direct tax is a tax whose liability to pay and incidence liability lie on the same person.</td>
<td>1. The liability to pay and incidence liability of indirect tax do not lie on the same person.</td>
</tr>
</tbody>
</table>
2. Its incidence cannot be shifted to some other person.

3. Example: Income Tax

Q. 6. What is meant by fiscal deficit? Write its implications.

Ans. Fiscal deficit is equal to excess of total expenditure over the sum of revenue receipts and capital receipts excluding borrowings i.e.,
Fiscal deficit means borrowing of the government.

Fiscal Deficit = Total expenditure – Total receipts net of borrowings.

Implication of Fiscal Deficit:
1. It increases the supply of money in the economy.
2. It increases financial burden for future generation.
3. It is cause of inflation.

Q. 7. What is revenue deficit? State its implications.

Ans. Revenue deficit is the excess of total revenue expenditure over total revenue receipts.

Implication:
1. It implies that government is dis-saving.
2. It implies that the government is spending more than the current income.
3. A high revenue deficit gives a warning signal to the government to either curtail its expenditure or increase its revenue.

Q. 8. Calculate (1) Revenue deficit (2) Fiscal Deficit (3) Primary Deficit by following Data:

(Rs. Crore)

1. Capital Receipts other than borrowings 95
2. Revenue Expenditure 100
3. Interest payment 10
4. Revenue Receipts 80
5. Capital Expenditure 110
Ans.

1. Revenue deficit = Revenue expenditure – Revenue Receipts
   = 100 – 80 = Rs. 20 Crore.

2. Fiscal Deficit = (Revenue Expenditure + Capital Expenditure) – Revenue Receipts – Capital receipts net of borrowings
   = 100 + 110 – 80 – 95 = Rs. 35 Crore.

3. Primary deficit = Fiscal Deficit – Interest Payment
   = 35 – 10 = Rs. 25 Crore.
UNIT IX

BALANCE OF PAYMENT

Points to Remember

- The balance of payment is a comprehensive and systematic record of all economic transaction between normal residents of a country and rest of the world during an accounting year.

  In other words BOP is a record of inflows and outflows of foreign exchange.

ACCOUNTS OF BALANCE OF PAYMENTS

Current Account
- The current account records exports and imports of goods and services and unilateral transfers.

Capital Account
- It records all such transactions between normal residents of a country and rest of the world which cause change in assets and liabilities during an accounting year.

Components of Current Account
1. (import and export of goods) (Visible items).
2. (import and export of services) (Invisible items).
3. Unilateral transfers

Components of Capital Account
1. Foreign Direct investment and portfolio investment.
2. Foreign loans
3. Change in foreign exchange reserve.

- The components of current account do not cause a change in assets or Liabilities status of the residents of a country or its Government.

- The components of Capital accounts cause change in assets or Liability status of the residents and the Government of a country.
- **Balance of trade** is the net difference of import and export of all visible items between the normal residents of a country and rest of the world.

- **Autonomous items** are those items of balance of payment which are related to such transaction as are determined by the motive of profit maximisation and not to maintain equilibrium in balance of payments. These items are generally called 'Above the Line items' in balance of payment.

- **Accommodating items** refers to transactions that take place because of other activity in Balance of Payment. These transactions are meant to restore the Balance of Payment identity. These items are generally called 'Below the Line items'.

- **Deficit of BOP Account**: When total inflows of foreign exchange on account of autonomous transactions are less than total outflows on account of such transaction then there is a deficit in BoP.

- **Foreign Exchange Rate**: Foreign exchange rate refers to the rate at which one unit of currency of a country can be exchanged for the number of units of currency of another country.

  ![System of Exchange Rate](image)

  **Fixed exchange rate**  
  **Managed floating exchange rate**  
  **Flexible exchange rate**

- **Fixed Exchange Rate**: In fixed exchange rate system, the rate of exchange is officially fixed or determined by Government or Monetary Authority of the country.

- **Flexible or Floating Exchange Rate**: In a system of flexible exchange rate (also known as floating exchange rates), the exchange rate is determined by the forces of market demand and market supply of foreign exchange.

- The demand of foreign exchange have inverse relation with flexible exchange rate. If flexible exchange rate rises the demand of foreign exchange falls and Vice versa.
The Sources of Demand for Foreign Exchange

(a) To purchase goods and services from the rest of world.

(b) To purchases financial assets (i.e., to invest in bonds and equity shares) in a foreign country.

(c) To invest directly in shops, factories, buildings in foreign countries.

(d) To send gifts and grants to abroad.

(e) To speculate on the value of foreign currency.

(f) To undertake foreign tours.

The supply of foreign exchange have positive relation with foreign exchange rate. If foreign exchange rate rises the supply of foreign exchange rate also rises and vice versa.

The Source of Supply of Foreign Exchange

(i) Direct purchase by foreigners in domestic market.

(ii) Direct investment by foreigners in domestic market.

(iii) Remittance by non-residents living abroad.

(iv) Flow of foreign exchange due to speculative purchases by N.R.I.

(v) Exports of goods and services.

Determination of Equilibrium Foreign Exchange Rate:
Equilibrium foreign exchange rate is the rate at which demand and supply of foreign exchange are equal. Under free market situation, it is determined by market forces i.e., demand for and supply of foreign exchange. There is inverse relation between demand for foreign exchange and exchange rate. There is direct relationship b/w supply of foreign exchange and exchange rate. Due to above reasons demand curve downward sloping and supply curve is upward sloping curve Graphically, intersection of demand curve and supply curve determine the equilibrium foreign exchange rate (i.e., or).
- **Devaluation of a Currency**: When government or monetary authority of a country officially lowers the external value of its domestic currency (in respect of all other foreign currency) is called devaluation of a currency. It takes place by government order under fixed exchange rate system.

- **Revaluation of a currency**: When government or monetary authority of a country officially raises the external value of its domestic currency (in respect of all other foreign currency) is called revaluation. It takes place by government order under fixed exchange rates system.

- **In currency depreciation** there is a fall in the value of domestic currency, in term of foreign currency due to change in demand and supply of the currency under flexible exchange rate system.

- **In currency appreciation**, there is a rise in the value of domestic currency in terms of foreign currency due to change in demand and supply of the currency under flexible exchange rate system.

- **Managed floating system** is a system in which the central bank allows the exchange rate to be determined by market forces but intervenes at times to influence the rate. When central bank finds the rate is too high, it starts selling foreign exchange from its reserve to bring down it. When it finds the rate is too low. It starts buying to raise the rate.
Exam. Oriented Questions with Answers

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

Q. 1. Define foreign exchange rate.
   Ans. Foreign exchange rate is the price of a foreign currency in terms of domestic currency.

Q. 2. What is foreign exchange?
   Ans. Any currency other than the domestic currency.

Q. 3. What is balance of payment accounts?
   Ans. It is a systematic record of all economic transactions between the residents of a country and the rest of the world in a given period (one year) of time.

   Ans. Exports and Foreign Tourism.

Q. 5. State two sources of demand of foreign exchange.
   Ans. Import of goods and services and to get education in abroad.

Q. 6. What does a deficit in balance of trade indicate?
   Ans. Deficit in balance of trade indicates that the imports of good are greater than the exports.

Q. 7. What is fixed exchange rate?
   Ans. When rate of exchange is fixed by the government in an economy.

Q. 8. Define flexible exchange rate.
   Ans. The rate of exchange in terms of other currencies are determined by market forces of demand and supply.

   Ans. It is a system in which the Central Bank or government allows the exchange rate to determined by market forces but they take decisions to intervene whenever they feel it appropriate.
SHORT ANSWER TYPE QUESTIONS
3-4 MARK

Q. 1. State the components of capital account of balance of payment.
   Ans. 1. Borrowing and lending to and from abroad.
         2. Investment to and from abroad.
         3. Change in foreign exchange reserves.

Q. 2. What are the components of current account of the BOP account?
   Ans. 1. Exports and imports of goods
         2. Exports and imports of services
         3. Unilateral transfers

Q. 3. Explain the meaning of deficit in BOP.
   Ans. When autonomous foreign exchange payments exceeds autonomous foreign exchange receipts, the difference is called balance of payments deficit.

Q. 4. Distinguish between devaluation and depreciation of domestic currency.
   Ans. When government or authorities reduce the price of domestic currency in terms of all foreign currencies is called devaluation. The fall in market price of domestic currency (due to demand and supply in the market) in terms of a foreign currency is called depreciation.

Q. 5. When price of a foreign currency rises its supply also rises. Explain? Why?
   Ans. If exchange rate increases, this will make domestic country's goods cheaper to foreigners. The demand for our exports will rise. It implies more supply of foreign exchange.

Q. 6. Indian investors lend abroad. Answer the following questions:
   (a) In which sub-account and on which side of the Balance of Payments Account such lending is recorded? Give reasons.
   (b) Explain the impact of this lending on market exchange rate.
Ans.  (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.

(b) Lending abroad increases demand for foreign exchange. Supply of foreign exchange remains unchanged, exchange rate may rise.

Q. 7. Distinguish between autonomous transactions and accommodating transaction of balance of payments accounts.

Ans. **Autonomous Transactions**: A balance of payment transaction which is independent of all other BOP transactions is called an autonomous transaction. It is undertaken with a view to earn profit.

**Accommodating Transactions**: A balance of payment transaction undertaken to cover deficit or surplus in autonomous transactions are called accommodating transaction. It is not undertaken with a view to earn profit.

Q.8. What do you mean by official reserve transation? How it is treated in BoP account.

Ans. Official reserve transaction is the change in the forex reserve with RBI. It is recorded in capital account of BoP. Any decrease in reserve is recorded in credit side and increase in forex recorded in debit side of capital account of BoP. (Student must be noted only change is recorded)
Subject : ECONOMICS
(2018)

[Time : 3 Hrs.] [M.M. : 80]

General Instruction:
(i) All questions in both the sections are compulsory.
(ii) Marks for questions are indicated against each question.
(iii) Questions No., 1-4 and 13-16 are very short answer questions carrying 1 mark each.
(iv) Question No. 5-6 and 17-18 are short answer questions carrying 3 marks each. Answer to them should not normally exceed 60 words each.
(v) Questions No. 7-9 and 19-21 are also short answer questions carrying 4 marks each. Answer to them should not normally exceed 70 words each.
(vi) Questions No. 12-12 and 22-24 are long answer questions carrying 6 marks each. Answer to them should not normally exceed 100 words each.
(vii) Answer should be brief and to the point and above word limit be adhered to as far as possible.

Section – A

1. Define opportunity cost.
2. At what level of production is total cost equal to total fixed cost?
3. Which of the following does not cause shift of supply curve of a good? (Choose the correct alternative)
(a) Price of input  
(b) Price of the good  
(c) Goods and services tax  
(d) Subsidy

4. Which of the following measures of price elasticity shows elastic supply? (Choose the correct alternative) 
(a) 0  
(b) 0.5  
(c) 1.0  
(d) 1.5

5. Explain the central problem of “What is produced and in what quantities”.

OR

In what circumstances may the production possibility frontier shift away from the origin? Explain.

6. A consumer buys 200 units of a good at a price of ₹20 per unit. Price elasticity of demand is (−) 2. At what price will he be willing to purchase 300 units? Calculate.

7. Write a budget line equation of a consumer if the two goods purchased by the consumer. Good X and Good Y are priced at ₹10 and ₹5 respectively and the consumer’s income is ₹100.

OR

Define marginal rate of substitution. Explain its behaviour along an indifference curve.

8. Explain the conditions of producer’s equilibrium under perfect competition.

9. Explain the implications of “freedom of entry and exit of firms” under perfect competition.

10. A consumer consumes only two goods X and Y. Explain the conditions of consumer’s equilibrium using Utility Analysis.
11. Draw Average Variable Cost (AVC), Average Total Cost (ATC) and Marginal Cost (MC) curves in a single diagram. State the relation between MC curve and AVC & ATC curves.

Note: The following question is for the Blind Candidates only in lieu of Q. No. 11.

Prepare a schedule showing AVC, ATC and MC. State the relation between MC and AVC & ATC on the basis of the schedule.


OR

Market of a good is in equilibrium. If the demand for the good ‘decreases’. Explain the chain of effects of this change.

SECTION B

13. Give one example of negative externalities.

14. Credit creation by commercial banks is determined by (Choose the correct alternative)

(a) Cash Reserve Ratio (CRR)

(b) Statutory Liquidity Ratio (SLR)

(c) Initial Deposits

(d) All the above

15. State the two components of M₁ measure of Money Supply.

16. Define aggregate supply.

17. Distinguish between stock and flow variables with suitable examples.

OR

What are capital goods? How are they different from consumption goods?

18. Define investment multiplier. How is it related to marginal propensity to consume?
19. What is monetary policy? State any three instruments of monetary policy.

20. Define full employment in an economy. Discuss the situation when aggregate demand is more than aggregate supply at full employment income level.

   OR

   What are two alternative ways of determining equilibrium level of income? How are these related?

21. What is ex-Ante consumption? Distinguish between autonomous consumption and induced consumption.

22. What is government budget? Explain its major components.

   OR

   Explain (a) allocation of resources and (b) economic stability as objectives of government budget.

23. Discuss briefly the meanings of:
   (i) Fixed Exchange Rate
   (ii) Flexible Exchange Rate
   (iii) Managed Floating Exchange Rate

24. Calculate (a) Operating Surplus, and (b) Domestic Income
   (i) Compensation of employees
   (ii) Rent and interest
   (iii) Indirect taxes
   (iv) Corporation tax
   (v) Consumption of fixed capital
   (vi) Subsidies
   (vii) Dividend
   (viii) Undistributed profits
   (ix) Net factor income to abroad
   (x) Mixed income
EXPECTED ANSWERS  VALUES POINTS  (2018)

SECTION - A

1. The value of next best alternative foregone.  1
2. At zero level of output  1
3. (b) Price of the good  1
4. (d) 1.5  1
5. This problem deals with the situation where an economy must decide as to what goods or services it must produce and in what quantity. It is because the resources are scarce/limited and can be put to alternative uses.

Or

Production Possibility Frontier may shift away from origin, due to the following:

i. Increase in resources  1½
ii. Improvement in technologies  1½

6. \[ E_d = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q} \]  1

\[ -2 = \frac{100}{\Delta P} \times \frac{20}{200} \]  1

\[ -2 (\Delta P) = 10 \]  ½

New Price = Original Price (P) + \( \Delta P = 20+(-)5 = ₹ 15 \)  ½

7. Budget Line equation:

\[ m = P_x Q_x + P_y Q_y \] ; where \( m = \) income  3

Accordingly:

\[ 100 = 10Q_x + 5Q_y \]

OR

Marginal Rate of Substitution is defined as ‘the rate at which a
consumer is willing to sacrifice units of a good to obtain one more unit of the other good.

Marginal Rate of Substitution diminishes as the consumer moves downward along the same indifference curve. It shows that consumer is willing to sacrifice lesser units of a Good Y, in order to gain one additional unit of Good X. This happens due to the operation of law of diminishing marginal utility.

A producer is said to be in equilibrium when he produces that level of output at which

(a) MC = MR

(b) MC > MR after the MC = MR

output level Explanation to the conditions:

**Condition - 1 MC-MR**

Suppose when a producer starts producing a good, with the given factors and finds MR > MC he goes on producing because every new unit produced adds to profits.

As he goes on producing more units of the good he may face an output level when MC = MR and this output level satisfies MC = MR condition of equilibrium.

**Condition - 2 MC>MR after the MC = MR output level**

After MC = MR level, if MC > MR, every new unit produced is sold at a loss. So, he would not like to produce more units thereafter.

Therefore, only that output level at which MC = MR, and beyond which MC > MR, is the output at which the producer is in equilibrium. (Diagram not required).

9. Freedom of Entry’, signifies that there are no barriers to the entry of new firm into industry. When the existing firms are earning super normal profits, the new firms, attracted by the prospects of profit, enter the industry. This raises market supply which in turn leads to fall in market price and consequently profits. The entry continue till each firm is earning just the normal profits.
'Freedom to exit', signifies that there are no barriers which restrict the existing firms from leaving the industry. The firms try to leave when they are facing losses. As the firms start leaving, market supply falls leading to rise in market price and consequently reduction in losses. The firms continue to leave till the losses are wiped out and each existing firm is earning just the normal profits.

10. Assuming that a consumer is consuming only two goods X and Y, the conditions of consumer's equilibrium (Utility Analysis) are:

(a) \( \frac{\text{MU}_x}{P_x} = \frac{\text{MU}_y}{P_y} \)

(b) MU of a good falls as more units of the goods are consumed.

**Explanation**

(i) Suppose \( \frac{\text{MU}_x}{P_x} > \frac{\text{MU}_y}{P_y} \) The consumer will not be in equilibrium because per rupee MU of X is greater than per rupee MU of Y. This will induce the consumer to buy more of X by reducing expenditure on Y, leading to fall in MUx and rise in MUy. This will continue till the consumer attains the condition of

\[ \frac{\text{MU}_x}{P_x} = \frac{\text{MU}_y}{P_y} \]

(Explanation based on \( \frac{\text{MU}_x}{P_x} < \frac{\text{MU}_y}{P_y} \) is also correct)

(ii) Unless MU of a good falls, as more units are consumed the consumer will not reach the equilibrium.

(Diagram not required)

11. **Examiners please check:**

(i) MC curves intersect ATC and AVC curves at their minimum points.
(ii) Vertical distance between ATC curve and AVC curve goes on declining as output increases.

**Relationship among MC, AVC & AC:**

When MC < ATC or AVC, ATC or AVC fails

MC - ATC or AVC, ATC or AVC constant

MC > ATC or AVC, ATC or AVC rises

**For Blind Candidates: Any suitable schedule**

12. ‘Price Floor’ is the minimum price fixed by the government below which sellers cannot sell their product.

Since this price is normally set above the equilibrium price, there is excess supply in the market. As the seller may not be able to sell all that he wants to sell, he may illegally attempt to sell the product at a price below the floor price.

**OR**

Market of a good is in equilibrium. If the demand for the good decreases this creates an excess supply of the good at the existing price, in the market.

— The excess supply creates competition among sellers, resulting in fall in price, because sellers will not be able to sell all that they want to sell at the existing price.

— Fall in price leads to rise in demand and fall in supply.

— These changes continue till the market reaches new equilibrium.
SECTION B

13. Pollution created by factories/vehicles 1

(or any other relevant example)

14. (d) All of the above 1

15. Currency held by public and demand deposits held by banks 1

16. Aggregate Supply refers to the estimated money value of all the final goods and services planned to be produced in an economy. 1

17. Any economic variable which is measured at a point of time is known as stock, e.g. capital, etc. 1½

Whereas, any economic variable measured during a period of time is known as flow, e.g. income, etc. 1½

(any other relevant sample)

OR

Capital goods those durable goods which are used in production of goods and services, 1½

Whereas consumption good; are those goods which are used for satisfaction of wants by the consumers. 1½

18. Investment Multiplier is a measure of the effect of change in initial investment on change in final national income. 1

There exist a direct relation between MPC and multiplier, i.e. higher the value of MPC, higher will be investment multiplier

\[ K = \frac{1}{1 - \text{MPC}} \] 2

19. Policy adopted by the Central Bank of an economy in the direction of credit control or money supply is known as Monetary Policy.

Instruments of Monetary Policy are Bank Rate, Repo Rate, Reverse Repo Rate. Cash Reserve Ratio (any these) \(1 \times 3 = 3\)

20. Full Employment is a situation where those who are able and willing to work are getting work at the prevailing wage rate. 1
When Aggregate Demand is greater than Aggregate Supply at full employment, such a situation is known as Excess Demand or Inflationary-Gap. It is called inflationary because this leads to arise in general price level of the economy. (diagram not necessary) 3

**OR**

Two alternative ways of determining equilibrium level of income are:

1. Aggregate Demand - Aggregate Supply Approach (AD-AS Approach)
2. Saving-Investment Approach (S-I Approach).

Interrelation between the two approaches:

AD = AS (AD-AS approach)
I = S (S-I approach) (diagram not required)

21. Ex-ante consumption refers to the consumption expenditure planned to be incurred during a period.

Autonomous Consumption refers to the consumption expenditure which does not depend upon the level of income, i.e. the consumption at zero level of income.

Whereas, Induced Consumption expenditure is directly determined by the level of income.

22. Government Budget is defined as a statement of planned; receipts and planned expenditure of the government during a fiscal year.

Its major components are:

1. Revenue Receipts: the receipts which neither create a liability nor lead to reduction in assets.
2. Capital Receipts: the receipts which either create a liability or lead to reduction in assets.
3. R. venue Expenditures: the expenditure which does not lead to any creation of assets or reduction in liabilities.
iv. Capital expenditures: the expenditure which leads to either creation of assets or reduction in liabilities.

OR

OBJECTIVES OF GOVERNMENT BUDGET:

a. Allocation of resources in the economy

There are many non-profitable economic activities which are not undertaken by the private sector like, water supply, sanitation, etc., but are necessarily undertaken by government in public interest. So Government can undertake these activities in order to create social welfare. In addition, government can encourage the private sector through tax concessions, subsidies, etc., to undertake certain production in public interest.

b. Economic stability

Economic stability means absence of large-scale fluctuation in prices. Such fluctuations create uncertainties in the economy. Government can exercise control over these fluctuations through taxes and expenditure.

For example, under inflationary situations, government may discourage spending by increasing taxes or reducing its own expenditure whereas, under deflationary conditions, government may encourage spending by giving tax concession, subsidies, etc.

23. Fixed Exchange Rate: is the exchange rate determined by the government for conversion of domestic currency into foreign currency.

Flexible Exchange Rate: is the rate of exchange which is determined by the market forces of demand and supply in the foreign exchange market.

Managed Floating Exchange Rate: Floating rate influenced by buying and selling foreign exchange by the central bank in the foreign exchange market.
24. (a) Operating Surplus = (ii)+ [(iv) + (vii) + (viii)]
    = 800+460+940+300
    = ₹ 2500 crore
1½

(b) Domestic Income = (i) + Operating Surplus + (x)
    = 2,000 + 25C0 + 200
    = ₹ 4,700 crores
1½

(Any other correct alternative)
Subject: ECONOMICS
(2018)

[Time: 3 Hrs.] [M.M.: 100]

Section – A

1. The demand of a commodity when measured through expenditure approach is inelastic. A fall in its price will result (choose the correct alternative)
   (a) no change in expenditure on it.
   (b) increase in expenditure on it.
   (c) decrease in expenditure on it.
   (d) any one of the above.

2. As we move along a downward sloping straight line demand curve from left to right, price elasticity of demand: (choose the correct alternative)
   (a) remains unchanged
   (b) goes on falling
   (c) goes on rising
   (d) falls initially then rises

3. Define market demand.

4. Average revenue and price are always equal under: (choose the correct alternative)
   (a) perfect competition only
   (b) monopolistic competition only
   (c) monopoly only
   (d) all market forms
5. State any one feature of oligopoly.

6. Distinguish between microeconomics and macroeconomics.

7. State the meaning and properties of production possibilities frontier.

8. Show that demand of a commodity is inversely related to its price. Explain with the help of utility analysis.

   Or

   Why is an indifference curve negatively sloped? Explain.

9. Explain the conditions of consumer's equilibrium under indifference curve approach.

10. State different phases of the law of variable proportions on the basis of total product. Use diagram.

    Or

    Explain the geometric method of measuring price elasticity of supply. Use diagram.

For blind candidates in lieu of Q. No. 10.

State different phases of the law of variable proportions with the help of a schedule.

   Or

   Explain the distinction between 'change in supply' and 'change in quantity supplied.'

11. Explain the 'free entry and exit of firms' feature of monopolistic competition.

12. When price of a commodity X falls by 10 per cent, its demand rises from 150 units to 180 units. Calculate its price elasticity of demand. How much should be the percentage fall in its price so that its demand rises from 150 to 210 units?
13. Complete the following table:

<table>
<thead>
<tr>
<th>Output units</th>
<th>Total cost Rs.</th>
<th>Average variable cost Rs.</th>
<th>Marginal cost Rs.</th>
<th>Average fixed unit Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>30</td>
<td>—</td>
<td>20</td>
<td>—</td>
</tr>
<tr>
<td>1</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>2</td>
<td>68</td>
<td>18</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>3</td>
<td>84</td>
<td>18</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>4</td>
<td>—</td>
<td>18</td>
<td>18</td>
<td>—</td>
</tr>
<tr>
<td>5</td>
<td>125</td>
<td>19</td>
<td>—</td>
<td>6</td>
</tr>
</tbody>
</table>

14. Good Y is a substitute of good X. The price of Y falls. Explain the chain of effects of this change in the market of X.

Or

Explain the chain of effects of excess supply of a good on its equilibrium price.

15. Given below is the cost schedule of a product produced by a firm. The market price per unit of the product at all levels of output is Rs. 12. Using marginal cost and marginal revenue approach, find out the level of equilibrium output. Give reasons 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>
</tr>
</thead>
<tbody>
<tr>
<td>Average Cost (Rs.)</td>
<td>12</td>
<td>11</td>
<td>10</td>
<td>10</td>
<td>10.4</td>
<td>11</td>
</tr>
</tbody>
</table>

Section-B

16. The ratio of total deposits that a commercial bank has to keep with Reserve Bank of India is called: (choose the correct alternative)

(a) Statutory liquidity ratio  
(b) Deposit ratio  
(c) Cash reserve ratio  
(d) Legal reserve ratio
17. Aggregate demand can be increased by : (choose the correct alternative)
   (a) increasing bank rate
   (b) selling government securities by Reserve Bank of India
   (c) increasing cash reserve ratio
   (d) none of the above

18. Give the meaning of involuntary unemployment.

19. What is primary deficit?

20. Give the meaning of balance of payments.

21. Distinguish between final goods and intermediate goods. Give an example of each.

22. Explain the store of value function of money!

   Or

   State the meaning and components of money supply.

23. Explain the basis of classifying taxes into direct and indirect tax. Give examples.

24. Explain ‘banker to the government’ function of the central bank.

   Or

   Explain the role of reverse repo rate in controlling money supply.

25. Explain how government budget can be used to influence distribution of income?

26. An economy is in equilibrium. From the following data about an economy calculate autonomous consumption.
   (i) Income = 5000
   (ii) Marginal propensity to save = 0.2
   (iii) Investment expenditure = 800

27. Why does the demand for foreign currency fall and supply rises when its price rises? Explain.

28. Explain ‘non-monetary exchanges’ as a limitation of using gross domestic product as an index of welfare of a country.

   OR

   How will you treat the following while estimating domestic product of a country? Given reasons for your answer:
(a) Profits earned by branches of country’s bank in other countries
(b) Gifts given by an employer to his employees on independence day
(c) Purchase of goods by foreign tourists

29. Calculate (a) net domestic product at factor cost and (b) gross national disposable income:

<table>
<thead>
<tr>
<th></th>
<th>Rs. in crores</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Private final consumption expenditure</td>
<td>8000</td>
</tr>
<tr>
<td>(ii) Government final consumption expenditure</td>
<td>1000</td>
</tr>
<tr>
<td>(iii) Exports</td>
<td>70</td>
</tr>
<tr>
<td>(iv) Imports</td>
<td>120</td>
</tr>
<tr>
<td>(v) Consumption of fixed capital</td>
<td>60</td>
</tr>
<tr>
<td>(vi) Gross domestic fixed capital formation</td>
<td>500</td>
</tr>
<tr>
<td>(vii) Change in stock</td>
<td>100</td>
</tr>
<tr>
<td>(viii) Factor income to abroad</td>
<td>40</td>
</tr>
<tr>
<td>(ix) Factor income from abroad</td>
<td>90</td>
</tr>
<tr>
<td>(x) Indirect taxes</td>
<td>700</td>
</tr>
<tr>
<td>(XI) Subsidies</td>
<td>50</td>
</tr>
<tr>
<td>(XII) Net current transfers to abroad</td>
<td>(–)30</td>
</tr>
</tbody>
</table>

30. Assuming that increase in investment is Rs. 1000 crore and marginal propensity to consume is 0.9, explain the working of multiplier.
### EXPECTED ANSWERS VALUES POINTS (2017)

#### Hints of Answers

<table>
<thead>
<tr>
<th>SECTION - A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. (c) Decrease in expenditure on it.</td>
</tr>
<tr>
<td>2. (b) Goes on falling</td>
</tr>
<tr>
<td>3. Sum of the quantities that all consumers of a commodity are willing to buy at a given price during a period of time.</td>
</tr>
<tr>
<td>4. (d) All market forms,</td>
</tr>
<tr>
<td>5. (i) There are only a few firms or a few large firms.</td>
</tr>
<tr>
<td>(ii) There are barriers to the entry of firms.</td>
</tr>
<tr>
<td>(iii) There is interdependence of firms.</td>
</tr>
<tr>
<td>(iv) There is non-price competition. (Any one)</td>
</tr>
<tr>
<td>6. Study of the behaviour of individual economic agents is the subject matter of microeconomics. The study relating to the economy as a whole is the subject matter of macroeconomics.</td>
</tr>
</tbody>
</table>

(Any other relevant difference)

7. PPF is the locus of different combinations of the two goods that can be produced with fixed resources, assuming full and efficient utilization of these resources:

**Properties:**

1. Slopes downward from left to right.
2. Concave to the origin. (Statements only)

8. A consumer buys a good up to the point at which

- MU = Price
- Suppose price falls, then
  - MU > Price

This induces consumer to buy more of the good. It shows inverse relation between price and demand of a good.
Alternative answer:

Suppose a consumer buys only two goods X and Y and is in equilibrium, then.

\[
\frac{MU_x}{P_x} = \frac{MU_y}{P_y}
\]

Suppose \( P_x \) falls, then

\[
\frac{MU_x}{P_x} > \frac{MU_y}{P_y}
\]

Since per rupee \( MU_x \) is more than per rupee \( MU_y \), the consumer will buy more of X by diverting expenditure from good Y to good X. It shows inverse relation between price and demand for good X.

**OR**

All points on an IC show the same level of utility from the consumption of the two goods, the consumer consumes. So, if the consumer consumes more of one good, he must reduce the consumption of the other good to keep total level of utility the same. This makes an IC negatively sloped.

9. Let the two goods consumed by the consumer be X and Y. The equilibrium conditions are:

1. \( MRS_{xy} = \frac{P_x}{P_y} \) ½
2. \( MRS_{xy} \) declines as more of X is consumed. ½

**Explanation**

1. Suppose \( MRS_{xy} > \frac{P_x}{P_y} \), It means that the consumer is willing to pay more for X than market Price of X. It will induce the consumer to buy more of X. Buying more of X reduces \( MRS_{xy} \). This process will continue till \( MRS_{xy} = \frac{P_x}{P_y} \). 2

   (Explanation with \( MRS_{xy} < \frac{P_x}{P_y} \) is also correct)

2. Unless \( MRS_{xy} \) declines, the consumer will never reach equilibrium again. (Diagram not required) 1
The three phases of the law of Variable Proportions are:

Phase I: TP increases at increasing rate i.e. upto K on the TP curve.
Phase II: TP increases at decreasing rate i.e. from K upto L on the TP curve.
Phase III: TP falls i.e. after L on the TP curve.

(Correct Explanation on the basis a diagram showing supply curve, passing through origin or OX-axis is also correct).

For Blind Candidates Only

Statement of the phases
Any relevant schedule

OR

'Change in supply of a good is defined as that change in supply which is due to factors other than the own price of that good.

"Change in Quantity supplied" of a good is defined as the change in supply which is due to the change in own price of that good.

11. Free entry and exit of firms means that there are no barriers before the firm for entering into the industry and leaving the industry. New firms enter when they find that the existing firms are earning super normal profits. With their entry, output of the industry increases, which leads to fall in the
price of the product. This continues till each firm is earning only normal profit. The existing firms leave when they face losses. As they leave, output of the industry goes down, raises the price of the product till the losses are wiped out.

12. \[ E_D = \frac{\% \text{ change in quantity demanded}}{\% \text{ change in price}} \]

\[ = \frac{30}{150} \times 100 \]

\[ = \frac{-10}{-10} \]

\[ = (-) 2 \]

% change in price = \[ \frac{60}{150} \times 100 \times \frac{1}{-2} \]

\[ = (-) 20\% \]

13. Output | AC | AVC | MC | AFC
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>30</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1</td>
<td>50</td>
<td>20</td>
<td>20</td>
<td>30</td>
</tr>
</tbody>
</table>
| 2    | 68 | 19  | 18  | 15  | \( \frac{1}{2} \times 12 \)
| 3    | 84 | 18  | 16  | 10  |
| 4    | 102| 18  | 18  | 7.5 |
| 5    | 125| 19  | 23  | 6   |

14. • Good Y is a substitute of good X.
• Price of Y Falls.
• Since X becomes relatively costlier, demand for X decreases.
• This creates excess supply of X at its existing price.
• Excess supply of X creates competition among sellers of X. This leads to fall in price of X.
• Fall in price of X leads to increase in demand for X and decrease in supply.

• The change continues till demand for X equals to supply of X at a lower price of X.

**OR**

• Excess supply of a good creates competition among the sellers of the good, because the sellers will not be able to sell all they want to sell at the existing price. This leads to fall in price of the good.

• Fall in price leads to rise in demand and fall in supply of the good.

• The change continues till demand for the good equals to its supply and the market is in equilibrium again.

<table>
<thead>
<tr>
<th>Output</th>
<th>AC</th>
<th>IC</th>
<th>MC</th>
<th>MR = AR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>2</td>
<td>11</td>
<td>22</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>10</td>
<td>30</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>4</td>
<td>10</td>
<td>40</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>5</td>
<td>104</td>
<td>52</td>
<td>12</td>
<td>12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Output</th>
<th>AC</th>
<th>IC</th>
<th>MC</th>
<th>MR = AR</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>11</td>
<td>66</td>
<td>14</td>
<td>12</td>
</tr>
</tbody>
</table>

The producer is in equilibrium at 5 units of output, because it fulfills the following two conditions of producer’s equilibrium.

1. MC = MR

2. MC is greater than MR beyond equilibrium.

**SECTION-B**

16. (c) Cash reserve ratio.

17. (d) none of the above

18. When people who are able and willing to work at the prevailing wage rate, do not get employment, it is a situation of involuntary unemployment.
19. it is fiscal deficit net of interest payment. 1

20. BOP is a record of inflows and outflows of foreign exchange. 1

21. • Goods purchased for consumption and investment are final goods. 1
   • Example: Machinery purchased by a factory ½ (or any other relevant example.)
   • Good purchased for resale or for using up completely during year are intermediate goods. 1
   • Example: Raw materials purchased by a factory ½ (or any other relevant example.)

22. Money acts as an asset which can be kept for future use and is available in convenient denominations. This is store of value function of money. 3

   OR

   It is the stock of money in the economy at a particular point of time. 1

   Components of money Supply = Currency with public + demand deposits with banks. 2

23. When the burden of a tax and the liability to pay it falls on the same person, then it is a direct tax. When burden of tax and liability to pay it fall on different persons, then it is indirect tax. 2

   Example: Direct tax-Income tax etc (Any other example) ½
   Indirect tax-Service tax, etc (Any other example) ½

24. Central bank provides the same banking service to the government as commercial banks provide to people. It accepts deposits of government departments and gives them loans in times of need. 4

   OR

   ‘Reverse repo rate’ is the rate of interest at which the commercial banks park their surplus funds with the central bank. The central bank can control money supply by changing the reverse repo rate (RRR). Rise in RRR encourages commercial banks to park more funds with the central bank. This reduces funds available for lending to general public by the commercial banks. 4
25. Government can impose higher rate of tax on income of the rich and on the goods consumed by the rich. This will bring down disposable income of the rich. The amount so collected can be spent on providing free services, like education, subsidized food to the poor people. E.g. This will raise disposable income of the poor reducing the gap between rich and poor.

26. \[ Y = \bar{C} + MPC(Y) + 1 \]
   
   \[ 5000 = \bar{C} + (1-0.2)(5000) + 800 \]
   
   \[ \bar{C} = 5000 - 4000 - 800 \]
   
   \[ = 200 \]

27. When price of foreign exchange rises, import becomes costlier, demand for imports will fall. As a result demand for foreign currency falls.

   When price of foreign exchange rises, domestic goods become cheaper for foreign buyers, because they can now buy more from one unit of foreign currency. As a result demand for exports rise, leading to increase in supply of foreign exchange.

28. Non monetary exchanges include activities like services of family members provided to each other etc. These activities may be left out from estimate of national income due to the non-availability of data. But these activities do contribute to welfare of the people. Since GDP may not account for such activities, it may be underestimated. As a result welfare of the people is also underestimated. This is thus a limitation of GDP as an index of welfare.

   OR

   (a) Not a part of domestic product as it is not generated in the domestic territory of the country.

   (b) Not a part of domestic product as it is a transfer payment.

   (c) Part of domestic product as these are exports produced in the domestic territory.

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29. a) \( \text{NDP}_f = i + ii + (vi+vii) + (iii - iv) - V - x + xi \)  
    \[= 8000 + 1000 + 500 + 100 + 70 - 120 - 60 - 700 + 50 \]  
    \[= 8840 \text{ cr} \]  
    \[1\frac{1}{2} \]  

b) \( \text{GNDI} = \text{NDPfC} + v + x - xi + ix - vii - xii \)  
    \[= 8840 + 60 + 700-50+ 90-40-(-30) \]  
    \[= 9630 \text{ cr} \]  
    \[1\frac{1}{2} \]

30. Given that \( \Delta I = 1000 \) and \( \text{MPO}0.9 \), increase in income is in the following sequence:

1. Increase in \( I \) raises income of those who supply investment goods by \( 1000 \text{ Cr} \). This is first round increase.

2. Since MPC = 0.9, income earners spend Rs. 900 on consumption leading to second round increase of Rs \( 900 = 1000 \times 0.9 \).

3. The third round increase in the similar way is Rs \( 900 \times 0.9 = 810 \).

4. In this way income goes on increasing round by round, with each round increase in income equal to 90 percent of the previous round.

5. The total increase in income is:

\[ \Delta Y = \Delta I \frac{1}{1 - \text{MPC}} = 1000 \times \frac{1}{1 - 0.9} \]

\[= 10,000 \text{ crore.} \]  

(Working explained on the basis of tabular presentation is also correct)
SECTION – A

1. Differentiated products is a characteristic of: 1
   (Choose the correct alternative):
   (a) Monopolistic competition only
   (b) Oligopoly only
   (c) Both monopolistic competition and oligopoly
   (d) Monopoly

2. Demand curve of a firm is perfectly elastic under: 1
   (Choose the correct alternative)
   (a) Perfect competition
   (b) Monopoly
   (c) Monopolistic competition
   (d) Oligopoly

3. What happens to the difference between Total Cost and Total Variable Cost as output is increased?

4. A firm is able to sell any quantity of a good at a given price. The firm’s marginal revenue will be: 1
   (Choose the correct alternative):
   (a) Greater than Average Revenue
   (b) Less than Average Revenue
   (c) Equal to Average Revenue
   (d) Zero
5. When does ‘shift’ in supply curve take place?  

6. 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.  

7. What is minimum price ceiling? Explain its implications. 

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

8. A consumer consume only two good X and Y. The marginal utilities of X and of Y is 3. Prices of X and Y are ₹ 2 and ₹ 1 respectively. Is consumer in equilibrium? What will be further reaction of the consumer? Give reasons.  

9. 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.  

10. When price of a good rises from ₹ 8 per unit to ₹ 10 per unit, producer supplies 40 units more. Price elasticity of supply is 2. What is the quantity supplied before the price change? Calculate.  

11. Distinguish between individual’s demand and market demand. Name the factors affecting demand for a good by an individual.  

12. Explain three properties of indifference curves.  

13. 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
14. Why do central problems of an economy arise? Explain the central problem of “for whom to produce”?

15. 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.

For blind candidates in lieu of Q. No 15.

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.

SECTION-B

16. Primary deficit equals :

(Choose the correct alternative)

(a) Borrowings
(b) Interest payments
(c) Borrowings less interest payments
(d) Borrowings and interest payments both

17. 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

18. Define flows.

19. 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

20. What are capital receipts in a government budget.  
21. What is aggregate demand? State its components.  

OR

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

22. An economy is in equilibrium. Find investment expenditure:  
   National Income = 1000  
   Autonomous Consumption = 100  
   Marginal propensity to consume = 0.8  

23. If real income is ₹ 400 and price index is 105, calculate nominal income.  
24. Explain the medium of exchange’ function of money. How has it been 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?

25. Explain the role of Reverse Repo Rate in controlling credit creation.  
26. Sale of petrol and diesel cars is rising particularly in big cities. Analyse its impact on gross domestic product and welfare.  
27. Indian investors lend abroad. Answer the following questions:  
   (a) In which sub-account and on which side of the Balance of Payments Account lending to abroad is recorded? Give reasons.  
   (b) Explain the impact of this lending on market exchange rate.

28. 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.  


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OR

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

29. Calculate National Income and Personal Disposable Income: \(4,2 \text{ (₹ crores)}\)

(i) Corporation tax \(100\)
(ii) Private final consumption expenditure \(90Q\)
(iii) Personal Income tax \(120\)
(iv) Government final consumption expenditure \(200\)
(v) Undistributed profits \(50\)
(vi) Change in stocks \((-) 20\)
(vii) Net domestic fixed capital formation \(120\)
(viii) Net imports \(10\)
(ix) Net indirect tax \(150\)
(x) Net factor income from abroad \((-) 10\)
(xi) Private income \(1000\)

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

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EXPECTED ANSWERS / VALUES POINTS

SECTION - A

1. (c) Both monopolistic competition and oligopoly

2. (a) Perfect Competition

3. The difference between TC and TVC remains constant.

4. (c) Equal to AR

5. When there is a change in a factor affecting supply other than own price of the good

6. (a) Zero or no change (b) 10% fall (c) 20% fall

7. For certain goods & services, govt. sets minimum price. This minimum price tailed 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.

OR

If 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 starts falling. These changes continue till the equilibrium is reached.

8. The consumer is not in equilibrium because

\[
\frac{MU_x}{P_x} < \frac{MU_y}{P_y} \text{ or } \frac{3}{2} < \frac{3}{1}
\]

Since per rupee MUx is lower than per rupee MUy, the consumer will buy less of X and more of Y until MUx goes up and MUy goes down to reach the position of:

\[
\frac{MU_x}{P_x} = \frac{MU_y}{P_y}
\]
9. Fixed cost refers to the cost which does not change with change in output. Example rent, interest etc. (anyone) 1+1

As output increases AFC goes on falling continuously because

\[ \text{ATC} = \frac{TFC}{\text{output}} \text{ and TFC is constant.} \]

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.

10. \[ Es = \frac{P}{Q} \times \frac{\Delta Q}{\Delta P} \]

\[ 2 = \frac{8}{Q} \times \frac{40}{2} \]

4Q = 320 or Q = 80 1½

11. Individual’s demand refers to the quantity of a good, single consumer is willing to buy at a price during a period of time while market demand refers 10 the quantity of a good, all the consumers taken together are willing to buy at a price during a period of time.

Factors:(1) own price of the good, (2) prices of related goods, (3) Income of I\Upsilon - consumer. (4) Tastes of consumer. (any two) 1×2

12. The three properties of ICs are:

(1) **An IC slope downwards 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)

13. (a) Large number of sellers mean that numbers 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 mean that buyers treat products of all the firm 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.

14. There are three reasons:

(1) Wants of the people are unlimited

(2) The Resources are limited

(3) The 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.
15. (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 OP₂ to OP₁ 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 S₁ to S. Price remains unchanged at OP while quantity supplied decreases/falls from OQ₁ to OQ₂.

**For blind Candidates**

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

Any other correct schedule 2+2
Explanation on the same lines as above
SECTION - B

16. (c) Borrowings less interest payments 1
17. (c) Autonomous transactions. 1
18. 'Flows' are variables whose magnitude is measured over a period of time. 1
19. (c) Residents 1
20. Capital receipts are the receipts which either reduce assets or create liability 1
21. Aggregate demand refers to the value of final goods and services which all sectors of an economy are planning to buy during a year. 1

Components.

(1) Private final consumption expenditure
(2) Government final consumption expenditure
(3) Investment expenditure
(4) Net exports 2

OR

Less money supply i.e. stock of money with people leaves less purchasing power m their hands. Therefore, people demand less goods and services. 3

22. \[ Y = \bar{C} + MPC(Y) + 1 \] 1½
\[ 1000 = 100 + 0.8(1000) + 1 \] 1
\[ = 1000 - 100 - 800 = 100 \] ½

23. Real Income = \( \frac{\text{Nominal income}}{\text{Price Index}} \times 100 \) 1½
\[ 400 = \frac{\text{Nominal income}}{105} \times 100 \] 1
Nominal Income = \( \frac{400 \times 105}{100} = \) ½
24. 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 better system. It has also removed the problem of trading in wider areas.

25. Reverse Repo Rate refers to the rate of interest paid by the central bank on deposits made by the commercial banks. When it is raised, commercial banks are encouraged to make more deposits with the central bank. As a result, deposits available for lending with the commercial banks decrease. Their capacity of lending declines and credit creation is less.

(Answer based on fall in Reverse Repo Rate is also correct)

26. Final sales of cars raises GDP, because final sales are final products. Cars provide convenience and transportation but at the same time it causes traffic jams and pollution and noise pollution reducing the welfare of the people, pollution has bad effects on the health of the people.

27. (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.

(b) Lending abroad increases demand for foreign exchange. Supply of foreign exchange remains unchanged, exchange rate may rise.

28. **Revenue expenditure**: is expenditure that neither creates any assets nor reduces any liability while capital expenditure creates either 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 service 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.

29. \[ N.I. = ii + iv + (vii + vi) - viii - ix + x \]
\[ = 900 + 200 + (120 - 20) - 10 - 150 + (-10) \]
\[ = \text{Rs. } 1030 \text{ Crore} \]
\[ \text{PDI} = xi - i - v - iii \]
\[ = 1000 - 100 - 50 - 120 \]
\[ = \text{Rs. } 730 \text{ Crore} \]

30. Given saving curve SS'

(1) Draw a 45° line from the origin.

(2) Take OC equal to OS on the Y-axis.

(3) Draw a perpendicular line from B to B' on OX-axis which intersects 45° line at point B.

(4) join C and B and extend it to get consumption curve CC.
For blind Candidates:

Consumption function

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

Derivation of Saving function for consumption;

Subtracting each side from \( Y \)

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

\[ S = Y - \bar{C} - MPC(Y) \]

: \( 1 - MPC = MPS \)

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

\[ = -\bar{C} + Y(1 - MPC) \]

\[ = -\bar{C} + MPS(Y) \]
SECTION – A

1. Give equation of Budget Line.  

2. When income of the consumer falls the impact on price-demand curve of an inferior good is: (choose the correct alternate)  
   (a) Shifts to the right.  
   (b) Shifts to the left.  
   (c) There is upward movement along the curve.  
   (d) There is downward movement along the curve.  

3. If Marginal Rate of Substitution is constant throughout, the Indifference curve will be: (choose the correct alternative)  
   (a) Parallel to the x-axis  
   (b) Downward sloping concave  
   (c) Downward sloping convex  
   (d) Downward sloping straight line  

4. Giving reason comment on the shape of Production Possibilities curve based on the following schedule:  

<table>
<thead>
<tr>
<th>Good X (units)</th>
<th>Good Y (units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>
5. What will be the impact of recently launched ‘Clean India Mission (Swachh Bharat Mission) on the Production Possibilities curve of the economy and why? 3

Or

What will likely be the impact of large scale outflow of foreign capital on Production Possibilities curve of the economy and why? 3

6. The measure of price elasticity of demand of a normal good carries minus sign while price elasticity of supply carries plus sign. Explain why? 3

7. There are large number of buyers in a perfectly competitive market. Explain the significance of this feature. 3

8. Explain the effects of ‘maximum price ceiling” on the market of a good. Use diagram. 3

For the blind candidates only in lieu of Q. No. 8.

What is price ceiling? Explain the effects of maximum price ceiling. 4

9. A consumer spends Rs. 1000 on a good priced at Rs. 8 per unit. When price rises by 25 per cent, the consumer continues to spend Rs. 1000 on the good Calculate price elasticity of demand by percentage method. 4

10. Define cost. State the relation between marginal cost and average variable cost. 4

Or

Define revenue. State the relation between marginal revenue and average revenue. 4

11. A consumer consumes only two goods X and Y both priced at Rs. 3 per unit. If the consumer chooses a combination of these two goods with Marginal Rate of Substitution equal to 3, is the consumer in equilibrium? Give reasons. What will a rational consumer do in this situation? Explain. 6

Or

A consumer consumes only two goods X and Y whose prices are Rs. 4 and Rs. 5 per unit respectively. If the consumer chooses a combination of the two goods with marginal utility of X equal to 5 and that of Y equal to 4, is the consumer in equilibrium? Give reasons. What will a rational consumer do in this situation? Use utility analysis.
12. State the different phases of changes in Total Product and Marginal Product in the Law of Variable Proportions. Also show the same in a single diagram.

For the blind candidates in lieu of Q. No. 12 only.

State, on the basis of a numerical example, different phases of changes in Total Product and Marginal Product in the Law of Variable Proportions.

13. Why is the equality between marginal cost and marginal revenue necessary for a firm to be in equilibrium? Is it sufficient to ensure equilibrium? Explain.

14. Market for a good is in equilibrium, when demand for the good ‘increases’. Explain the chain of effects of this change.

SECTION-B

15. what is ‘aggregate supply’ in macroeconomics?

16. The value of multiplier is : (choose the correct alternative)

(a) \( \frac{1}{MPC} \)

(b) \( \frac{1}{MPS} \)

(c) \( \frac{1}{1 - MPS} \)

(d) \( \frac{1}{MPC - 1} \)

Borrowing in government budget is : (choose the correct alternative)

(a) Revenue deficit

(b) Fiscal deficit

(c) Primary deficit

(d) Deficit in taxes
18. The non-tax revenue in the following is : (choose the correct alternative)
   (a) Export duty
   (b) Import duty
   (c) Dividends
   (d) Excise

19. Other things remaining unchanged, when in a country the price of foreign currency rises, national income is : (choose the correct alternative)
   (a) Likely to rise
   (b) likely to fall
   (c) Likely to rise and fall both
   (d) Not affected

20. If Real GDP is Rs. 200 and Price Index (with base = 100) is 110, calculate Nominal GDP.

21. Name the broad categories of transactions recorded in the ‘capital account’ of the Balance of Payments Account.

   Or

   Name the broad categories of transaction recorded in the ‘current account’ of the Balance of Payments Accounts.

22. Where will sale of machinery to abroad be recorded in the Balance of Payments Accounts? Give reasons.

23. Explain the 'bank of issue' function of the central bank.

   Or

   Explain ‘Government's Bank’ function of central bank.

24. Government of India has recently launched ‘Jan-Dhan Yojna’ aimed at every household in the country to have at least one bank account. Explain how deposits made under the plan are going to affect national income of the country.

25. An economy is in equilibrium. Calculate national income from the following:
   Autonomous consumption = 100
Marginal propensity to save = 0.2

Investment expenditure = 200

26. Giving reason explain how should the following be treated in estimation of national income:
   (i) Expenditure by a firm on payment of fees to a chartered accountant
   (ii) Payment of corporate tax by a firm
   (iii) Purchase of refrigerator by a firm for own use

27. Explain the concept of Inflationary Gap. Explain the role of Repo Rate in reducing this gap.

Or

Explain the concept of Deflationary Gap and the role of ‘Open Market Operations’ in reducing this gap.

28. Explain the role the government can play through the budget in influencing allocation of resources.

29. Calculate National Income and (Rs. crores)

       (i) Personal tax  80
       (ii) Private final consumption expenditure  600
       (iii) Undistributed profits  30
       (iv) Private income  650
       (v) Government final consumption expenditure  100
       (vi) Corporate tax  50
       (vii) Net domestic fixed capital formation  70
       (viii) Net indirect tax  60
       (ix) Depreciation  14
       (x) Change in stocks  (–) 10
       (XI) Net imports  20
       (xii) Net factor income to abroad  10
HINTS OF ANSWER OR EXPECTED ANSWER (2015)

SECTION-A

1. \( P_1x_1 + P_2x_2 = M \)  
   1

2. (a) Shifts to the right.  
   1

3. (d) Downward sloping straight line  
   1

4. | Good X | Good Y | MRT |
   | (Units) | (Units) |    |
   |        |        |    |
   | 0      | 10     | -   |
   | 1      | 9      | 1Y:1X |
   | 2      | 7      | 2Y:1X |
   | 3      | 4      | 3Y:1X | 1\frac{1}{2} |
   | 4      | 0      | 4Y:1X | 1\frac{1}{2} |

Since MRT is increasing, the PP curve is downward sloping and Concave to the origin.  
(Diagram not required)

5. Cleanliness reduces chances of people falling ill and, thus can ensure better health. This in turn will reduces forced absenteeism from work, raises efficiency level and thus raise country’s production potential. Rise in this potential shifts PP curve to the right.  
   3  
   (Diagram not required)

   OR

Large scale outflow of foreign capital from the economy will reduce resources and thus production potential of the country will fall. Fall in production potential in turn will shift the PP-Curve downwards.  
(Diagram not required)

6. The measure of price elasticity of demand has a minus sign because there is inverse relation between price and demand of a normal good, while the measure of price elasticity of supply has plus sign because there is direct relation between price and supply of a good.  
   3

7. The feature signifies that the number of buyers in a perfectly competitive market is so large that any individual buyer is not in a position to
influence the market price on its own by purchasing more or less. It is because the individual buyer's share in total purchase in the market is insignificant.

Maximum price ceiling refers to imposition of upper limit on the price of a good by the government. For example, in the diagram OP is price ceiling while equilibrium price is OP₁. At this price the producers are willing to supply only PA (Or OQ₁) while consumers demand PB (Or OQ₂). The effect of the ceiling is that shortage, equal to AB (Q₁Q₂), is created, which may further lead to black marketing.

For blind Candidates Only:

Price ceiling means putting the upper limit by the government on the price that can be charged by the producers of a good from the buyers. Maximum price ceiling, is lower than equilibrium price, leads to rise in demand and fall in supply. This creates shortage of the good in the market.

This may lead to black marketing.

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<th>Demand</th>
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<td>125</td>
</tr>
<tr>
<td>10</td>
<td>1000</td>
<td>100</td>
</tr>
</tbody>
</table>

\[
E_P = \frac{P}{Q} \times \frac{\Delta Q}{\Delta P}
\]

\[
= \frac{8}{125} \times \frac{-25}{2}
\]

\[
= -0.8
\]

Class XII - Economics
10. Cost in economics refers to the sum of actual money expenditure on inputs and the imputed expenditure in the form of inputs supplied by the owners including normal profit.

If MC < AVC, then AVC falls
If MC = AVC, then AVC is constant
If MC > AVC, then AVC rises  \(\text{(Diagram not required)}\)

OR

Revenue in Economics refers to the market value of output produced Or receipts from sale of output produced.

If MR > AR, AR rises
If MR = AR, AR is constant
If MR < AR, AR Falls.  \(\text{(Diagram not required)}\)

11. Given \(P_x = 3\), \(P_y = 3\) and MRS = 3, A consumer is said to be in equilibrium when

\[
\text{MRS} = \frac{P_x}{P_y}
\]

Substituting values we find that

i.e. \(\text{MRS} > \frac{P_x}{P_y}\)

Therefore consumer is not in equilibrium.

\(\text{MRS} > \frac{P_x}{P_y}\) means that consumer is willing to pay more for one more unit of \(X\) as compared to what market demands.

\(\text{— The consumer will buy more units of } X.\)

\(\text{— As a result MRS will fall due to the Law of Diminishing Marginal Utility}\)

\(\text{— This will continue till MRS} = \frac{P_x}{P_y}\) and consumer is in equilibrium  \(\text{(Diagram not required)}\)
Given $P_x = 4$, $P_y = 5$ and $MU_x = 5$, $MU_y = 4$, a consumer will be in equilibrium when

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

Substituting values, we find that

$$\frac{5}{4} > \frac{4}{5} \quad \text{or} \quad \frac{MU_x}{P_x} > \frac{MU_y}{P_y}$$

Since per rupee $MU_x$ is higher than per rupee $MU_y$, consumer is not in equilibrium.

The consumer will buy more of $X$ and less of $Y$. As a result $MU_x$ will fall and $MU_y$ will rise. The reaction will continue till $\frac{MU_x}{P_x}$ and $\frac{MU_y}{P_y}$ are equal and consumer is in equilibrium.

12. The Phases are:

   Phase I: TP rises at increasing rate i.e. upto A in diagram.

   Phase II: TP rises at decreasing rate i.e. between A and B. MP falls and remains positive between 'a' and 'b'.

   Phase III: TP falls i.e. after B. MP falls and is negative i.e. after 'b'

(Diagram on single axis is also correct)
For blind Candidates Only:

<table>
<thead>
<tr>
<th>Variable input (Units)</th>
<th>TP (Units)</th>
<th>MP (Units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>20</td>
<td>14</td>
</tr>
<tr>
<td>3</td>
<td>32</td>
<td>12</td>
</tr>
<tr>
<td>4</td>
<td>40</td>
<td>8</td>
</tr>
<tr>
<td>5</td>
<td>40</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>37</td>
<td>-3</td>
</tr>
</tbody>
</table>

Or any other relevant numerical example

Phases:

(1) TP increases at increasing rate and MP rises upto 2 units.

(2) TP increases at decreasing rate and MP falls but remains positive from 3 to 5 units.

(3) TP falls and MP becomes negative from 6 unit onwards.

13. The producer’s equilibrium conditions are: (i) MC = MR and (ii) MC > MR after equilibrium.

Suppose MC > MR. In this situation it will be profitable for the firm to produce more or less depending upon relative changes in MC and MR till MC = MR. Suppose MC < MR. It will be profitable for the producer to produce more till MC = MR.

MC = MR is not a sufficient condition to ensure equilibrium. Given MC = MR, suppose the behaviour of MC and MR is such that if one more unit is produced. MC becomes less than MR.

Then in this case it will be profitable for the firm to produce more. Therefore, in this case though MC = MR the producer is not in equilibrium. However, if after MC = MR output MC becomes greater than MR, it will be most 3 advantageous for the firm to produce only upto MC = MR. (Diagram not required)

14. Given equilibrium, demand increases.

- Price remaining unchanged, excess demand emerges.

- This leads to competition among buyers causing price to rise.

- Rise in price causes fall (contraction) in demand and rise (expansion) in supply.
- The price continues to rise till the market is in equilibrium again at a higher price

(Diagram not required)

Or any other relevant numerical example.

SECTION - B

15. Aggregate supply is the value of total quantity of final goods and services planned to be produced in an economy during a period. 1

16. (b) \( \frac{1}{MPS} \) 1

17. (b) Fiscal deficit 1

18. (c) Dividends 1

19. (a) Likely to rise 1

20. Real GDP = \( \frac{\text{Nominal GDP}}{\text{Price Index}} \times 100 \) 1½

200 = \( \frac{\text{Nominal GDP}}{110} \times 100 \) 1

Nominal GDP = \( \frac{200 \times 110}{100} = 220 \) ½

21. (1) Borrowings from and to abroad 1×3

(2) Investments from and to abroad.

(3) Decreases and increases in foreign exchange reserves.

OR

(1) Exports and imports of goods 1×3

(2) Exports and imports of services

(3) Factor income receipts from abroad and payments to abroad.

(4) Transfers from and to abroad. (Any Three)
22. Sale of machinery to abroad is export of goods and thus recorded in the Current Account. 1½

Sale of machinery to abroad brings in foreign exchange and thus recorded on the credit side. 1½

23. The central bank is the sole authority for the issue of currency in the country. It promotes efficiency in the financial system. Firstly, because it leads to uniformity in the issue of currency, Secondly, because it gives Central Bank control over money supply. 4

OR

The Central Bank acts as a banker to the government. The central bank accepts receipts and makes payments for the government and carries out exchange, remittance and other normal banking operations for the government. The central bank manages public debt and also lends to government. 4

24. - Opening more bank accounts means more bank deposits. 4
   - More deposits means increase in the lending capacity of the commercial banks.
   - More lending by banks means more investment in the country.
   - More investment means more national income.

25. \[ Y = \bar{C} + \text{MPC}(Y) + 1 \] 1½

\[ Y = 100 + (1 - 0.2) Y + 200 \] 2

\[ 0.2Y = 300 \]

\[ Y = 1500 \] ½

26. (i) Payment of fees to chartered accountant by a firm is intermediate cost to the firm and, therefore not included. 2

(ii) Payment of corporate tax by a firm is a transfer payment and thus not included. 2

(iii) Purchase of a refrigerator by a firm for own use is investment expenditure and thus included. 2
27. **The Inflationary Gap** is the amount by which the aggregate demand exceeds aggregate supply at the full employment level. It is called inflationary because it leads to rise in price level.

**Repo Rate** is the rate of interest at which central bank lends to commercial banks for a short period. When central bank raises Repo Rate, the borrowings by the commercial banks become costly. This forces the commercial banks to raise their lending rates. People borrow less, and therefore spend less. This helps in reducing inflationary gap.

*(Diagram not required)*

**OR**

Deflationary Gap is the amount by which the aggregate demand falls short of aggregate supply at the full employment level. It is called deflationary because it leads to a fall in price level.

*(Diagram not required)*

**Open Market Operations** refer to buying and selling of government securities by the central bank in the open market. Central bank can reduce deflationary gap by buying securities. Those who sell receive payments by cheques from the central bank. The money flows out from Central bank into the commercial banks. This raises lending capacity of commercial banks. Banks lend more. Spending rises which reduces deflationary gap.

28. Government can influence allocation of resources by influencing market mechanism through taxes, subsidies and direct participation in production. Heavy taxes can be imposed on production units engaged in producing harmful products like liquor, cigarettes etc. Tax concessions and subsidies can be given to encourage production of products useful for the masses. Government can directly produce goods and services normally ignored by the private sector due to lack of enough profits.
29. \[ N.I. = ii + v + (vii + x) - xi - viii - xii \]
\[ = 600 + 100 + 70 + (-10) - 20 - 60 - 10 \]
\[ = \text{Rs. 670 Crore.} \]

PD\(I\) = iv - vi - iii - i
\[ = 650 - 50 - 30 - 80 \]
\[ = \text{Rs. 490 Crore.} \]
SECTION – A

1. The Unemployment is reduced due to the measures taken by the government. State its economic value in the context of production possibilities frontier. 1

2. Define budget set. 1

3. What is meant by revenue in microeconomics? 1

4. Give meaning of 'returns to a factor.' 1

5. What is perfect oligopoly? 1

6. Explain the central problem 'for whom to produce.' 3

7. A consumer buys 18 units of a good at a price of Rs. 9 per unit. The price elasticity of demand for the good is \((-1)\). How many units the consumer will buy at a price of Rs. 10 per unit? Calculate. 3

8. State the relation between marginal revenue and average revenue. 3

Or

Slate the relation between total cost and marginal cost. 3

9. What is the behaviour of average fixed cost as output is increased? Why is it so? 3

10. Why are the firms said to be interdependent in an oligopoly market? Explain. 3

11. A consumer consumes only two goods. Explain consumer's equilibrium with the help of utility analysis. 4
Or

A consumer consumes only two goods A and B and is in equilibrium. Show that when price of good B falls, demand for B rises. Answer this question with the help of utility analysis.

12. What happens to the demand of a good when consumer's income changes? Explain.

13. State the behaviour of marginal product in the law of variable proportions. Explain the causes of this behaviour.

14. Explain the conditions of consumer's equilibrium with the help of the indifference curve analysis.

Or

Explain the three properties of the indifference curves.

15. From the following information about a firm, find the firms equilibrium output in marginal cost and marginal revenue. Give reasons. Also find profit at this output.

<table>
<thead>
<tr>
<th>Output (units)</th>
<th>Total Revenue (Rs.)</th>
<th>Total Cost (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>2</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td>3</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>4</td>
<td>28</td>
<td>28</td>
</tr>
<tr>
<td>5</td>
<td>35</td>
<td>36</td>
</tr>
</tbody>
</table>

16. Market of a commodity is in equilibrium. Demand for the commodity "increases." Explain the chain of effects of this change till the market again reaches equilibrium. Use diagram.

Note: The following question is for the Blind Candidates only in lieu of Q. No. 16.

Market of a commodity is in equilibrium. Demand for the commodity "increases." Explain the chain of effects of this change till the market reaches equilibrium again. Compare the prices at the old and new equilibrium.
SECTION-B

17. What are demand deposits? 1
18. What is involuntary unemployment? 1
19. Define marginal propensity to consume. 1
20. Define government budget. 1
21. Give meaning of balance of trade. 1
22. Define externalities. Give an example of negative externality. What is its on welfare? 3
23. Explain the significance of ‘store of value’ function of money. 3

Or

Explain the significance of ‘medium of exchange’ function of money. 3

24. Is the following revenue expenditure or capital expenditure in the con government budget? Give reason. 3
   (i) Expenditure on collection of taxes.
   (ii) Expenditure on purchasing computers.
25. Explain the meaning of balance of payments deficit. 3
26. Recently Government of India has doubled the import duty on gold. What impact is it likely to have on foreign exchange rate and how? 4
27. Define money supply and explain its components. 4

Or

Explain the the ‘lender of last resort’ function of central bank. 4

28. Calculate investment expenditure from the following data about an economy which is in equilibrium

   National income = 1000 4
   Marginal propensity to save = 0.25
   Autonomous consumption expenditurere = 200

29. Government raises its expenditure on producing public goods. Which economic value it reflect? Explain. 4
30. Calculate national income and gross national disposable income from the following: (GNDI is out of syllabus now) 4+2=6

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(Rs. Arab)

(i) Net current transfers to abroad \((-)\) 15
(ii) Private final consumption expenditure 600
(iii) Subsidies 20
(iv) Government final consumption expenditure 100
(v) Indirect tax 120
(vi) Net imports 20
(vii) Consumption of fixed capital 35
(viii) Net change in stocks \((-)10\)
(ix) Net factor income to abroad 5
(x) Net domestic capital formation 110

31. Giving reason explain how should the following he treated in estimation domestic product at market price? 6
   (i) Fees to a mechanic paid by a firm?
   (ii) Interest paid by an individual on a car loan taken from a bank.
   (iii) Expenditure on purchasing car for use by a firm.

32. Explain national income equilibrium through aggregate demand and aggregate supply using diagram. Also explain the changes that take place in an economy when the economy is not in equilibrium. 6

   Or

   Outline the steps required to be taken in deriving saving curve from the given consumption curve. Use diagram

Note: The following question is for the Blind Candidates only lieu of Q. No. 32

32. Define aggregate demand Explain national income equilibrium through aggregate demand and aggregate supply Also explain the changes that take place economy when the economy is not in equilibrium. 6

   Or

   What is saving function? How it is derived from the consumption function? Explain.
EXPECTED ANSWERS / VALUES POINTS (2014)

SECTION–A

Distribution of Marks

1. The economic value of reduction in unemployment is that it will help the economy in realizing its production potential. 1

2. Budget set consists of all the bundles of the goods which at given prices cost less than or equal to the given income of the consumer. 1

3. Receipts from sale of a good or market value of the output produced is called revenue. 1

4. Returns to a factor refers to change in output when only one input is changed, other inputs remaining unchanged. 1

5. If in an oligopoly market firms produce homogeneous products, it is called perfect oligopoly. 1

6. For whom to produce means that who will buy the goods and services produced. Clearly, those who have income will be able to buy. So, the problem amounts to how the national income is distributed in an economy. 3

7. \[ E_p = \frac{P}{Q} \times \frac{\Delta Q}{\Delta P} \]

\[ -1 = \frac{9}{18} \times \frac{\Delta Q}{1} \]

\[ 9 \times \Delta Q = -18 \]

\[ \Delta Q = -2 \]

Consumer will buy \( Q + \Delta Q = 18 + (-2) = 16 \) units 1

Class XII - Economics
8. When MR < AR, AR falls
   When MR = AR, AR is constant
   When MR > AR, AR rises
   \( \text{OR} \)
   When TC rises at a decreasing rate, MC falls.
   When TC rises at an increasing rate MC rises.
   When TC rises at a constant rate MC is constant.

9. AFC falls continuously as output is increased.
   It is because, even when output is increased TFC remains unchanged.
   \text{(Diagram not required)}

10. When there are only a few firms in the market, it is likely that each firm
    has some knowledge as to how its rivals operate. Each firm expects
    reactions from the rival firms. Therefore, each firm in deciding price
    and output, takes into account the expected reactions by the rival firms.
    In this way the firms are interdependent on each other.

11. Assuming that the only two goods the consumer consumes are X and Y, 
    the conditions of equilibrium are:

    \( (1) \quad \frac{MU_x}{P_x} = \frac{MU_y}{P_y} \)

    \( (2) \quad \text{MU falls as more is consumed} \)

    \text{Explanation: (1) Suppose} \quad \frac{MU_x}{P_x} = \frac{MU_y}{P_y}. \text{The consumer will not be in }
    \text{equilibrium because per rupee MU of X is greater than per rupee MU of Y. This will induce the }
    \text{consumer to buy more of X by reducing expenditure on Y. It will lead to fall in } MU_x \text{ and rise in } MU_y. \text{This will continue till }
    \frac{MU_x}{P_x} = \frac{MU_y}{P_y}.

    \( (2) \quad \text{Unless MU falls as more of a good is consumed the consumer will }
    \text{not reach equilibrium.} \)
(Explanation based on \( \frac{MU_x}{P_x} < \frac{MU_y}{P_y} \) is also correct.)

OR

Given \( \frac{MU_A}{P_A} < \frac{MU_B}{P_B} \) (Consumer is in equilibrium)

Given that \( P_B \) falls, then

\[ \frac{MU_A}{P_A} < \frac{MU_B}{P_B} \text{ (Or } \frac{MU_B}{P_B} > \frac{MU_A}{P_A} \text{)} \]

Since per rupee MU of B is higher than per rupee MU of A, the consumer will reduce expenditure on A and increase that on B. So, when \( P_B \) falls, demand for B rises.

12. The effect of change in income of the consumer on demand of a goods depends upon whether the goods is inferior or normal. If the goods is normal for the given consumer, its demand is likely to increase with an increase in income. If the Goods is inferior for the consumer, its demand is likely to decreases with an increasing in income.

13. **There are three phases of change in MP**:

   (1) **MP rises**: Because when the variable input is increased, efficient utilization of the fixed inputs takes place due to specialisation. This raises efficiency of the variable input.

   (2) **MP falls but is positive**: Because beyond a point increasing variable input puts pressure on fixed inputs leading to decline in efficiency.

   (3) **MP continues to fall and is negative**: Because there is so much pressure of the variable input on the fixed inputs that total product starts declining.

   (To be marked as a whole. Diagram not required)

14. Let the two goods the consumer consumes be X and Y.

   The two conditions of equilibrium are:

   (1) \( MRS = \frac{P_X}{P_Y} \)
(2) MRS falls as more of X is consumed in place of Y.

Explanation:

(1) Suppose $\text{MRS} > \frac{P_x}{P_y}$ i.e. consumer is not in equilibrium. It means that to obtain one more unit of X consumer is willing to sacrifice more units of Y as compared to what is required in the market. The consumer buys more of X. MRS falls and continue to fall till it is equal to $\frac{P_x}{P_y}$ and the consumer is in equilibrium.

(2) Unless MRS falls as consumer consumes more of X, the consumer will not reach equilibrium again.

(Explanation based on $\text{MRS} < \frac{P_x}{P_y}$ is also correct)

OR

The Three properties are

(i) IC slopes downwards from left to right.

(ii) IC is strictly convex to the origin.

(iii) IC to the right has higher utility.

Explanation:

(1) Slopes downward because to consume more of good X, the consumer must give up some quantity of good Y so that the consumer remains on the same level of satisfaction.

(2) Strictly convex because it is assumed that MRS continuously falls due to the law of diminishing marginal utility.

(3) IC to the right has higher utility level because it is assumed that higher consumption means higher utility.
15. Output | TR | TC | MR | MC
| 1    | 7  | 8  | 7  | 8  |
| 2    | 14 | 15 | 7  | 7  |
| 3    | 21 | 21 | 7  | 6  |
| 4    | 28 | 28 | 7  | 7  | **Equilibrium**
| 5    | 35 | 36 | 7  | 8  |

The producer is in equilibrium at 4 units of output

**Reasons**

1. MC = MR
2. MC > MR after equilibrium

**Profit** = TR - TC = 28 - 28 = 0

16.

- OP₁ is the equilibrium price and OQi is equilibrium quantity. When demand increases, the demand curve shifts to the right. D2 is new demand curve.

- This creates an excess demand EiAi at the existing price OP₁.

- The excess demand causes competition among buyers resulting in rise in price.

- Rise in price leads to fall in demand and rise in supply as indicated by the arrows.

- These changes continue till the market reaches new equilibrium at E₂ with a higher price OP₂ and higher quantity OQ₂.
For the Blind Candidate

- Increase in demand result in excess demand
- It causes competition among buyers resulting in rise in price
- Price rise reduces demand and increases supply.
- Excess demand is reduced.
- These changes continue till demand and supply are equal at new price.
- New price is higher than old price.

SECTION - B

17. The deposits which can be withdrawn from the banks on demand, through cheques.

18. Involuntary unemployment occurs when those who are able and willing to work at the going wage rate do not get work.

19. MPC is the ratio of 'change in consumption expenditure' to 'change in income.'

20. Government budget is an annual financial statement showing estimated receipts and estimated expenditure of government.

21. 'Balance of trade' refers to 'export of goods' less 'import of goods' during a given year.

22. Externalities refer to the benefits (or harms) a firm or an individual causes to another for which it is not paid (or penalised)

   Example: Polluting river by an oil refinery Or any other relevant example.

   Impact: Reduces welfare through negative effect on health.

23. The significance of money as a store of value is that money can be stored for use in future. One can use one’s present income in future because money comes in convenient denominations and is easily portable.

   OR

   Medium of exchange function has solved the problem of double coincidence of wants. The buyer can pay money to the seller and the seller in turn can buy what he wants to buy. Money facilitates the exchange.
24. (i) Expenditure on collection of taxes is revenue expenditure because it neither creates any asset nor reduces any liability.  
(ii) Expenditure on purchasing computers is capital expenditure because it creates assets.

25. Deficit in the BOP occurs when autonomous foreign exchange receipts fall short of autonomous foreign exchange payments. Autonomous transactions are those which are not influenced by other transactions in the BOP.

26. Increasing import duty on gold will make imports of gold costly. It will reduce demand for import of gold and consequently of foreign exchange. Supply of foreign exchange remaining unchanged, price of foreign exchange is likely to fall.

27. Money supply refers to the stock of money in the country on a particular day. It has two components: Currency with public outside the banks and demand deposits with banks. Demand deposits are deposits which can be withdrawn by writing cheque. Both these are directly usable for carrying out transactions at will.

OR

Lending of money by the Central Bank to commercial banks in times of emergent need is referred to as the 'lender of last resort' function of the central bank.

\[ Y = \bar{C} + MPC(Y) + l \]
\[ 1000 = 200 + (1 - .25)1000 + l \]
\[ l = 1000 - 200 - 750 \]
\[ l = 50 \]

29. Increased expenditure by government on public goods like defence, maintaining law and order etc. increases their availability to the people of the country. For example more expenditure on maintaining law and order raises the sense of security among the people. Any such expenditure raises welfare of the people.
30. \[ NI = ii + iv + x - vi - v + iii \cdot ix \]
\[ = 600 + 100 + 110 - 20 - 120 + 20 - 5 \]
\[ = \text{Rs. 685 Arab.} \]

GNDI is out of syllabus now

\[ \text{GNDI} = \text{N.I.} + \text{vii} + \text{v} - \text{iii} \cdot \text{i} \]
\[ = 685 + 35 + 120 - 20 - (-15) \]
\[ = \text{Rs. 835 Arab.} \]

31. (i) \textbf{Fees paid to mechanic by a firm} is not included because it is an intermediate cost of the firm.  

(ii) \textbf{Interest paid by an individual} is not included because the loan is taken to meet consumption expenditure and therefore interest paid on such a loan is not a factor payment.

(iii) \textbf{Expenditure on purchasing car by a firm} is included because it is an investment expenditure, a final expenditure.

32. The national income is in equilibrium when \( AD = AS \). In the figure the equilibrium is at E, the intersection of the AD curve and the 45° line. The equilibrium income is OM.
When the economy is not in equilibrium AD is not equal to AS. Suppose AD > AS, it will lead to an increase in inventories with the producers. The producers in turn will produce more to the desired level of inventories. This raises AS till it becomes equal to AD.

(Answer based on AD < AS is also correct)

**Steps:**

(i) $\overline{CC}$, is the given consumption curve on OY axis, take OS$_1$ equal to $\overline{OC}$.

(ii) Draw a 45° line from point of origin. It intersects $\overline{CC}$ at B.

(iii) From point B draw a perpendicular on OX which cuts OX at B$_1$.

(iv) Join S$_1$ and B$_1$ by a straight line and extend it to S.

(v) SS$_1$ is the saving curve.

**For Blind Candidates in place of Question no. 32**

32. The sum of demand of all goods and services is called aggregate demand.

- Equilibrium level of income is that level of income at which aggregate demand and supply are equal.
- When the economy is not in equilibrium then aggregate demand and supply are not equal. Suppose aggregate demand is greater than aggregate supply. This will reduce inventories. To make up this deflation producers will produce more.

- This will increase aggregate supply and ultimately it will become equal to aggregate demand.

**OR**

Relation between saving and income is saving function

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

\[ S = Y - C \]

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

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

This is derivation of saving function from C function.