DIRECTORATE OF EDUCATION
Govt. of NCT, Delhi

SUPPORT MATERIAL
(2017-2018)

Class : XII
Economics

Under the Guidance of

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विषयवर्त सहायक सामग्री

प्रस्तावना

शिक्षा निदेशालय के अनुसार एवं विशेष निदेशालय शिक्षकों द्वारा कक्षा १२वीं से १२वीं के छात्रों हेतु नयामूलक सहायक सामग्री को प्रस्तुत कराने हेतु मुख्य अध्याय रचे हो रहा है।

गत वर्षों से विषयवर्ती विषयों का उपलब्ध कराया जा रही सहायक सामग्री हमारे विद्यालयों के तन छात्रों के लिए वरदान सिद्ध हो रही है जो मालार से गुणवत्ता विषय सामग्री लीजिए गाते हैं। निदेशालय द्वारा उपलब्ध कराये जाने वाले सामग्री ऐसे छात्रों को सार्वजनिक परीक्षाओं में बेहतर प्रदर्शन करने का बीमा प्रदान करती है। इस सहायक—सामग्री में निर्माणित सामग्री को स्पष्ट एवं गणात्मक दृष्टि से प्रस्तुत किया गया है।

अभ्यास को उपलब्ध कराने की जाती है कि ने विषयवर्ती विषयों को इस सहायक—सामग्री का प्रयोग कराये जानें। जिससे इस छात्रों के मैत्रिक प्रदर्शन में सुधार हो और साथ ही छात्रों से भी यह उपलब्ध कराने की जाती है कि ये इस सहायक सामग्री का अधिकतम उपयोग कर प्रत्येक विषय को तीन दृष्टि से समझ रहें।

इस सहायक सामग्री को तैयार करने गाले तनी शिक्षकों का उनके बहुपृक्ष योगदान से लिए अभार प्रकार करती हैं।

प्रमोक्त—

Dr. Sunita Kaushik

सहायक शिक्षा निदेशक (विद्यालय एवं परीक्षा)
भावना सम्मेलन,

इस पुस्तक के माध्यम से आपके साथ साथ संवाद का अवसर मिल रहा है। और अपने विद्यार्थियों के साथ जुड़ने के इस अवसर का मैं पूरा लाभ उठाना चाहता हूँ।

कितनी मात्र आपके विद्यालय जैसे जगहों के 1000 सामान्य विद्यालय हैं, जिनका संचालन 'शिक्षा निदेशालय' करता है। शिक्षा निदेशालय का मुख्यालय पुष्करन शास्त्रीपथ (ओँड़ा सोनेगोविल), दिल्ली-110 में स्थित है।

इस निदेशालय में सभी अधिकारी टिक रहे हैं ताकि हम स्कूल और अलग-भी जान सकें। हमारे शिक्षक आपको सह-सह से वहन होगा। प्रश्न प्रति प्रश्न में हमारे सभी दिग्विजयी और बच्चों से कितना उम्मीद और अच्छा उत्साह जोड़ता है।

इसी क्रम में चिंतित व्यक्ति से शिक्षा निदेशालय से हमारा साथ के बारे में पूछते हैं।

प्रयास करूँ, आपके हाथ में यह जो पुस्तक है, इसे कई उल्लेख अध्यापकों को मिलकर विशेष रूप से आप ही के लिए तैयार किया है। इस तैयार करवाने में काफी महत्व और ध्यान की जरूरत है। इसलिए अपने गुरु पाठ्यपुस्तक के साथ साथ यह आपकी सहायता है। आपके नेतृत्व में हमारे वातावरण का बुनियादी भाग और अन्य विषयों के लिए अत्यंत आवश्यक है।

आधुनिक, एक व्यक्ति का विषय भी दिशा में दिशा में सामान्य विद्यालय है। इस पुस्तक का साथ एक विद्यार्थी को पेश किया जाए। अपने देश के लिए एक संबंधित मिश्रित भाग से प्रेरित है।

गरीब देश मे शुक्राशास्त्र।

आपकी
सौभाग्य गुप्ता
SUBJECTWISE SUPPORT MATERIAL

FOREWORD

I take pride in presenting latest Support Material for the students of classes IX to XII developed and prepared by a team of subject experts and dedicated teachers from different schools of the Directorate of Education.

The Support Material, over the years, has proved to be a blessing for the students of our schools who are unable to purchase quality subject material from the market unlike their public school counterparts. It gives them a fair chance to do well in the public exams. The comprehensive support material presents the material contained in the prescribed texts in a lucid and comprehensible manner.

While the teachers are expected to give ample practice to the students to enhance their academic performance, the students are also expected to utilize the material to the maximum so that they have a better understanding of the concepts of each subject.

I express my sincere appreciation to all team leaders and their respective teams for their valuable contribution to this commendable task.

Dr. Sunita S. Kaushik
Addl D.E. (School & Exam)
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CLASS XII

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# ECONOMICS

## Class XII (2017-18)

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<th>Periods</th>
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<td>20</td>
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</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; 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 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 related 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.

Central 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 (2017-18)**

**March 2018 (Examination)**

<table>
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<tr>
<th>S.No.</th>
<th>Typology of Questions</th>
<th>Very Short Answer MCQ 1 Mark</th>
<th>Short Answer II 3 Marks</th>
<th>Short Answer I 4 Marks</th>
<th>Long Answer 6 Marks</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>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>1</td>
<td>19</td>
<td>24%</td>
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<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>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>1</td>
<td>14</td>
<td>17%</td>
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<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>1</td>
<td>–</td>
<td>1</td>
<td>10</td>
<td>13%</td>
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</table>

**Total**

Total Marks: 80

Duration: 3 hrs.

### 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 about 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:

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<tr>
<th>S. No</th>
<th>Heading</th>
<th>Marks Allotted</th>
</tr>
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<tbody>
<tr>
<td>1.</td>
<td>Relevance of the topic</td>
<td>3</td>
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<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>
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<tr>
<td>4.</td>
<td>Viva</td>
<td>8</td>
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<td></td>
<td>Total</td>
<td>20 marks</td>
</tr>
</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>
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<td></td>
<td>Total</td>
<td>20 Marks</td>
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</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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UNIT 1

INTRODUCTION

Points to Remember

- Micro economics studies the behaviour of an individual economic unit.
  Example: Demand of an individual consumer, Production of a firm etc.

- Macro economics studies the behaviour of the economy as a whole.
  Example: Aggregate Demand, National Income etc.

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

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

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

- Central Problems of an Economy

  ![Diagram showing allocation of resources: What to produce (Selection of goods), How to produce? (Selection of technique), 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 possibility frontier 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 Possibility Frontier
  
  (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 or (MRT) MRT is increasing because all resources are not equality 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</td>
</tr>
<tr>
<td>3. Skill Development</td>
<td>3. Natural Calamities (Flood,</td>
<td>Eradication Programme</td>
</tr>
<tr>
<td>Programme (Training)</td>
<td>Earthquake, Tsunami,</td>
<td></td>
</tr>
<tr>
<td>4. Education for all (Health)</td>
<td>Drought etc.)</td>
<td></td>
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<tr>
<td>5. Clean India Campaign</td>
<td>4. Migration</td>
<td></td>
</tr>
<tr>
<td>(Health)</td>
<td>5. War, terrorism</td>
<td></td>
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<tr>
<td>6. Yoga Enhancement Plans</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Health).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Beti Bachao, Beti Padhao</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Education)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Make in India (Investment)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Increase in Foreign Capital</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Foreign Investment)</td>
<td></td>
<td></td>
</tr>
</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.

Positive Economic Analysis: It deals with the things 'as they are'. It represents facts like what was? What is? What will be? etc. Example: 'India is overpopulated', 'Prices have been rising in India'. It can be verified.

Normative Economic Analysis: It deals with things as 'they ought to be'. It deals with idealistic situation instead of actual situation. Example: 'Rich people should be taxed more'. Free education should be given to the poor'. It can't be verified.

MULTIPLE CHOICE QUESTIONS (1 MARK)

1. Which of the following subject matter study in Micro Economics,
   (a) Money supply
   (b) Aggregate demand
   (c) Market demand of a good
   (d) National Income

2. Which subject matter does not study in macro economics,
   (a) Employment Level
   (b) Aggregate Supply
   (c) National Income
   (d) Determination of market price
3. Economic Problem arises due to
   (a) High population of a country
   (b) Competition among buyers
   (c) Resources have alternative uses
   (d) Producer wants maximum profit

4. Which of these is a central problem of an Economy?
   (a) Deficit demand
   (b) Equilibrium of an economy
   (c) For whom to produce
   (d) Decreasing return to a factor

5. Any point beyond the PPF shows:
   (a) Under utilisation of Resource
   (b) Unattainable combination of output
   (c) Efficient utilisation of Resources
   (d) Decrease in resources.

6. In which situation PPF shifts towards right
   (a) Increase in foreign capital
   (b) Resources are reduced
   (c) Fully efficient use of resources
   (d) Increase in employment

7. Production Possibility Frontier can be a straight line: when
   (a) No, It can't be a straight line
   (b) More of both goods can be produced
   (c) All resources are equally efficient in production of both goods
   (d) All resources are not equally efficient in production of both goods.
8. Which of the followings are assumptions of PPF
   (a) Available Resources are fully and efficiently utilized
   (b) Technology remain stable
   (c) Resources are not equally efficient in production of all goods
   (d) All of the above

9. Which of these statement is correct about Opportunity cost?
   (a) Opportunity cost is always higher than the given price.
   (b) Opportunity cost is always less than the given price.
   (c) Opportunity cost is always calculated in money.
   (d) Opportunity cost can be less than, more than or equal to given price.

10. Which of these is Normative Economics.
    (a) 25 percent population of India is below poverty line.
    (b) Increase in FDI has increased the GDP of India.
    (c) Equal distribution of income will make India poverty free.
    (d) Higher welfare spending by government increases the Aggregate Demand.

**Ans.** 1. (c); 2. (d); 3. (c); 4. (c); 5. (b); 6. (a); 7. (c); 8. (d); 9. (d); 10. (c)

**Short Answer Type Questions (3-4 Marks)**

1. Distinguish between microeconomics and macroeconomics. Give example.

2. Why does an economic problem arise? Explain the problem of 'How to Produce'?

3. Explain the problem of 'What to Produce' with the help of an example.

4. 'For whom to produce' is a central problem of an economy. Explain.
5. Define opportunity cost with the help of an example, how does it differ from marginal opportunity cost?

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

7. Why is a production possibility curve concave? Explain.

8. What is PP Frontier? Write its assumptions.

9. Show the following situation with PPF (PPC).
   (a) Fuller utilisation of resources
   (b) Growth of resources
   (c) Under utilisation of resources.

10. Distinguish between positive economics and normative economics.

11. A lot of people died and many factories were destroyed because of a severe earthquake in a country. How will it affect the country's PPF?

12. Calculate MRT from following table. What will be the shape of PPF and why?

<table>
<thead>
<tr>
<th>Combinations</th>
<th>Green Chilly (Units)</th>
<th>Sugar Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>100</td>
<td>1</td>
</tr>
<tr>
<td>B</td>
<td>95</td>
<td>1</td>
</tr>
<tr>
<td>C</td>
<td>85</td>
<td>2</td>
</tr>
<tr>
<td>D</td>
<td>70</td>
<td>3</td>
</tr>
<tr>
<td>E</td>
<td>50</td>
<td>4</td>
</tr>
<tr>
<td>F</td>
<td>25</td>
<td>5</td>
</tr>
</tbody>
</table>

13. Given that no resource is equally efficient in producing all goods. Write name of such curve which shows production potential of an economy. Explain features of this curve along with the reasons?

14. If an Economy is not able to utilise its available resources efficiently,
what will be the effect on PPF? What will you suggest for economic growth?

15. Govt started employment generation program MNREGA explain its impact on PPF.

17. 'Make in India' is a Govt. policy to attract foreign investment explain its impact on PPF.

**Hints (3 Marks Questions)**

12. | Combinations | MOC $\frac{\Delta Y}{\Delta X}$ |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>–</td>
</tr>
<tr>
<td>B</td>
<td>5 : 1</td>
</tr>
<tr>
<td>C</td>
<td>10 : 1</td>
</tr>
<tr>
<td>D</td>
<td>15 : 1</td>
</tr>
<tr>
<td>E</td>
<td>20 : 1</td>
</tr>
<tr>
<td>F</td>
<td>25 : 1</td>
</tr>
</tbody>
</table>
### Exam. Oriented Questions with Answer

**Very Short 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

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

**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.** 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.
**3 - 4 Marks Questions**

**Q. 1.** Why is a production possibility curve concave? Explain.

**Ans.** The production possibility curve being concave means that MRT increases as we move downward along the curve. MRT increases because it is assumed that no resource is equally efficient in production of all goods. As resources are transferred from one good to another, less and less efficient resources have to be employed. This raises cost and raises MRT.

**Q. 2.** 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. 3.** 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. 4.** 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. 5.** 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. 6. For labourers working under MGNREGA Govt has increased minimum employment from 100 to 150 days. How will this affect real and potential level of production.

Ans. Real level of production will be increased by improvement in employment. But potential level of production will not increase (No shifting of PPC will take place). Reason being PPC is based on the assumption that available resources are fully utilised.

Q. 7. 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. 8. Giving reason 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>
Since MRT is increasing, the PP curve is downward sloping and concave to the origin.

**Q. 9.** Explain the effects of floods in Jammu and Kashmir on its production possibilities frontier.

**Ans.** Floods have damaged and reduced resources. Since potential production declines, the production possibility frontier shifts to the left.
UNIT II

CONSUMER'S EQUILIBRIUM & DEMAND

Points to Remember

- **Consumer**: is an economic agent who consumes final goods and services to fulfill his basic needs.
- **Utiling**: Wants satisfying capacity of goods and services is called utility.
- **Total utility**: It is the sum of satisfaction/utility 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.
- **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.

  \[ \text{Budget line: } M = P_x \cdot x + P_y \cdot y \]

- **Consumer 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, consumer always choose a bundle having more of one good and no less of other 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.

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

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.

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

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

4. Higher Indifference curve represents higher level of satisfaction: due to monotonic preference. Higher difference curve shows bundles having more of one commodity and not less of other good in comparison of lower Indifferent curve.

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.

Conditions of Equilibrium:

(i) In case of one commodity

$$\text{MU}m = \frac{\text{MU}x}{P_x} \quad \text{[If } \text{MU}m = 1, \text{MU}x = P_x\text{]}$$

Where, $\text{MU}m =$ Marginal utility of money

$\text{MU}x =$ Marginal utility of 'x', $P_x =$ Price of 'x'.

(ii) In case of two commodity:

$$\frac{\text{MU}x}{P_x} = \frac{\text{MU}y}{P_y} = \text{MU}m$$

and MU must be decreasing.

(b) **Ordinal approach (Indifference Curve Analysis)**: According to this approach utility can't be measured but can be expressed in order or ranking.

**Condition of Equilibrium**:

(i) $\frac{P_x}{P_y} = \frac{\text{Price of 'x'}}{\text{Price of 'y'}}$

or budget line must be tangent to indifference curve.

(ii) MRS must be decreasing or

Indifference curve must be convex to the origin.

**Quantity Demanded**: It is that quantity which a consumer is able and is willing to buy at given price and in 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.

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

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

- **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 Diagram](image)

- **Change in Demand**: When demand changes due to change in any one of its determinants other than the price.
- **Change in Quantity Demanded**: When quantity of demand changes due to change in own price of commodity while other factors remain constant change.

- **Demand Curve**: It is a graphical presentation of demand schedule, which shows quantity demanded at various prices of commodity. There is an inverse relation between price and demand of commodity.

- **Demand curve and its slope**:

  ![Demand Curve Diagram]

  Slope of demand curve = \( \frac{\text{Change in price}}{\text{Change in quantity demanded}} \)

  \[ = \frac{\Delta P}{\Delta Q} \]

- **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

\[ \Delta Q \rightarrow \text{Change in quantity demanded} \]

\[ \Delta P \rightarrow \text{Change in Price} \]

\[ P \rightarrow \text{Initial Price} \]

\[ Q \rightarrow \text{Initial Quantity} \]

Percentage Change in Quantity demanded

\[
\text{Ed.} = \frac{\Delta Q}{Q} \times 100
\]

Percentage change in price

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

- Degrees of Price Elasticity of demand

- Factors affecting Price elasticity of Demand
  (a) Nature of the Commodity.
  (b) Availability of Substitute goods.
  (c) Income of the consumer.
  (d) Possibility of postponment of commodity
  (e) Share of the commodity in total expenditure.
  (f) Use of the commodity.
  (g) Habit of the consumer.
MULTIPLE CHOICE QUESTIONS (1 MARK)

1. Total Utility of a commodity is maximum when-
   (a) Consumption of goods is maximum
   (b) Marginal utility is maximum
   (c) Average utility is maximum
   (d) Marginal utility is zero

2. Marginal Utility of a commodity
   (a) Always decreases with increase in quantity
   (b) Decreases only when total utility decreases
   (c) Decrease but always remain positive
   (d) First increase and start decreasing after reaching maximum point

3. A consumer gets maximum satisfaction, when?
   (a) The price of commodity is minimum
   (b) Total Utility is maximum
   (c) Total utility he gets is equal to total utility he give up in terms of money.
   (d) Utility he gets from last unit is equal to utility he give up in terms of money.

4. A consumer consumes two goods. Consumer is said to be in equilibrium, when:
   (a) Marginal utility of two goods is equal.
   (b) Total utility of two goods is equal.
   (c) Price of two goods is equal.
   (d) Per rupee marginal utility is equal.
5. When marginal utility is negative, total utility___________
   (a) Total utility increase at decreasing rate
   (b) Total utility starts diminishing
   (c) Average utility becomes zero
   (d) Total utility becomes negative

6. If price of commodity is zero. The consumer will consume-
   (a) Unlimited units of commodity
   (b) Till total utility reaches maximum
   (c) Till Marginal utility becomes zero
   (d) till total utility becomes zero

7. Which of the following condition is necessary for consumer equilibrium in case of one commodity?
   
   \[ \frac{MU_m}{MU_x} = P_x \]  
   (b) \[ MU_x = MU_m \times P_x \]
   
   \[ \frac{P_x}{MU_x} = MU_m \]  
   (d) \[ \frac{MU_m}{P_x} = MU_x \]

8. As per consumer's equilibrium theory, to reach consumer's equilibrium a consumer can___________
   (a) Decrease the price of the commodity
   (b) Increase the Income of the consumer.
   (c) Change the quantity of the commodity
   (d) Increase the consumption of both goods.

9. The situation of consumer's disequilibrium \[ \frac{MU_x}{P_x} > \frac{MU_y}{P_y} \] arise
   (a) due to increase in consumption of good X,
   (b) due to decrease in the price of good Y.
   (c) due to increase in the price of good X
   (d) due increase in the price of good Y.
10. In case of two commodities a consumer strikes equilibrium when

(a) \( \frac{P_x}{MU_x} = \frac{P_y}{MU_y} = MU_m \)

(b) \( \frac{MU_x}{P_x} = \frac{MU_y}{P_y} = MU_m \)

(c) \( \frac{MU_x}{P_x} = \frac{MU_y}{P_y} = MRS_{xy} \)

(d) \( MU_m = \frac{MU_x}{P_x} \)

11. Number of Budget sets of a consumer are

(a) Unlimited, but within budget line

(b) Limited, depends upon the Income of consumer

(c) Limited, depends upon price of commodities

(d) Limited, depends upon price and income of consumer.

12. Which of the following is not a characteristic of indifference curve

(a) Indifference Curve is convex to the origin

(b) Higher Indifference Curve indicates higher level of satisfaction

(c) Indifference Curve do not intersect each other

(d) Indifference Curve is concave to the origin

13. Which of the following is not a determinants of individual demand function

(a) Distribution of Income

(b) Price

(c) Income of Consumer

(d) Taste and preferences
14. A consumer demands more quantity of a commodity when price decreases because
   (a) Total utility increases and become more than the price
   (b) Marginal utility becomes more than price
   (c) Marginal utility of money increases with decrease in the price
   (d) Marginal utility decreases with decrease in price

15. Demand curve shifts rightward in case of
   (a) Decrease in price of the commodity
   (b) Decrease in the price of substitute good.
   (c) Increase in the price of complimentary good.
   (d) Increase in the number of buyers

16. Price elasticity of demand of a commodity is - 2.5. Price of commodity increased by 20 percent. What will be the change in quantity demanded?
   (a) Decrease by 50 units
   (b) Increase by 50 units
   (c) Decrease by 8 percent
   (d) decrease by 50 percent

17. A consumer has monotonic preferences, find the most preferred bundle by him
   (a) 4 units of X good and 6 units of Y good
   (b) 6 units of X good and 5 units of Y good
   (c) 6 units of X good and 6 units of Y good
   (d) 4 units of X good and 5 units of Y good

18. What is the maximum number of Indifference curves of a consumer?
   (a) Unlimited numbers of Indifference curves
   (b) Upto his maximum satisfaction level
   (c) Depends upon his Budget line
   (d) Equal to various bundles of budget sets.
19. Slope of the demand curve is zero, its elasticity of demand is
(a) Elasticity of demand is zero
(b) Elasticity of demand is inelastic
(c) Elasticity of demand is infinity
(d) Elasticity of demand is elastic

20. Which of these is not a factor effecting elasticity of demand
(a) Nature of goods
(b) Number of uses of the commodity
(c) Availability of substitute goods
(d) Quantity of the commodity demanded

ANSWERS
1. (d); 2. (a); 3. (d); 4. (d); 5. (b); 6. (c); 7. (b); 8. (c); 9. (d); 10. (b); 11. (d); 12. (a); 13. (a); 14. (b); 15. (d); 16. (a); 17. (c); 18. (a); 19. (c); 20. (d)

SHORT ANSWER TYPE QUESTION (3-4 MARKS)

1. Explain the relation between total utility and marginal utility with the help of schedule?

2. Explain consumers equilibrium with utility approach in case of single good.

3. What do you mean by budget line? What are the reason of change in budget line?

4. Explain the relationship between total utility and marginal utility with the help of schedule.

OR
What changes will take place in total utility when –
(a) Marginal utility curve remains above X-axis
(b) Marginal utility curve touches X-axis
(c) Marginal utility curve lies below X-axis
5. State three features of indifference curve.

6. Why does two indifference curves not intersect each other?

7. Under what situations there will be parallel shift in budget line?

8. Explain the effect of a rise in the prices of 'related goods' on the demand for a good X.

9. Why does demand of a normal good increases due to increase in consumer's income?

10. Explain following factors effecting Price Elasticity of Demand
    (a) Nature of commodity
    (b) Availability of substitutes
    (c) Postponement of the use

11. Distinguish between expansion of demand and increase in demand with the help of diagram

12. Distinguish between change in demand and change in quantity demanded.

13. What will be the effect of following on elasticity of demand.
    (a) Income level of buyers
    (b) Habit of the consumer

14. What will be the slope of demand curve under following situations.
    (a) Perfectly elastic demand
    (b) Perfectly inelastic demand
    (c) Unit elastic demand

15. State the factors of rightward shift of demand curve. Explain any one.

16. State the factors of leftward shift of demand curve. Explain any one.

17. How does 'a portion of income spent on a good' effect elasticity of demand.
18. When price of a good is Rs. 7 per unit a consumer buys 12 units. When price falls to Rs. 6 per unit he spends Rs. 72 on the goods. Calculate price elasticity of demand by using the percentage method. Comment on the likely shape of demand curve based on this measure of elasticity.

19. A consumer buys 20 units of a good at a price of Rs. 5 per unit. He in incurs an expenditure of Rs. 120 when he buys 24 units. Calculate price elasticity of demand of the percentage method. Comment on the likely shape of demand curve based on this information.

20. Price elasticity of good X is known to be thrice that of Good Y. If price of the Good X increases by 20% and price of the Good Y decreases by 40% then calculate percentage charges in demand in both the cases.

21. The price elasticity of good X or Y are equal. The demand of X rises from 100 units to 250 units due to a 20 percent fall in its price. Calculate the percentage rise in demand of Y, if its price falls by 8 percentage.

22. Explain any four factors/determinantes affecting price elasticity of demand.

23. Fill in the gaps in the following equations:

   (i) \( \text{MRS} = \frac{\Delta \text{?}}{\text{?}} \)
   
   (ii) \( \text{?} = \Sigma \text{MU} \)
   
   (iii) \( \text{MU}_n = \text{TU}_n - \text{?} \)
   
   (iv) \( e_d = \frac{\Delta \text{Q}}{\text{?}} \times \frac{\text{P}}{\text{Q}} \)

24. Differentiate between:

   (i) Normal goods and Inferior goods
   (ii) Complementary goods and substitute goods.

25. Why should the budget line be tangent to the indifference curve at the point of consumer's equilibrium.
26. Why does consumer stop consumption in case where marginal utility is less than price of a good?

27. What is budget line? Why is it negatively sloped?

28. A consumer consumes only two goods x & y State & explain the conditions of consumer's equilibrium with the help of utility analysis.

29. Explain the conditions determining how many units of a good the consumer will buy at a given price.

30. Define marginal rate of substitution. Explain why is an indifference curve convex?

**LONG QUESTIONS (6 MARKS)**

1. Explain the conditions of consumer's equilibrium with the help of the indifference curve analysis. Represent the same in a diagram.

2. Explain the determination of consumers equilibrium with the help of a schedule in case of two commodities by using utility approach.

3. Why does demand curve slope downward?

4. Explain the determinants of price elasticity of demand.

5. With the help of diagrams, explain the effect of following changes on the demand of a commodity.
   (a) A fall in the income of its buyer.
   (b) A rise in price of complementary good.

6. What are the conditions of consumer's equilibrium under the indifference curve approach? What changes will take place if the conditions are not fulfilled to reach equilibrium?

7. Explain the three properties of indifference curve.

8. Whether the following statements are true or false? Give reasons.
   (i) Income effect of inferior good is positive.
   (ii) Change in quantity demanded is the explanations of law of demand.
9. Explain the concept of marginal rate of substitution (MRS) by giving an example. What happens to MRS when consumer moves downwards along the indifference curve? Give reasons for you answer.

10. Following statements are true or false give reasons:

(i) Increase in number of consumers shifts the demand curve rightward.

(ii) The demand of a commodity becomes elastic if its substitute good is available in the market.
Exam. Oriented Questions with Answer

VERY SHORT ANSWER QUESTION (1 MARK)

Q. 1. When does a good is called 'Normal Good'?
Ans. If the income effect of a commodity is positive and price effect is negative, it is called 'Normal Good'.

Q. 2. When does a good is called 'Inferior Good'?
Ans. If the income effect of a commodity is negative, it is called 'Inferior Good'.

Q. 3. Why the demand of water is Inelastic?
Ans. Because water is a necessary good.

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. 5. 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. 6. 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. 7. Write equation of Budget line
Ans. \( M = P_x \cdot X + P_y \cdot Y \)

Q. 8. Write equation of Budget set
Ans. \( P_x \cdot X + P_y \cdot Y \leq M \)
3-4 MARKS QUESTIONS

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.

Explain :

(i) \( \frac{MU_x}{P_x} = \frac{MU_y}{P_y} \)

If \( \frac{MU_x}{P_x} > \frac{MU_y}{P_y} \) 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 \( \frac{MU_x}{P_x} < \frac{MU_y}{P_y} \).

(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.


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: Necessasities 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>
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</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.

### 6 MARKS QUESTIONS

### 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 satisfaction remains at 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 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 upto that when MRS = \( \frac{P_x}{P_y} \).

If 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 MRS = \( \frac{P_x}{P_y} \).

(ii) MRS is continuously falling unless the equality between the MRS and \( \frac{P_x}{P_y} \) will not be reached.

Consumer is in equilibrium at point E. OX of X and OY of Y is optimum.
Q. 3. Explain the effect of change in income on demand for a good with the help of diagram.

Ans.

Q. 4. Why does demand curve slope downwards?

Ans. Following are the causes why demand curve slope downward –

(i) **Law of Diminishing Marginal Utility**: According to this law, as consumption of the commodity increases, marginal utility of successive unit goes on diminishing to a consumer. Accordingly, for every additional unit consumer is willing to pay less and less price.

(ii) **Income effect**: When real income of buyer changes due to change in price of the commodity, with a fall in price, real income increases. Accordingly demand for the commodity expand.

(iii) **Substitution Effect**: Substitution effect refers to substitution of one goods for the other good, when it becomes relatively cheaper. It is expansion of demand due to substitution effect.

(iv) **Size of Consumer Group**: When price of a commodity falls, many more buyers can afford to buy it. Accordingly demand expand.

(v) **Different Uses**: A good may have several uses. Milk for example is used for making curd, cheese and butter. If price of milk reduces, it will be put to different uses. Accordingly demand for milk expand.
Q. 5. Explain the effect of change in Income of the consumer on the demand for a good.

Ans. **Normal Goods**: In the situations when the income increases consumer will increase the demand of Normal goods and if the Income decreases consumer will decrease the demand of normal good, because in normal good income effect is positive.

**Inferior Goods**: In the situations when the Income decreases consumer will increase the demand of inferior goods and if the income increases a consumer will decrease the demand of inferior good because in inferior good income effect is negative.

Q. 6. 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 $P_x = 3$, $P_y = 3$ and $MRS = 3$, A consumer is said to be in equilibrium when

$$MRS = \frac{P_x}{P_y}$$

Substituting values we find that

$$3 > \frac{3}{3}$$

i.e., $MRS > \frac{P_x}{P_y}$

Therefore consumer is not in equilibrium $MRS > \frac{P_x}{P_y}$ means that consume 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.
Q. 7. 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 \( MU_x = 5 \), \( MU_y = 4 \), and 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 MUx, is higher than per rupee MUy, 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 again.
Points to Remember

- **Production Function**: It shows the functional relation between physical inputs and physical output of a good. It can be expressed as \( Q = (f_1, f_2, f_3, \ldots f_n) \). Where \( Q \) = Physical output of a good; \( f_1, f_2, f_3, \ldots, f_n \) = Physical inputs. Technology remains constant.

- **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 variable proportion type production function.
  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 refers to total amount of a good which is produced by a firm in a given period of time.

- Average production is the per unit output of variable factor (labour) employed.

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

- Marginal product 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, Average and Marginal Product

1. So long as marginal product rises, total product increases at increasing rate.
2. When marginal product starts falling but remains positive, total product rises at diminishing rate.
3. When MP = 0, TP is maximum.
4. When marginal product becomes negative, then total product starts falling.

Relation between MP and AP

- When MP > AP, AP rises.
- When MP = AP, AP is maximum and constant.
- When MP < AP, AP falls.

Returns to a factor: In a short period when additional unit of variable factor are employed with fixed factors, then returns to a factor operates. Returns to a factor shows the changes in total product of a good when only the quantity of one input is increased, while other inputs kept constant.

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**: It is the sum of direct (explicit cost) and indirect cost (explicit cost), including Normal profit.

- **Cost**: Explicit cost + implicit cost + Normal Profit.

- **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** 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.

- 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

  \[ TC = TFC + TVC \quad \text{or} \quad TC = AC \times Q \]

- 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.

  \[ TFC = TC - TVC \quad \text{or} \quad TFC = AFC \times Q \]

- 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.

  \[ TVC = TC - TFC \quad \text{or} \quad TVC = AVC \times Q. \]

- 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

- Average fixed cost is per unit fixed cost of production of a commodity.

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

AFC goes on decreasing as the level of output increases.

- Average variable cost is per unit variable cost of production of a commodity.

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

- **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 = TC_n - TC_{n-1}
  But under short run, it is calculated from TVC.

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

**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.

- 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 with increase in output but these two curves never intersect because average fixed cost is never zero.

- Relation between MC and AVC.
  - When MC < AVC, AVC falls.
  - When MC = AVC, AVC is minimum and constant
  - When MC > AVC, AVC rises.

- Relation between MC and ATC
When MC < ATC, ATC falls.
When MC = ATC, ATC is minimum and Constant
When MC > ATC, ATC rises.

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.

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

\[ TR = Price \times Quantity\ Sold. \]

Price = 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.

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

Marginal revenue is net addition to total revenue when one additional unit of output is sold.

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

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 all levels of output and AR and MR curves are parallel to ox-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.

\[ MR = \frac{1}{2} AR \]

(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 b/w AR and MR (General)
  - When MR > AR, AR rises.
  - When MR = AR, AR is maximum and constant.
  - When MR < AR, AR falls.

- **Concept of Producer's Equilibrium**: If refers the stage where producer is getting maximum profit or minimum uses 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**: 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**:
  - Price of the commodity.
  - Prices of other related goods.
  - Level of Technology.
  - Prices of inputs.
  - No. of firms.
Government policy regarding Taxation and subsidies.

Goals 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 during a given period of time.

**Stock**: Refers to the total quantity of a particular commodity available with the firm at a particular point 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 given period of time.

Slope of supply curve = \( \Delta P / \Delta Q \)

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

**Price Elasticity of Supply**: It refers to the degree of responsiveness of quantity supplied 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

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

Or

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

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

Expansion of supply or Upward movement along with a supply curve

Contraction of supply or Downward movement along with a supply curve

Increase in supply or rightward shift in supply curve

Decrease in supply or leftward shift in supply curve

Causes

Cases

(i) Fall in price of inputs
(ii) Fall in price of related goods
(iii) Improvement in Technology
(iv) Increase in no. of firms

(i) Rise in price of inputs
(ii) Rise in price of related goods
(iii) Obsolete Technology
(iv) Decrease in no. of firms
MULTIPLE CHOICE QUESTIONS (1 MARK)

1. The cause of upward movement along a supply curve is
   (a) Decrease in Price  (b) Increase in Income
   (c) Decrease in Income  (d) Increase in Price

2. When Total Revenue is maximum, marginal Revenue is :-
   (a) Minimum  (b) Maximum
   (c) Zero  (d) Constant

3. When percentage change in Price is equal to percentage change in supply :
   (a) Es > 1  (b) Es = 1
   (c) Es < 1  (d) Es = 0

4. The behaviour of Average Revenue when Total Revenue increases at constant rate is
   (a) Constant  (b) Increasing
   (c) Decreasing  (d) Zero

5. The Behaviour of Total Product when Marginal Product is zero is :
   (a) Minimum  (b) Maximum
   (c) Constant  (d) Zero

6. Which cost curve is parallel to x-axis :
   (a) AFC  (b) TVC
   (c) TFC  (d) TC

7. If supply curve is parallel to Y-axis :
   (a) Es = 0  (b) Es = \infty
   (c) Es = 1  (d) Es > 1

8. When per unit price remains constant
   (a) AR > MR  (b) AR < MR
   (c) AR = MR  (d) TR is constant
9. When Total Product is falling then
   (a) MP is maximum        (b) MP = zero
   (c) MP becomes negative   (d) MP is falling
10. When Average Product is maximum then
    (a) MP > AP            (b) MP = AP
    (c) MP < AP            (d) MP is also maximum

Answers
1. (d); 2. (c); 3. (b); 4. (a); 5. (b); 6. (c); 7. (a); 8. (c); 9. (c); 10. (b).

SHORT ANSWER TYPE QUESTION (3-4 MARKS)

1. State the relation between AP and MP.
2. How does total product behave with change in marginal product?
3. Briefly explain the causes of increasing returns to a factor with the help of marginal product.
4. Explain the likely behaviour of total product. When only the unit of a variable factor is increased and keeping all other factor fixed. Use numerical example.
5. Distinguish between total fixed cost and total variable cost.
6. Explain with the help of a diagram the relationship between Average cost, Average variable cost and Marginal cost.
7. Why is short run average cost curve 'U' shaped?
8. What changes will take place in total revenue when
   (a) Marginal revenue is falling but is positive
   (b) Marginal revenue is zero
   (c) Marginal revenue is negative
9. Define marginal revenue. Explain the relationship between average and marginal revenue when price is constant at all levels of output.
10. What do you mean by producers equilibrium? State and briefly explain the conditions of producer's equilibrium with Marginal Revenue and Marginal Cost approach. Use diagram.

11. Explain producers equilibrium with the help of a numerical example using marginal revenue and marginal cost approach.

12. Draw in a single diagram the average revenue and marginal revenue curves of a firm which can sell any quantity of the good at a lower price. Explain.

13. Complete the following table:

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<thead>
<tr>
<th>Units of Variable input</th>
<th>TP (Units)</th>
<th>AP (Units)</th>
<th>MP (Units)</th>
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14. Identity the three phases in the law of variable proportion from following information:

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<th>Total Products (Units)</th>
</tr>
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<td>22</td>
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<tr>
<td>4</td>
<td>28</td>
</tr>
<tr>
<td>5</td>
<td>32</td>
</tr>
<tr>
<td>6</td>
<td>34</td>
</tr>
<tr>
<td>7</td>
<td>34</td>
</tr>
<tr>
<td>8</td>
<td>32</td>
</tr>
</tbody>
</table>
15. If the total fixed cost of a firm is Rs. 24, Complete the following table:

<table>
<thead>
<tr>
<th>Output (Units)</th>
<th>AVC (Rs.)</th>
<th>TVC (Rs.)</th>
<th>MC (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>45</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

16. Distinguish between 'Change in Supply' and 'change in quantity supplied'.

17. Differentiate between 'contraction in supply' and 'decrease in supply'.

18. How does change in price of inputs affect the supply of a good.

19. Complete the following table:

<table>
<thead>
<tr>
<th>Output</th>
<th>Price (Rs.)</th>
<th>MR (Rs.)</th>
<th>TR (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>–</td>
<td>–</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>–</td>
<td>4</td>
<td>–</td>
</tr>
<tr>
<td>3</td>
<td>–</td>
<td>–</td>
<td>15</td>
</tr>
<tr>
<td>4</td>
<td>–</td>
<td>(−)3</td>
<td>–</td>
</tr>
</tbody>
</table>

20. When the price of commodity rises from 10 to 11 per unit, its quantity supplied rises by 100 units. If its price elasticity of supply is 2. Then find out its quantity supplied at increased price.

21. How does change in price of related goods affect the supply of given goods.

22. What is a supply schedule? Explain how does change in technology of producing a good affect the supply of that good.

23. Following statements are true or false. Give reason:

(a) At the stage of producer's equilibrium, marginal cost will be decreasing.

(b) AR curves always remain above MR curve.
24. Whether following statements are true or false. Give reasons.
   (a) When average revenue falls, marginal revenue falls faster than average revenue.
   (b) Average cost starts increasing when marginal cost starts increasing.

25. Following statements are true or false. Give reasons:
   (a) Diminishing returns to a factor is applicable only when average product starts falling.
   (b) AC and AVC curves do not intersect each other.

26. Following statements are true or false. Give reasons.
   (a) Supply remains constant in market period.
   (b) When MP falls, AP falls.

LONG ANSWER TYPE QUESTIONS (6 MARKS)

1. Explain diagrammatically the effect on total output when units of one factor is increased and all other inputs are held constant.

2. On the basis of following information, identify level of output at which producer will be in equilibrium using MR-MC approach and also give reasons:

<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>AR (Rs.)</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>TC (Rs.)</td>
<td>8</td>
<td>15</td>
<td>21</td>
<td>26</td>
<td>33</td>
<td>41</td>
</tr>
</tbody>
</table>

3. What is producer's equilibrium? Explain the condition of producer's equilibrium through the 'marginal cost and marginal revenue' approach. Use diagram.

4. State whether true or false. Give reasons.
   (a) Total product is the area under the marginal product curve.
   (b) When MR falls, AR falls.
   (c) For the first unit of output MC = AVC.
5. State whether True or False. Give reasons.

(a) When marginal revenue is constant and not equal to zero, then total revenue will also be constant.

(b) As soon as marginal cost rises, average variable cost also starts rising.

(c) Total product always increases whether there is increasing returns or Diminishing return to a factor.

6. State whether the following statements are true or false. Give reasons for your answer.

(a) When total revenue is constant average revenue will also be constant.

(b) Average variable cost can fall even when marginal cost is rising.

(c) When marginal cost rises, average cost rises.

7. Suppose a firm is producing under 3rd phase of law of variable proportion and it is facing heavy loss. Give suggestion to reduce its loss and assure maximum profit.

**SOLUTION**

<table>
<thead>
<tr>
<th>Units of Variable input</th>
<th>TP (Units)</th>
<th>AP (Units)</th>
<th>MP (Units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>–</td>
</tr>
<tr>
<td>1</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>2</td>
<td>46</td>
<td>23</td>
<td>26</td>
</tr>
<tr>
<td>3</td>
<td>66</td>
<td>22</td>
<td>20</td>
</tr>
<tr>
<td>4</td>
<td>76</td>
<td>19</td>
<td>10</td>
</tr>
<tr>
<td>5</td>
<td>80</td>
<td>19</td>
<td>4</td>
</tr>
</tbody>
</table>
14. | Units of Variable Input | TP (Units) | MP (Units) |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>14</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>22</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>28</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>32</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>34</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>34</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>32</td>
<td>−2</td>
</tr>
</tbody>
</table>

15. | Output (Units) | AVC (Rs.) | TVC (Rs.) | MC (Rs.) |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>40</td>
<td>80</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>45</td>
<td>135</td>
<td>55</td>
<td></td>
</tr>
</tbody>
</table>

19. | Output | Price (Rs.) | MR (Rs.) | TR (Rs.) |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>7</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>1</td>
<td>15</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>(−3)</td>
<td>12</td>
</tr>
</tbody>
</table>

20. \[
E_s = \frac{\text{% change in Quantity}}{\text{% change in Price}}
\]

\[
2 = \frac{\text{% change in Quantity}}{10\%} \quad \left\{ \therefore \frac{\text{% change in Price}}{10} = 1 \times 100 \right\}
\]

20% = % change in Quantity
20% of \( Q_0 \) = 100

\[
Q_0 = \frac{100}{20\%}
\]

\( Q_0 = 500 \)

New Quantity Supplied \( Q_1 = 500 + 100 = 600 \) units

**LONG ANSWER TYPE QUESTIONS**

2.

<table>
<thead>
<tr>
<th>Output</th>
<th>AR (Rs.)</th>
<th>TR (Rs.)</th>
<th>TC (Rs.)</th>
<th>MC (Rs.)</th>
<th>MR (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7</td>
<td>7</td>
<td>8</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>2</td>
<td>7</td>
<td>14</td>
<td>15</td>
<td>7</td>
<td>7</td>
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<tr>
<td>3</td>
<td>7</td>
<td>21</td>
<td>21</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>4</td>
<td>7</td>
<td>28</td>
<td>26</td>
<td>5</td>
<td>7</td>
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<tr>
<td>5</td>
<td>7</td>
<td>35</td>
<td>33</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td>42</td>
<td>41</td>
<td>8</td>
<td>7</td>
</tr>
</tbody>
</table>

The producer will be in equilibrium at 5th units of output because here all conditions of producer's equilibrium is satisfied i.e., (i) \( MR = MC \) and (ii) \( MC > MR \) after \( MR = MC \) level of output.
Exam. Oriented Questions with Answer

VERY SHORT ANSWER QUESTION (1 MARK)

Q. 1. Define production function.
Ans. The function showing 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 increasing 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 $E_s = 0$.

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.

3–4 MARKS QUESTIONS

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](image)

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.
6 MARKS QUESTIONS

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? Use 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>
<td>5</td>
</tr>
<tr>
<td>1</td>
<td>4</td>
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<td>1</td>
<td>5</td>
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<tr>
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<td>6</td>
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</tr>
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<td>1</td>
<td>7</td>
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<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>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<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>
</tr>
<tr>
<td>2</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>
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.
Points to Remember

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

Types 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.
- 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

**MONOPOLY MARKET**

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

Features:

(a) Single Seller
(b) Restrictions on the entry and exit of new firms.
(c) No close substitute of product available.
(d) Firm is a Price Maker
(e) Price discrimination

- 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 No. of buyers and sellers
(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) Freedom of entry and exit of new firm.
(e) Lack of perfect knowledge.

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 large firms
(b) All the firms under oligopoly produce homogeneous or differentiated product.
(c) Under oligopoly demand curve is undefined/indeterminate.
(d) Barriers to the entry of firm into industry.
(e) All the firms are interdependent in respect of price and output determination under oligopoly market.

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.

<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>Number of sellers</td>
<td>Large</td>
<td>Single</td>
<td>Large</td>
<td>Few</td>
</tr>
<tr>
<td>Nature of product</td>
<td>Homogeneous</td>
<td>No, Close Substitute</td>
<td>Differentiated Product</td>
<td>Homogeneous &amp; differentiated product</td>
</tr>
<tr>
<td>Entry/Exit of firms</td>
<td>Free entry &amp; exit of firm</td>
<td>Restriction on entry of firm</td>
<td>Free entry &amp; exit</td>
<td>Barrier on entry of new firms</td>
</tr>
<tr>
<td>Firm’s Demand Curve</td>
<td>II to x-axis</td>
<td>down ward sloping inelastic</td>
<td>down ward sloping elastic</td>
<td>Undefined</td>
</tr>
<tr>
<td>Selling cost</td>
<td>Not required</td>
<td>Not required</td>
<td>Very significant</td>
<td>Very 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 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 equipment 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 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.

**MULTIPLE CHOICE QUESTIONS (1 MARK)**

1. In which market MR = Price
   (a) Monopoly  (b) Perfect Market
   (c) Monopolistic Market  (d) Oligopoly

2. In which market, restrictions on entry of new firms
   (a) Perfect Competition
   (b) Monopolistic competition
   (c) Monopoly  (d) Oligopoly

3. Under which market, firm a is price taker
   (a) Perfect Competition
   (b) Monopoly
   (c) Monopolistic Competition
   (d) Oligopoly

4. Under Oligopoly
   (a) Large no. of sellers  (b) Few sellers
   (c) Single seller  (d) None of above
5. A price at which a consumer is willing to buy and a seller is willing to sell the commodity is called.
   (a) Minimum Price    (b) Maximum Price
   (c) equilibrium price  (d) None of the above.

6. When a monopoly firm charges different prices from different consumes for the same product is called
   (a) Quantity discrimination  (b) Product differential
   (c) Price discrimination  (d) Consumer differentiation.

7. Quantity of a commodity which is bought and sold at the equilibrium price is called?
   (a) Maximum quantity  (b) Minimum quantity
   (c) Both (a) and (b)  (d) Equilibrium quantity

8. At a given price, when demand for commodity is more then supply of the commodity then it is called excess demand. Here given price is :
   (a) less than equilibrium price
   (b) more than equilibrium price
   (c) less than or equal to equilibrium price
   (d) More than or equal to equilibrium price

9. Price ceiling refers to :
   (a) Max. retail price
   (b) Max. price the buyer is willing to pay
   (c) Max. price at which seller is willing to sell.
   (d) Max. price the producer is legally allowed to charge.

10. Fixation of minimum wage below the equilibrium wage rate leads to :
    (a) Unemployment  (b) Over employment
    (c) Neither (a) nor (b)  (d) Either (a) or (b)
11. Which feature distinguished oligopoly from other market forms
(a) Interdependence among firms.
(b) Homogenous product
(c) Perfect knowledge
(d) Large number of buyers

12. Which market form does not exist in real life.
(a) Perfect competition
(b) Monopoly
(c) Oligopoly
(d) Monopolistic competition

Answers
1. (b); 2. (c); 3. (a); 4. (b); 5. (c); 6. (c); 7. (d); 8. (a); 9. (d); 10. (c); 11. (a); 12. (a).

Short Answer Type Questions (3-4 Marks)
1. How is the demand curve under monopolistic competition different from demand curve of a firm under perfect competition?
2. How does 'Free entry and exit feature of Perfect competition market affect the profit of a firm.
3. What will happen if the price prevailing in the market is above the equilibrium price.
4. Explain the concept of excess demand with the help of diagram.
5. Differentiate between :
   (a) Collusive and Non-collusive oligopoly.
   (b) Perfect and Imperfect oligopoly.
6. Explain the determination of equilibrium price under perfect competition with the help of schedule.
7. Explain why is the equilibrium price determined only at the output level at which market demand and market supply are equal.
8. In perfect competition AR = MR but in monopoly and monopolistic competition AR > MR, why?
9. In which condition decrease in demand can not change the price of commodity?
10. Explain how firms are interdependent in an oligopoly market.

11. In which competition the availability of close substitutes is present? How does it affect the price?

12. Explain the implication of 'freedom of entry and exit to the firms' under perfect competition.

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

1. Explain the characteristics of monopolistic competition.

2. Market for a good is in equilibrium. There is 'increase' in supply of that good. Explain the chain of effects of this change. Use a numerical example.

3. Explain the term market equilibrium. Explain the series of changes that will take place if market price is higher than the equilibrium price.

4. How will a fall in the price of tea affect the equilibrium price of coffee? Explain the chain of effects.

5. Explain the following features of perfect competition.
   (i) Large number of firms or Sellers and Buyers.
   (ii) Homogeneous Product.


7. With the help of a diagram explain the effect of 'decrease' in demand of a commodity on its equilibrium price and quantity.

8. There is simultaneous decrease in demand and supply of a commodity, when it result in
   (i) no change in equilibrium price
   (ii) a fall in equilibrium price.

9. Suppose under a competitive market equilibrium price is too high for an average consumer in case of essential items. Give suggestion to bring down the equilibrium price up to affordable level for a common man.

10. Suppose government reduces the rate of excise duty and raise subsidies. What is the likely impact of these on the market of a product. Explain with diagram.
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 number 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.

3-4 MARKS QUESTIONS

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.
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*  
1. Large number of buyers and sellers.

*Monopoly*  
1. One seller & large no. of buyers.

2. Products are homogeneous.  
2. There is no close substitutes of goods.
3. Free Entry and exit. 3. Barriers to entry
4. There is no control over price. 4. There is full control over market price.


Ans.

<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

**6 MARKS QUESTIONS**

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 whereas non-collusive 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 $D_1$ to $D_2$ to the right leading to excess demand $E_1 F$ at the given price $OP_1$.

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.

Q. 5. With the help of diagram, show the situation of excess demand. Explain in steps how excess demand reaches to equilibrium.

Ans.

Excess demand is a situation when price of a good is less than the equilibrium price. It leads to competition among buyers which push the price upwards which leads to contraction in market demand and expansion in market supply. Due to it price rise, excess demand wiped out.
UNIT V

NATIONAL INCOME AND RELATED AGGREGATES

Points to Remember

- **Goods**: In economics, goods are defined as any physical object, natural or man made, that could command a price in the market. Goods are items that are tangible, such as books, pen, shoes, car etc.

- **Services**: It is a part of production that is intangible. A service is consumed at the point of production. Such as banking, insurance, postal service etc.

- **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 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.


Stocks: 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. e.g. Taxes, Savings and Imports.

Injection: It is the amount of money which is added to the circular flow of income. 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<sub>FC</sub>)**: It is the factor income accruing to owners of factors of production for supplying factor services with in domestic territory during an accounting year.

  $$NDP_{FC} = GDP_{MP} - \text{Depreciation} - \text{NIT}.$$  

- **Gross Domestic Product at Market Price (GDP<sub>mp</sub>)**: 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<sub>mp</sub>)**: 

  $$NDP_{MP} = GDP_{MP} - \text{Depreciation (Consumption of fixed capital)}$$

**NATIONAL AGGREGATES**

- **Gross National Product at Market Price (GNP<sub>mp</sub>)**: 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<sub>MP</sub> + NFIA = GNP<sub>MP</sub>

- **National Income (NNP<sub>FC</sub>)**: 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.

  $$NNP_{FC} = NDP_{FC} + \text{NFIFA} = \text{National Income}.$$  

**Some Important Relations**

- Gross = Net + Depreciation (consumption of fixed capital)
- National = Domestic + NFIFA (Net factor income from abroad)
- Market Price = Factor Cost + NIT (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.

Methods of estimation of National Income

Value Added Method (Product Method):
Gross Value Added at Market Price (GVA_{MP}) = Sales + change in stock – Intermediate Consumption.

GDP_{MP} = \sum GVA_{MP} of all sectors

OR

= Value of output – Intermediate consumption

NVA_{FC} = GVA_{MP} – Depreciation – NIT

National Income = NNP_{FC} = GDP_{MP} – 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_{MP}

National Income (NNP_{FC}) = GDP_{MP} – 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\(_{FC}\) + NFIFA

  **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\(_{FC}\) + NFIFA

- **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 + NFIFA
     – 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 Domestic Income

1. Compensation of Employees
   a. Wages and salaries (Cash or kinds)
   b. Employers Contribution to Social security Schemes

2. Operating surplus
   a. Rent & Royalty
   b. Interest
   c. Profit
      - Corporate Tax
      - Dividend
      - Undistributed corporate profit

3. Mixed Income of self-Employed person
   a. Mixed Income of self-employed person

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
   ii) Change in Stock or inventory investment
      a. Gross business Fixed Investment
      b. Gross Residential Construction Investment
      c. Gross public Investment

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

**MULTIPLE CHOICE QUESTIONS (1 MARK)**

1. National Income is the sum of factor income accruing to:
   (a) Nationals (b) Economic territory
   (c) Residents (d) Both residents and non residents

2. A 'resident' of a country is one:
   (a) who was born in that country
   (b) who lives in that country
   (c) who is the citizen of that country
   (d) who lives, earn, spend and accumulates in that country.

3. When goods and services are produced in a year valued at current years prices is called
   (a) Real GDP (b) GDP at constant prices
   (c) National Product (d) GDP at current prices
4. Which is correct?
   (a) GNPmp > GDPmp when NFIFA < 0.
   (b) GNPmp > GDPmp when NFIFA = 0.
   (c) GNPmp > GDPmp when FIFA < FITA.
   (d) GNPmp > GDPmp when NFIFA > 0.

5. Which of the following is not a transfer payment?
   (a) Indirect taxes    (b) Subsidy
   (c) Scholarship      (d) Dividend

6. When the value of a product is counted more than once then it is called double counting. As a result national income is:
   (a) Under-estimated    (b) Over-estimated
   (c) Correctly-estimated (d) None of the above

7. Which is not a component of NFIFA?
   (a) Net compensation of employees
   (b) Net income from property and entrepreneurship.
   (c) Net retained earning of resident companies abroad.
   (d) Net export.

8. Which one of the following is not a component of Gross Domestic Fixed Capital formation?
   (a) Gross Public Investment
   (b) Inventory Investment
   (c) Gross residential construction investment
   (d) Gross business fixed investment

9. Which one of the following is a stock variable:
   (a) Income    (b) Savings
   (c) Investment (d) Money supply
10. Market price is less than factor cost when:
   (a) Firm is suffering losses (b) Indirect taxes < subsidy
   (c) Indirect taxes > subsidy (d) Indirect taxes = subsidy.

11. Which of the following is not a part of National Income:
   (a) Profit earned by S.B.I. branch in New York
   (b) Salary paid to Indian working in Japan Embassy
   (c) Interest paid on loan taken by a firm in India.
   (d) Fees paid to German consultant by Delhi Metro.

12. Which of the following is included in GDP:
   (a) Purchase of Petrol for taxi
   (b) Refrigerator purchased by ice-cream vendor
   (c) Payment made to lawyer by firm.
   (d) TV purchased by electronic dealer for resale.

13. Purchase of AC by a restaurant is:
   (a) Consumption expenditure on durable goods
   (b) Consumption expenditure on non-durable goods.
   (c) Intermediate expenditure
   (d) Final expenditure

14. Value added is
   (a) Sale price – Purchase price
   (b) Sales + Stock + Purchase
   (c) Sales + change in Stocks – Intermediate costs
   (d) Value of output – Purchases.

15. Operating surplus is:
   (a) Profit + Interest (b) Profit + Rent
   (c) Profit + Rent
   (d) Profit + Rent + Royalty + Interest
Answers

1. (c); 2. (d); 3. (d); 4. (d); 5. (d); 6. (b); 7. (d); 8. (b); 9. (d); 10. (b); 11. (d); 12. (b); 13. (d); 14. (c); 15. (d).

Short Answer Type Questions (3-4 Marks)

1. Distinguish between real and nominal gross domestic product.
2. Explain the basis of classifying goods into intermediate and final goods. Give suitable examples.
3. Distinguish between consumer goods and capital goods with examples?
4. Explain how distribution of G.D.P. is its limitation as a measure of economic welfare.
5. Explain circular flow of income.
6. Distinguish between 'factor income' and 'transfer income.'
7. Classify the following into stock and flow:
   (i) Money supply  (ii) Depreciation
   (iii) Investment   (iv) Pocket money
9. How can externalities be a limitation of using gross domestic product as an index of welfare.
10. Giving reasons, classify the following into intermediate and final goods:
    (i) Machines purchased by a dealer of machines.
    (ii) A car purchased by a house hold.
11. Distinguish between stock and flows. Give an example of each.
12. What is meant by a normal resident? State which of the following are treated as normal resident of India.
    (i) An American working in the office of WHO located in India.
    (ii) Indian working in U.S.A. embassy located in India.
13. Which of the following is factor income from abroad for an Indian resident and why?
(a) Interest income received by Indian resident on the bonds of companies operating in USA.
(b) Remittances by Indians settled abroad to their families in India.

14. Explain why subsidies are added to and indirect taxes deducted from domestic product at market price to arrive at domestic product at factor cost.

15. Giving reasons, explain how are the following treated in estimating national Income by the income method.
(a) Interest on a car loan paid by an individual
(b) Interest on a car loan paid by a Govt. owned company.

16. Why do we include the imputed value of goods but not services while estimating production for self consumption?

17. Define NFIA., write its components.

18. Distinguish between domestic product and national product. When can domestic product be more than National Product.

**Long Answer Questions (6 Marks)**

1. How will you treat the following while estimating national income of India
   (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 loan given to a friend for purchasing a car.

2. Giving reason explain how the following should be treated in estimation of national income:
   (i) Payment of interest by a firm to a bank
(ii) Payment of interest by a bank to an individual.
(iii) Payment of interest by an individual to a bank.

3. Explain the problem of double counting in estimating national income, with the help of an example. Also explain two alternative ways of avoiding the problem.


5. How will you treat the following in estimating national income of India? Give reasons for your answer.
   (a) Value of bonus shares received by share holders of a company.
   (b) Fees received from students.
   (c) Interest received on loan given to a foreign company in India.

6. Explain the steps of measuring national income by income method.

7. Giving reasons, categories following into transfer income and factor income.
   (a) Compensation received from the employer.
   (b) Old age pension.
   (c) Imputed rent.

8. Giving reasons explain whether the following are included in domestic product of India.
   (i) Profit earned by a branch of foreign bank in India.
   (ii) Payment of salaries to its staff by an embassy located in New Delhi.
   (iii) Interest received by an Indian resident from firms which are situated abroad.

9. How will you treat the following, while estimating national income. Give reasons for your answer.
   (i) Capital gain on sale of house.
10. While estimating national income. How will you treat the following. Give reason for your answer.

(i) Imputed rent of self occupied house.

(ii) Interest received on debentures.

(iii) Financial help received by flood victims
NUMERICAL EXERCISE

1. Calculate "Sales" from the following data: (Rs. in Lakh)
   (i) Net value added at factor cost 560
   (ii) Depreciation 60
   (iii) 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
4. Calculate (a) \( \text{NNP}_{FC} \) by expenditure method and (b) \( \text{NNP}_{FC} \) by value added method:

(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:

(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 :
   \[
   \text{(Rs. Lakh)}
   \]
   (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_{MP} \hspace{1cm} (b) Factor income earned from Abroad :
   \[
   \text{(Rs. Crore)}
   \]
   (i) 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
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) $NVA_\text{FC}$ 100
   (ii) Intermediate consumption 75
   (iii) Excise duty 20
   (iv) Subsidy 5
   (v) Depreciation 10

11. Calculate GDP $\text{FC}$ 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

**NUMERICAL EXERCISE**

1. Sales  
   
   \[ \text{Sales} = (i) - (iii) + (iv) + (ii) + (vi) \]
   \[ = 560 - (-30) + 1000 + 60 + 60 \]
   \[ = Rs. 1710 \text{ Lakh} \]
2. $\text{NVA}_{\text{FC}} = \text{Sales} + \Delta S - \text{IC} - \text{NIT} - \text{Depr.}\\ = (\text{ii}) + (\text{v} - \text{vi}) - (\text{vii}) + (\text{i}) - (\text{iii})\\ = 800 + (-30) - 500 + 40 - 30\\ = \text{Rs. 280 lakh.}$

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

4. $\text{NNP}_{\text{FC}}$ (Expenditure Method)\\ = (\text{i}) + (\text{ii}) + (\text{iii}) + (\text{viii}) - (\text{vii}) + (\text{ix}) - (\text{vi}) + (\text{x})\\ = 250 + 50 + 900 + 100 - 100 + 10 - 80 + (-20)\\ = \text{Rs. 1110 Cr.}$\\ $\text{NNP}_{\text{FC}}$ (Value added method)\\ = (\text{iv}) - (\text{v}) - (\text{vi}) - (\text{vii}) + (\text{ix}) + (\text{x})\\ = (900 + 800 + 400) - (400 + 300 + 100) - 80 - 100 + 10 + (-20)\\ = \text{Rs. 1110 Cr.}$

5. National Income $\text{NNP}_{\text{FC}}$ (Income Method)\\ = (\text{iv}) + (\text{viii}) + (\text{iii}) + (\text{ix}) + (\text{xi}) + (\text{xii}) - (\text{x})\\ = 600 + 55 + 200 + 25 + 20 + 130 + (-30)\\ = \text{Rs. 1000 Cr.}$\\ National Income (Exp. Method)\\ = (\text{vi}) + (\text{i}) + (\text{vii}) + (\text{xv}) - (\text{vii} - \text{xiii}) - (\text{v} - \text{ii}) - (\text{x})\\ = 800 + 100 + 120 + 70 - 10 - 50 - 30\\ = \text{Rs. 1000 Cr.}$
6. Intermediate consumption

\[ \text{Intermediate consumption} = \text{Value of output} - \text{NVA}_{FC} - \text{NIT} - \text{Depreciation} \]
\[ = 200 - 80 - (15 - 5) - 20 \]
\[ = 200 - 80 - 10 - 20 \]
\[ = \text{Rs. 90 Lakh}. \]

7. (a) \( \text{NDP}_{FC} = (iv) + (ii) + (xi) + (xii) \)
\[ = 1500 + 500 + 400 + 300 \]
\[ = 2700 \]
\( \text{GDP}_{MP} = \text{NDP}_{FC} + \text{depreciation} + \text{NIT} \)
\[ = 2700 + [(viii + v) - vii] + (vi) \]
\[ = 2700 + [(700 + 500) - 650] + 250 \]
\( \text{GDP}_{MP} = \text{Rs. 3050 Cr.} \)

(b) Factor Income from abroad (FIFA)
\( \text{GNP}_{FC} = \text{GDP}_{MP} - \text{NIT} + \text{NFIA} \)
\[ 2800 = 3050 + 250 + \text{NFIA} \]
\[ 2800 = 2800 + (\text{FIFA} - \text{FITA}) \]
\[ 0 = \text{FIFA} - 120. \]
\( \text{FIFA} = \text{Rs. 120 Cr.} \)

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

(b) Compensation of employees
\[ = \text{Domestic Income} - (iv) - (viii) - (vii) - (x) - (xii) - (xiii) \]
\[ = 510 - 20 - 30 - 10 - 22 - 5 - 23 \]
\[ = \text{Rs. 400 Cr.} \)
9. \[ NNP_{MP} = (ii) + (viii) + (vii) + (v) - (iv) \]
   \[ = 500 + 100 + 80 + (-20) - (20) \]
   \[ = Rs. 640 \text{ Cr.} \]

10. Value of output
    \[ NVA_{FC} = VO - IC - NIT - Depreciation \]
    \[ VO = NVA_{FC} + IC + NIT + Depreciation \]
    \[ = 100 + 75 + (20 - 5) + 10 \]
    \[ VO = Rs. 200 \text{ Cr.} \]

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

(b) Factor income to abroad
    \[ GNP_{MP} = GDP_{FC} + NIT + NFIA \]
    \[ 1400 = 1300 + 120 + \text{FIFA} - \text{FITA} \]
    \[ 1400 = 1300 + 120 + 60 - \text{FITA} \]
    \[ 1400 - 1480 = - \text{FITA} \]
    \[ Rs. 80 \text{ Cr.} = \text{FITA} \]
Exam. Oriented Questions with Answer

VERY SHORT ANSWER QUESTION (1 MARK)

Q. 1. What are the two types of circumar 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.

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. Define 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.

3-4 MARKS QUESTION WITH ANSWER

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

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

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

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

Ans. Real Income = \( \frac{Nominal\ Income}{Price\ Index} \times 100 \)
\[
Nominal\ Income = \frac{200 \times 135}{100} = Rs. 270\ Cr.
\]

Q. 5. Given nominal income to be Rs. 375 Crore and price index 125 calculate real income.

Ans. Real Income = \( \frac{Nominal\ Income}{Price\ Index} \times 100 \)
\[
= \frac{375 \times 100}{125}
\]
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 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.

6 MARKS QUESTIONS

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 received from students.

(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) included as it is a factor income 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 household.

(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 export for the country.

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

(p) included as it is paid to an Indian resident outside 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 within the domestic territory of India.
(v) Not included in domestic income as it does not fall within 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.

(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.
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 deposits of banks) in circulation are held by the public at a given point of time.

- **Measures of Money Supply**: Currency held by Public + Net Demand Deposit of Banks
  \[ M = C + DD \]

- **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.
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.

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. Suppose, a person mortgages his house worth ₹ 1 crore with a bank and takes a loan of Rs. 90 lakhs. Marginal requirement is 70 lakh.

Multiple Choice Questions

1. The merit of issuing notes with RBI can be seen in
   (a) Uniformity in note issue  
   (b) Stability in currency  
   (c) Control of credit  
   (d) All of the above.

2. Money supply consists of
   (a) Currency  
   (b) Demand Deposit  
   (c) Both currency and Demand Deposits  
   (d) None of the above

3. Which is a qualitative instrument of RBI?
   (a) Cash Reserve Ratio  
   (b) Repo Rate  
   (c) Moral suasion  
   (d) Open market operation

4. Which is the legal tender money?
   (a) Cheque  
   (b) Credit Card  
   (c) Rupees  
   (d) Demand Draft

5. There is inflationary situation in India, what step RBI should take?
   (a) Issuing more currency  
   (b) Increase in Bank rate  
   (c) Decrease in CRR  
   (d) Decrease in SLR

Answers

1. (d); 2. (c); 3. (c); 4. (c); 5. (b).
SHORT ANSWER TYPE QUESTIONS (3-4 MARKS)

1. What are open market operations? What is their effect on availability of credit?

2. Explain the concepts of repo-rate and reverse repo-rate.

3. Distinguish between SLR and CRR. Explain the Role of SLR and CRR in credit control.


5. State the role of Central Bank as a banker of the Government.

6. How Central Bank is controller of Credit?

7. Explain how does following helps to control the credit creation.
   (i) Open market operation
   (ii) Margin requirement of loans.

8. What is meant by statutory liquidity ratio (SLR)? State the effect of rise in rate of SLR on creation of credit.

9. Explain 'currency authority' and 'controller of credit' functions of central bank.

10. Explain effect of increase in bank rate on credit creation by commercial banks.
Exam. Oriented Questions with Answer

VERY SHORT ANSWER QUESTION (1 MARK)

Q. 1. What are demand deposits?
Ans. Demand deposits refers to those deposits which are repayable by the banks on demand or by cheque.

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.

Currency held by public + Net Demand deposits.

Q. 4. State the components of money supply.
Ans. (1) currency (coins and notes). (2) Demand Deposits.

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.

3-4 MARKS QUESTIONS

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 "Bank of 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.

6 MARKS QUESTION WITH ANSWER

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

\[
\text{Money Multiplier} = \frac{1}{\text{LRR}}
\]

Money Creation = Initial Deposit \times \text{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:
  (i) Household consumption expenditure (C).
  (ii) Investment expenditure (I)
  (iii) Govt. consumption expenditure (G).
  (iv) Ne export (X – M).

  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.

  \( AS = Y \) (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, $\text{APC} > 1$,

(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.
**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

\[
S = -C + MPS.Y
\]

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.

\[
APS = \frac{\text{Savings}}{\text{Income}} = \frac{S}{Y}
\]

- **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.

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

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

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

\[ 1 = \text{APC} + \text{APS} \]

\[ \begin{bmatrix} \text{APC} = \frac{C}{Y} \\ \text{APS} = \frac{S}{Y} \end{bmatrix} \]

\[ \text{APC} + \text{APS} = 1. \]

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

\[1 = \text{MPC} + \text{MPS} \quad \left[ \because \frac{\Delta C}{\Delta Y} = \text{MPC}, \frac{\Delta S}{\Delta Y} = \text{MPS} \right]\]

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 \(\text{AD} = \text{AS}\) 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 $\Delta I$.

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

- Value of Investment multiplier lies between 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.
Measures to correct excess demand or deficient demand

- Change in government spending
- Change in taxes
- Change in money supply

1. CRR
2. SLR
- Bank rate / Repo Rate
- Reverse repo rate
- Open Market Operation

MULTIPLE CHOICE QUESTIONS (1 MARK)

1. When all the able bodied people who are willing to work at prevailing wage rate but not getting work then it is called
   (a) Voluntary Unemployment
   (b) Involuntary unemployment
   (c) Under employment   (d) None of the above

2. Which of the following can become negative
   (a) APC   (b) APS
   (c) MPC   (d) MPS

3. Consumption function is the functional relation b/w.
   (a) income and saving   (b) price level and consumption
   (c) income and consumption
   (d) income, saving and consumption.

4. Value of investment multiplier directly related to MPC but inversely related with
   (a) APC   (b) MPS
   (c) APS   (d) None of the above.
5. Which of the following are consequences of Deficient demand:
   (a) Increase in Involuntary Unemployment
   (b) Decrease in employment and output level
   (c) Both (a) and (b)  (d) None of the above.

6. Which one of the following is the quantitative measures of monetary policy?
   (a) Repo rate  (b) Open market operation
   (c) SLR  (d) All of the above

7. When AD falls short of AS at full employment level of output then it is called
   (a) excess demand  (b) deficient demand
   (c) inflationary gap  (d) all of the above.

8. When value of MPC is 0.75 then the value of investment multiplier is
   (a) K = 4  (b) K = 5
   (c) K = 2  (d) K = 3

9. At the break event point
   (a) APC = 1  (b) C = Y
   (c) saving = 0  (d) all of the above

10. The consumption expenditure which is affected by change in income is called
    (a) Autonomous consumption
     (b) Minimum consumption
     (c) Induced consumption  (d) None of the above

11. Value of Investment multiplier (K) can be more than 5, if
    (a) MPC = MPS = 0.5  (b) MPC ≤ 0.8
     (c) MPC ≥ 0.8  (d) MPS < 0.2

12. APC = MPC, when
    (a) % change in Income > % change in consumption
(b) % change in Income = % change in consumption  
(c) % change in Income < % change in consumption  
(d) None of the above.

Answers

1. (b)  2. (b)  3. (c)  4. (b)  5. (d)  6. (b)  7. (a)  8. (d)  9. (d)  10. (c)  11. (d)  12. (b)

SHORT ANSWER TYPE QUESTIONS (3-4 MARKS)

1. Define aggregate demand. State its components.
2. Distinguish between average propensity to consume and marginal propensity to consume with the help of numerical examples.
3. Define full employment, voluntary unemployment and involuntary unemployment.
4. What is meant by investment multiplier? Explain the relationship between MPC and K?
5. State briefly the effect of excess demand and output, employment and price.
6. Explain the role of Bank rate in influencing the availability of credit in an economy.
7. Give the meaning of excess demand? Explain any two fiscal measures to correct excess demand.
8. What do you mean by repo rate and reverse repo rate. How do these help to control deficient demand.
9. Explain with the help of diagram the concept of under-employment equilibrium.
10. Explain the concept of consumption function.
11. Briefly explain the relationship between MPC and MPS.
12. Giving reasons, state whether the following statements are true or false:
   
   (i) When marginal propensity to consume is zero, the value of
investment multiplier will also be zero.

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

13. Can an economy be in equilibrium when there is unemployment in the economy? Explain.

14. How does change in marginal requirement controls the situations of excess and deficient demand?

15. What do you mean by open market operations? How does it control the availability of credit in the economy.


17. What happens if AD > AS prior to the full employment level of output?

18. 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.

19. 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.

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

21. Calculate APS and MPS from the following table :

<table>
<thead>
<tr>
<th>Income (Rs. 000)</th>
<th>0</th>
<th>100</th>
<th>200</th>
<th>300</th>
<th>400</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumption (Rs. 000)</td>
<td>40</td>
<td>120</td>
<td>200</td>
<td>280</td>
<td>360</td>
</tr>
<tr>
<td>Expenditure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
22. Complete the table

<table>
<thead>
<tr>
<th>Income (Rs.)</th>
<th>MPC (Rs.)</th>
<th>Saving (Rs.)</th>
<th>APS (Rs.)</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>–</td>
<td>–</td>
</tr>
<tr>
<td>200</td>
<td>0.6</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>300</td>
<td>0.6</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

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 marcoeconomics? 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>100</td>
<td>-60</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>100</td>
<td>100</td>
<td>40</td>
<td>40</td>
<td>40</td>
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<td>700</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
</tbody>
</table>

14. In an economy total autonomous spending \( A \left( \bar{C} + \bar{T} \right) \) 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 underdeveloped economy is less even though there is more MPC? Explain.

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

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

25.

<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>
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</table>

26.

<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

8. (a) \( Y = Rs. 1500 \)  (b) \( C = Rs. 800 \)
9. (a) \( Y = Rs. 4750 \) 
(b) \( S = Rs. 400 \)

17.

<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>
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<td>700</td>
<td>620</td>
<td>80</td>
<td>40</td>
<td>660</td>
<td>700</td>
</tr>
</tbody>
</table>

18. Given \( MPS = 0.2 \)

\[
MPC = 0.8 \quad C = \overline{C} + 0.8Y
\]

\[
AD = C + 1 \quad \text{Given}
\]

\[
= \overline{C} + 0.8Y + \overline{I} \quad \overline{C} + \overline{I} = \overline{A} = 50
\]

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

\[
AD = 50 + 0.8Y
\]

\[
AD = 50 + 0.8 \times 4000
\]

\[
= 3250
\]

In Equilibrium

\[
AS = AD
\]

\[
Y = AD
\]

\[
4000 \neq 3250
\]

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

21. \[
K = \frac{\Delta Y}{\Delta I} = \frac{500}{100} = 5
\]

\[
K = 5
\]
\[ K = \frac{1}{1 - \text{MPC}} \]

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

\[ 5 - 5 \text{MPC} = 1 \]

\[ 5 = 1 + 5 \text{MPC} \]

\[ 5 - 1 = 5 \text{MPC} \]

\[ 4 = 5 \text{MPC} \]

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

\[ \text{MPC} = 0.8. \]
MULTIPLE CHOICE QUESTIONS (1 MARK)

1. Theory of Determination of Income and Employment is based on :
   (a) Ex-ante (b) Ex-Post
   (c) both (a) and (b) (d) None of the above

2. MPS equals :
   (a) \( \frac{S}{Y} \) (b) \( \frac{\Delta C}{\Delta Y} \)
   (c) \( \frac{\Delta S}{\Delta Y} \) (d) \( \frac{\Delta S}{Y} \)

3. Which unemployment is not taken into account for determining the labour force of the country :
   (a) Disguised unemployment
   (b) Involuntary Unemployment
   (c) Voluntary Unemployment
   (d) Seasonal Unemployment

4. Excess demand leads to :
   (a) Increase in the level of employment
   (b) Decrease in the level of employment
   (c) No change in the level of employment
   (d) None of the above

5. The consumption curve will be a straight line while
(a) APC is falling while MPC is rising.
(b) APC is falling and MPC is also falling.
(c) APC is falling but MPC is constant.
(d) APC is constant and MPC is rising.

6. Inflationary gap is corrected by central bank through
(a) raising bank rate  (b) govt securities selling
(c) raising LRR  (d) All of the above

7. Which one is the fiscal measure of correcting the gap between AD and AS at full employment
(a) Open market operation  (b) Marginal requirement
(c) Public expenditure  (d) Bank Rate

8. When the equality occurs between AD and AS before full employment equilibrium then it is called
(a) over full employment equilibrium
(b) under employment equilibrium
(c) equilibrium remain unchanged
(d) Both (a) and (b)

9. As a result of increase in investment of Rs. 1000 in the economy, total national income raises by Rs. 5000. What is the value of investment multiplier?
(a) 4  (b) 3
(c) 5  (d) 2

10. Increase in cash reserve ratio will lead to :
(a) Fall in Aggregate Demand
(b) Rise in Aggregate Demand
(c) No change in Aggregate Demand
(d) None of these.
Answers

1. (a); 2. (c); 3. (c); 4. (c); 5. (c); 6. (d); 7. (c); 8. (b); 9. (c); 10. (a).

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. Find work.

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.

Q. 7. What is Break even point?
Ans. A point where savings are zero (S = 0) and consumption (C) = Income (Y), is called Break even point.

3-4 MARKS QUESTIONS WITH ANSWERS

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

\[ K = 4 \]

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

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

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

\[ \text{Value of investment multiplier is one } K = \frac{1}{1 - MPC}. \]

2. False because APS is negative when there are dissipations

3. True, if MPC is greater than 0.8 or false if MPC > 0.5 but not greater than 0.8.
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.

Ans. \( \overline{C} = \text{Rs. 30 Crore} \)

\[ MPS = 0.2 \]

\[ S = -\overline{C} + (1 – b) Y \]

\[ = -30 + 0.2Y \]

\[ MPC = 1 – 0.2 = 0.8 \]

Consumption \( C = \overline{C} + by \)

Function \( C = 30 + 0.8Y \)

6 MARKS QUESTIONS WITH ANSWER

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

1. Open Market Operation
2. Bank Rate
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. \( \Delta Y = \Delta I \times K \)
   
   \[ \Delta Y = 1000 \times 4 \]
   
   = 4000 Crores

2. MPC = \( \frac{\Delta C}{\Delta Y} \)
   
   \[ 0.75 = \frac{\Delta C}{4000} \]

   \[ 0.75 \times 400 = \Delta C \]

   \[ \Delta C = 3000 \text{ Crores} \]

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. \[ \text{MPC} = \frac{3}{4} = 0.75 \]

\[ K = \frac{1}{1 - \text{MPC}} = \frac{1}{1 - 0.75} = 4 \]

\[ \Delta Y = 2000 - 1200 = 800 \text{ Crores} \]

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

\[ 4 = \frac{800}{\Delta I} \]

\[ \Delta I = 200 \text{ Crores} \]

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 \( SS_1 \) 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 $S_1$, consumption curve can be drawn.

Steps

1. First of all, draw a line at $45^\circ$ 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.
UNIT VIII

GOVERNMENT BUDGET AND THE ECONOMY

Points to Remember

- Budget is a financial statement showing the expected receipt and expenditure of Government for the coming fiscal or financial year.
- Main objectives of budget are:
  1. Reallocation of resources.
  2. Redistribution of income and wealth.
  5. Economic Growth.
- There are two components of budget:
  1. Revenue budget
  2. 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.

**Budget Receipts**

- **Revenue Receipts**
  - Direct Tax
    - Income Tax
    - Corporate Tax
    - Wealth & Property Tax
  - Indirect Tax
    - Sales Tax
    - Service Tax
    - Excise Duty
    - Custom Duty
  - Non-Tax
    - Commercial Revenue
    - Interest
    - Dividend Profits
    - External Grants
    - Administrative Revenues
    - Fee
    - Licence Fee
    - Fines, Penalties
    - Escheat

- **Capital Receipts**
  - Borrowing & other liabilities
  - Recovery of Loans
  - Other receipts (Dis-investments)
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.

Revenue Receipts:
(i) Neither creates liabilities for government.
(ii) Nor causes any reduction in assets of the government.

Capital Receipts:
(i) Either creates liabilities of the government.
(ii) or reduces assets of the government.

BUDGET EXPENDITURE

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

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

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

Capital Expenditure:
(i) Either creates assets
(ii) or reduces liabilities.

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:
(i) It leads to inflationary pressure.
(ii) A country has to face debt trap.
(iii) 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.

MULTIPLE CHOICE QUESTIONS

1. Disinvestment by Government means:
   (a) selling of its fixed capital assets
   (b) selling of shares of Public Enterprise held by government
   (c) selling of its building       (d) All the above

2. Which one is Direct Tax
   (a) Service tax                  (b) Excise duty
   (c) Corporation tax             (d) Entertainment tax

3. If budgetary deficit is nil and borrowing and other liabilities are 70 crore, what is the amount of fiscal deficit?
   (a) Nil                           (b) 30 crore
   (c) Can't say                    (d) 70 crore

4. Payment of interest is
   (a) Revenue expenditure         (b) Capital expenditure
   (c) Primary deficit             (d) Fiscal deficit

5. If in a budget, Revenue deficit is Rs. 50,000 and borrowings are Rs. 75,000 crore. How much is the fiscal deficit?
(a) 50,000 crore  (b) 75,000 crore 
(c) 25,000 crore  (d) 1,25,000 crore 

6. If borrowing and other liabilities are added to the budget deficit, we get ...
(a) Revenue deficit  (b) Capital deficit  
(c) Primary deficit  (d) Fiscal deficit  

7. Which is the example of Administrative non-tax Revenue of Central Government? 
(a) Profit from PSUs  (b) Disinvestment  
(c) Excise duty  (d) Recovery of loan.  

8. Capital receipt may come from 
(a) Market borrowing  (b) Provident fund  
(c) Recoveries of loan  (d) All the above.  

9. Which is a capital expenditure of govt. 
(a) Salaries of Staff  (b) Payment of Interest  
(c) Purchase of machinery  (d) Subsidy  

10. Fiscal Deficit always leads to 
(a) Increase in borrowings  (b) Inflationary Pressure  
(c) Crowding out  (d) All the above  

11. Borrowings in Governments Budget is: 
(a) Revenue Deficit  (b) Fiscal Deficit  
(c) Primary Deficit  (d) Deficit in Taxes  

**Answers**

1. (d); 2. (c); 3. (d); 4. (a); 5. (b); 6. (d); 7. (a); 8. (d); 9. (c); 10. (d); 11. (b).  

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

1. Explain the allocation of resources objective of Govt. budget.
2. What is the difference between revenue budget and capital budget?

3. What is meant by revenue receipts? Explain the components of revenue receipts of the Govt.

4. Distinguish between direct tax and indirect tax.

5. What are capital receipts? What are the main components of the capital receipts?

6. Give the meaning of revenue deficit and fiscal deficit. What problems can the fiscal deficit create?

7. Distinguish between revenue expenditure and capital expenditure with an example of each.

8. Explain the "redistribution of income" objective of Govt. Budget.

9. Explain the 'Economic stability' objective of Govt. budget.

10. Under which situations deficit budget is beneficial for the economy.

11. Are fiscal deficits necessarily inflationary? Give reasons in support of your view.

12. How can surplus budget be used during inflation.

13. Giving reasons, classify the following as direct and indirect taxes.
   (i) Entertainment tax  (ii) Corporation tax
   (iii) Excise tax      (iv) Capital gains tax

14. From the following data about a government budget find (a) revenue deficit, (b) fiscal deficit and (c) primary deficit.

   (Rs. arab)

   (i) Plan capital expenditure  120
   (ii) Revenue expenditure      100
   (iii) Non-plan capital expenditure  80
   (iv) Revenue receipts         70
   (v) Capital receipts net of borrowing  140
   (vi) Interest payments        30
15. Distinguish between:
   (i) Capital expenditure and Revenue expenditure
   (ii) Fiscal deficit and Primary deficit.

16. Why does the Fiscal Deficit equal to borrowings.

**LONG ANSWER QUESTIONS**

17. Classify the following into revenue receipts and capital receipts give reasons:
   
   (a) Dividends earned from Indian Oil Corporation.
   (b) Loan taken from USA for the infrastructural developments
   (c) Receipt of grant from Bill gates foundation for AIDS patients.
   (d) Profit of ONGC, a public enterprises.
   (e) Funds raised from public in the form of National Saving certificates.
   (f) License and court fee received by the Govt. of India during year 2015-16.

18. Classify the following into revenue expenditure and Capital expenditure Give reasons.

   (i) Repayment of loan to the World Bank
   (ii) Salary paid to Army Officers.
   (iii) Interest paid on National Debt
   (iv) Construction of roads under the Pradhan Mantri's Gramin Sadak Yojnas
   (v) Financial grant given to Nepal for earthquake tragedy.
   (vi) Expenditure on constructions of Bullet train.

**HINTS**

13. (i) Indirect tax
   (ii) Direct Tax
(iii) Indirect tax
(iv) Direct tax

14. (a) Revenue deficit = Rs 30 arab
(b) Fiscal deficit = Rs 90 arab
(c) Primary deficit = Rs 60 arab

17. (a) Revenue Receipts
(b) Capital Receipts
(c) Revenue Receipts
(d) Revenue Receipts
(e) Capital Receipts
(f) Revenue Receipt

18. (i) Capital Expenditure
(ii) Revenue Expenditure
(iii) Revenue Expenditure
(iv) Capital Expenditure
(v) Revenue Expenditure
(vi) Capital Expenditure
VERY SHORT ANSWER QUESTION (1 MARK)

Q. 1. Why is recovery of loans treated as a capital receipts?
Ans. Because it reduces assets of the government.

Q. 2. Why are borrowing a capital receipt?
Ans. Because they create a liability for the government.

Q. 3. Give two examples of revenue receipts?
Ans. (i) Tax receipts (ii) Income from Public enterprises

Ans. Government Budget is an annual statement of estimated receipts and expenditure during a fiscal year.

Q. 5. Define revenue Budget.
Ans. Revenue Budget is the statement of estimated revenue receipts and estimated revenue expenditure during a year.

Ans. It refers to the selling of shares of PSU held by the government.

Q. 7. What is capital budget.
Ans. Capital Budget shows estimated capital receips 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.
3-4 MARKS QUESTIONS WITH ANSWERS

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 raise 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>Revenue Receipts</th>
<th>Capital Receipts</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.** Revenue Expenditure  
1. These expenditure do not increase govt. assets  
2. These expenditure do not cause any reduction in govt. liability  
3. Example: Transfer payment by government.

**Capital Expenditure**  
1. These expenditure increase the govt. assets  
2. These expenditure cause reduction in govt. liability  
3. Example: Repayment of loan by government.

**Q. 5.** Distinguish between Direct and Indirect Tax:

**Ans.** Direct Tax  
1. Direct tax is a tax whose liability to pay and incidence lie on the same person.  
2. Its incidence can not be shifted to some other person.  
3. Example: Income Tax

**Indirect Tax**  
1. The liability to pay and incidence of indirect tax do not lie on the same person.  
2. Its incidence can be shifted to some other person.  
3. Excise duty, VAT

**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 increase the supply of money in the economy.  
2. It increase 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 :  

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Receipts other than borrowings</td>
<td>95</td>
</tr>
<tr>
<td>Revenue Expenditure</td>
<td>100</td>
</tr>
<tr>
<td>Interest payment</td>
<td>10</td>
</tr>
<tr>
<td>Revenue Receipts</td>
<td>80</td>
</tr>
<tr>
<td>Capital Expenditure</td>
<td>110</td>
</tr>
</tbody>
</table>

**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 transactions 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 item 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.

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 rise the demand of foreign exchange falls and Vice versa.
Sources of Demand for Foreign Exchange

(a) To purchase goods and services from the rest of the world.
(b) To purchase 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 has a positive relation with foreign exchange rate. If foreign exchange rate rises, the supply of foreign exchange rate also rises and vice versa.

Source of Supply of Foreign Exchange

(i) Direct purchase by foreigners in the domestic market.
(ii) Direct investment by foreigners in the 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 an inverse relation between demand for foreign exchange and exchange rate. There is a direct relationship between supply of foreign exchange and exchange rate. Due to above reasons, demand curve is downward sloping and supply curve is upward sloping. Graphically, the intersection of demand curve and supply curve determines 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.
MULTIPLE CHOICE QUESTIONS

1. Which item is an invisible item in balance of payments account?
   (a) Export of food grains  (b) Imports of crude oil
   (c) Banking services provided in other countries
   (d) Import of steel by steel industry

2. Which one deal with debts and claims of a country?
   (a) Balance of capital account
   (b) Balance of trade account
   (c) Balance of current account
   (d) Balance of Services

3. Capital account may be
   (a) Private capital  (b) Banking capital
   (c) Official Capital  (d) All the above

4. Current account of BOP records transactions is relating to
   (a) Exchange of goods  (b) Exchange of services
   (c) Unilateral transfers  (d) All the above

5. In currency depreciations, there is
   (a) Fall in the value of domestic currency in terms of foreign currency
   (b) No change in the value of domestic currency
   (c) Rise in the value of domestic currency in terms of foreign currency
   (d) Decrease in the production of goods in domestic country.

6. Buyers and Sellers of foreign exchange are
   (a) Central Bank  (b) Commercial Bank
   (c) Brokers  (d) All the above
7. How exports are affected during appreciations of currency?
   (a) Increases     (b) Decreases
   (c) Remains constant    (d) None of the above.

8. Increase in the value of domestic currency in terms of foreign currency by the govt. is called
   (a) Depreciation     (b) Devaluation
   (c) Revaluation    (d) Appreciation

**Answers**
1. (c); 2. (a); 3. (d); 4. (d); 5. (a); 6. (d); 7. (b); 8. (c).

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

1. Write any three points of difference between BOT and BOP.
2. Distinguish between current account and capital account of BOP.
3. What are the components of the current account of the balance of payment account?
4. Distinguish between autonomous and accommodating transaction in the balance of payment account. Give an example each.
5. Give any three/four sources of supply of foreign exchange.
6. Explain the relationship between foreign exchange rate and demand for it.
7. Explain the relationship between foreign exchange rate and supply of foreign exchange.
8. Explain the terms 'appreciation and depreciation of currency.'
9. How is flexible exchange rate determined in a free market economy? Explain with the help of diagram.
10. Higher the foreign exchange rate, lower the demand for foreign exchange. Explain why?
11. Lower the foreign exchange rate, higher the demand for foreign exchange. Explain why?
12. Explain the impact of Devaluation of domestic currency on the export and imports of an economy.
13. Give the meaning of fixed, flexible and managed floating exchange rate.

14. Why the demand for foreign exchange falls when the foreign exchange rate rises explain with the help of an example.

6 MARKS QUESTIONS

1. Explain the distinction between Autonomous and Accommodating transactions in balance of payments. Also explain the concept of balance of payments 'deficit' in this context.

2. What is balance of payments account? Name three components each of its current account and capital account.

3. How is balance of trade different from balance of payments? State the items not included in balance of trade.

4. Classify whether the following transactions are to be accounted in the current account or capital accounts of India's BOP.
   (a) Purchase to TISCO shares by a foreign resident
   (b) Sale of Indian Skirts in Germany
   (c) Infosys borrowing from a US Bank
   (d) Money sent by an Indian to her friend in Canada
   (e) Purchase of Land in England
   (f) Gifts received from a relative in USA.

5. Giving reasons state whether the following statements are true or false:
   (i) Excess of foreign exchange receipts over foreign exchange payments on account of accommodating transactions equals deficit in the balance of payments.
   (ii) Export and import of machines are recorded in capital account of the balance of payments account.

LONG QUESTIONS HINT

4. Capital account (a), (c) and (e)
   Current account (b), (d) and (f)
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 goods 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 allow the exchange rate to determined by market forces but they take decisions to intervene whenever they feel it appropriate.
3 - 4 Mark Questions

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.
SAMPLE PAPER
MODEL TEST PAPER
Subject : Economics
[Time : 3 Hrs.] [M.M. : 100]

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 economy. 1
2. When marginal utility is zero, total utility is:
   (a) Zero  
   (b) Minimum
   (c) Maximum  
   (d) Negative

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3. A consumer consumer only two goods. If the price of one of the goods falls, the indifference curve.
   (a) Shifts upwards
   (b) Shifts downwards
   (c) Can shift both upwards or downwards
   (d) Does not shift

4. State the law of demand


   OR
   Why is a production possibility curve concave to the origin? Explain.

6. State the relation between marginal revenue and average revenue.

7. Explain the different phases in the behaviour of total product in the law of variable proportions.

8. Explain "perfect knowledge about the markets" feature of perfect competition.

   OR
   Why are the firms said to be interdependent in an oligopoly market? Explain.

9. Price of a commodity falls from ₹ 20 to ₹ 15 per unit. Its demand rises from 600 units to 750 units. Calculate its price elasticity of demand.

10. Explain the conditions of consumer's equilibrium using indifference curve analysis.

11. Complete the following table:

<table>
<thead>
<tr>
<th>Output (units)</th>
<th>Average fixed cost (₹)</th>
<th>Marginal cost (₹)</th>
<th>Average variable cost (₹)</th>
<th>Average cost (₹)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>60</td>
<td>20</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>2</td>
<td>–</td>
<td>–</td>
<td>19</td>
<td>–</td>
</tr>
</tbody>
</table>
11. State whether the following statements are true or false. Give reasons for your answer:
   (a) Under diminishing returns to a factor marginal product and total product both increase at a diminishing rate.
   (b) When marginal cost rises, average cost also rises.
   (c) Marginal revenue can never be negative.

12. Explain the meaning and implications of maximum price ceiling and minimum price ceiling.

Section – B

13. Define money supply.
14. Reporate is the rate at which
   (a) Commercial banks purchase government securities from the central bank.
   (c) Commercial banks can keep their deposits with the central bank.
   (d) Short-term loans are given by commercial banks.
15. When aggregate demand is greater than aggregate supply, inventories.
   (a) Fall
   (b) Rise
   (c) Do not change
   (d) First fall, then rise
16. Given the meaning of under-employment equilibrium.
17. Distinguish between current account and capital account of balance of payments account.

OR

Distinguish between autonomous transaction and accommodating transaction of balance of payments account.
18. What are fixed and flexible exchange rates.  
19. What is real GDP? State three limitations of GDP as an index of economic welfare.  

OR  
Explain circular flow of income.

21. An economy is in equilibrium. Calculate the investment expenditure from the following:  
National income = 800  
Marginal propensity to save = 0.3  
Autonomous consumption = 100  

22. What is 'deficient demand'? Explain the role of 'Bank Rate' in removing it.  

OR  
What is excess demand? Explain the role of 'Reverse Repo Rate' in removing it.

23. Explain how the government can use the budgetary policy in reducing inequalities in income?  
24. Calculate GDP and (b) factor income to abroad from following data:  

\[(\text{` crore})\]  
(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

**Marking Scheme Section – A**

1. An economy is a system that helps to produce goods and services and enables people to earn their living. 1

2. (c)

3. (d)

4. Other things remaining the same, there is an inverse relationship between price of a good and its quantity demanded.

5. Economic problem arise because of resources are limited with respect to their wants and they have alternative uses.

**OR**

It is concave to the origin because of increasing MRT i.e., in producing an additional unit of a commodity more and more units of the other commodity are to be sacrificed, as no resources is not equally efficient in production of both the goods.

6. When MR < AR, AR falls
   When MR = AR, AR is constant
   When MR > Ar, AR rises

7. Phase I : TP increases at increasing rate
   Phase II : TP increases at decreasing rate.
   Phase III : TP falls.

8. In a perfectly competitive market buyers and seller have free knowledge about the market. So, no seller can charge a price higher than the price determined by the market and no buyer is willing to pay the price higher than market price.

**OR**

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 firm. 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.

9. \[ Ed = \frac{P}{Q} \frac{\Delta Q}{\Delta \Pi} \]
\[ = \frac{20}{600} \cdot \frac{150}{-5} \]
Ed = – 1

10. Given that two goods are X and Y, the two condition are

1. \[ MRS = \frac{P_x}{P_y} \]

2. MRS declines are more of a commodity x is consumed.

Explanation:

(i) Suppose \[ MRS = \frac{P_x}{P_y} \]. It means that consumer is willing to pay more for an extra unit of X as compared to what market price is. The consumer consumes more and more of good X and less of good Y till MRS falls enough to be equal to the market price and the consumer is in equilibrium.

(ii) Unless MRS declines continuously as more and more of X is consumed. It will not be equal to \[ \frac{P_x}{P_y} \] and consumer will not reach equilibrium again.

11. AFC : 60, 30, 20, 15, 12
MC : 20, 18, 16, 18, 19
AVC : 20, 19, 18, 18, 19
AC : 80, 49, 38, 33, 31

OR

(a) False, because when MP falls, while TP increases at diminishing rate.
(b) False because AC rises only when MC > AC.
(c) False, because when a firm can sell more only by lowering the price it is possible that marginal revenue becomes negative after a level of output.

12. When the government imposes upper limit of on the price of a good it is called maximum price ceiling. It is fixed below the equilibrium price.

Implication: It will lead to excess demand. This in turn may lead to black marketing of goods. When the govt imposes lower limit on the price of a good, it is called maximum price ceiling.

Implication: It leads to excess supply. This in turn may lead to illegal selling below the ceiling price as the producers are not able to sell what they desire to sell.

**Section – B**

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

14. (b)

15. (a)

16. When aggregate demand and aggregate supply are equal at below full employment level, it is called under employment equilibrium.

17. Current account records exports and imports of goods and services and transfer payments whereas capital account records barrowings and lending to and from abroad, investments to and from abroad and changes in foreign exchange reserve.

    **OR**

Transaction made independent of the state of balance of payments are called autonomous transaction whereas transactions made on account of the state of balance of payments are called accommodating transactions.

18. Fixed exchange rate is the exchange rate fixed by the government/central bank and is not influenced by the demand
Flexible exchange rate is the exchange rate determined by the forces of demand and supply of foreign exchange in the market and influenced by the market forces.

19. When GDP represents quantities of final goods and services produced or when GDP is measured on the basis of constant prices, it is called real GDP.

**Limitations:**

1. It does not reflect distribution of income among people.
2. It does not take into account non-monetary exchanges.
3. It does not take into account externalities.

**OR**

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.

20. 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.

21. \[ Y = C + MPC \times (Y) + I \]
\[ 800 = 100 + (1 - 0.3) \times 800 + I \]
\[ I = 800 - 100 - 560 \]
\[ I = 140 \]

22. Deficient demand: Is the amount by which the aggregate demand falls short of aggregate supply at full employment level. It causes fall in price level.

Bank Rate is the rate of interest at which central bank lends to commercial banks for long term. The central bank lowers bank
rate to reduce defilement demand. When central bank lowers. Bank rate commercial banks also lower their lending rates.

Since burrowing becomes cheaper, people burrow more. This leads to raise in aggregate demand and thus helps in reducing deficient demand.

OR

Excess demand is the amount by which the aggregate demand exceeds aggregate supply at full employment level. It causes inflation.

Reverse Repo Rate is the rate of interest paid by the central bank on deposits by commercial banks. Central Bank can reduce excess demand by raising the reverse reporate.. When the rate is raised, it encourages the commercial banks to park their funds with the central bank. This reduces lending capacity of the commercial banks. Lending by the commercial banks to public declines leading to fall in aggregate demand.

23. Government can reduce in equalities through its tax and expenditure policy. Goverenmmt can charge higher rate of tax from higher income groups by imposing higher rate of income tax and higher rate on goods and services purchased by the rich. The money so collected can be spent on the poor in the form of free education, free medical facilities, cheaper housing etc. in order to raise their disposable income.

24. (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} \quad [\therefore \text{Dep} = \text{GDCF} - \text{NDCF}] \\

(b) Factor income to abroad

\[ \text{GNP}_{MP} = \text{GDP}_{FC} + \text{NIT} + \text{NFIA} \]

\[ 1400 = 1300 + 120 + \text{FIFA} - \text{FITA} \]

\[ 1400 = 1300 + 120 + 60 - \text{FITA} \]

\[ \text{FITA} = \text{Rs 80 crore} \]
MODEL QUESTION PAPER-I

Subject : Economics

[Time : 3 Hrs.] [M.M. : 80]

Section – A

1. Define Normative Economics. 1

2. Suppose total revenue is rising at a constant rate as more and more units of commodity are sold, marginal revenue would (choose the correct alternative) 1

(a) Greater than average revenue
(b) Equal to average revenue
(c) Less than average revenue
(d) Rising

3. Give meaning of change in quantity supplied. 1

4. Average revenue and price are always equal under: (Choose correct alternative) 1

(a) Perfect competition only
(b) Oligopolistic competition only
(c) Monopoly only
(d) All market forms

5. Explain the problem of "How to produce". 1

6. Price elasticity of demand of good X is – 2 and of good Y is – 3. Which of the two goods is more elastic and why. 3

7. Explain how the demand for a good is affected by the price of related goods. Give example. 4

8. Explain factors affecting elasticity of supply. 4

9. 'Firms are inter dependent in oligopoly' explain the fact. 4

10. Market for a good is in equilibrium. There is an increase in
demand for this good. Explain the chain of effects of this change use a table.

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

(a) Perfect knowledge
(b) Freedom of entry and exit of firms

12. Complete the following table

<table>
<thead>
<tr>
<th>Output</th>
<th>Marginal cost (₹)</th>
<th>Average variable cost (₹)</th>
<th>Total cost (₹)</th>
<th>Average fixed cost (₹)</th>
</tr>
</thead>
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<td>–</td>
<td>15</td>
</tr>
<tr>
<td>5</td>
<td>–</td>
<td>57</td>
<td>345</td>
<td>–</td>
</tr>
</tbody>
</table>

Section – B

13. Fiscal deficit equals: (Choose the correct alternative)

(a) Interest payments
(b) Borrowings
(c) Interest payments less borrowing
(d) Borrowings less interest payments

14. What is revenue deficit.

15. Balance of payment 'deficit' is excess of: (choose the correct alternative)

(a) Current account payments over current account receipts
(b) Capital account payments over capital account receipt
(c) Autonomous payments over autonomous receipts
(d) Accommodating payment over accommodating receipts
16. Give meaning of managed floating exchange rate.  1

17. Find consumption expenditure from the following

   Autonomous consumption = 100 ₹
   Marginal propensity to consume = 0.70
   National income = 2000  ₹  

   OR

   Distinguish between consumption function equation and savings function equation.  3

19. Calculate "Sales" from the following data

   (in Lakhs)

   (i) Net value added at factor cost  560
   (ii) Depreciation  60
   (iii) Change in stock  (–30)
   (iv) Intermediate cost  1000
   (v) Export  200
   (vi) Indirect taxes  60

   OR

   Difference between stock and flow.

20. Explain how government budget can be used to influence distribution of income?  4

21. Where will sale of machinery to abroad be recorded in the balance of payment account? Give reasons.  4

22. Given consumption curve derive saving curve and state the steps taken in the process of derivation use diagram.  6

   Note: For blind candidates in lieu of Q-22 explain the consumption function. Derive saving function from consumption function.

23. How do commercial bank create credit.  6
24. From the following data calculate gross national product at factor cost by (i) income method and (ii) expenditure method. 6 (₹ in crores)

(i) Net domestic capital formation 500
(ii) Compensation of employees 1850
(iii) Consumption of fixed capital 100
(iv) Government final consumption expenditure 1100
(v) Private final consumption expenditure 2600
(vi) Rent 400
(vii) Dividend 200
(viii) Interest 500
(ix) Net exports −100
(x) Profits 1100
(xi) Net factor income from abroad −50
(xii) Net indirect tax 250
Section – A

1. Define opportunity cost. 1

2. When AP is maximum, MP is equal to: (Choose correct alternate) 1

   (a) AP    (b) TP
   (c) Zero   (d) One

3. Change in the price of the given commodity will lead to: (Choose correct alternate) 1

   (a) Expansion in supply
   (b) Either (a) or (b)
   (c) Contraction in supply
   (d) Neither (a) nor (b)

4. Define marginal revenue. 1

5. Explain the relationship between total revenue and marginal revenue. 3

6. Define production possibility curve. Explain why it is downward sloping from left to right. 3

   OR

   Explain the central problem 'What to Produce'.

7. What is law of diminishing marginal utility? Give a numerical example. 4
8. Complete the following table:

<table>
<thead>
<tr>
<th>Production</th>
<th>AFC (₹)</th>
<th>AC (₹)</th>
<th>AVC (₹)</th>
<th>MC (₹)</th>
</tr>
</thead>
<tbody>
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<td>5</td>
<td>18</td>
<td>70</td>
<td>52</td>
<td>68</td>
</tr>
</tbody>
</table>

OR

Explain the difference between decrease in supply and contraction in supply.

9. Explain the difference between collusive and non-collusive oligopoly.

10. Explain consumer's equilibrium with the help of indifference curve analysis.

11. Explain the law of variable proportions through the behaviour of both total product and marginal product. Explain with help of diagram.

OR

Discuss the MR and MC approach for determining producer's equilibrium. When price remains same

For blind student for the Q. 11

Explain factors affecting elasticity of supply.

12. X is a normal good for its consumers. Their income increases. Explain its chain effects on equilibrium price, demand and supply of X.

Section – B

13. If MPC is 0.6, the investment multiplier will be (Choose correct alternate)

(a) 1.67  
(b) 2.5  
(c) 6  
(d) 4
14. Define non-tax revenue.

15. Fees of the government college is a revenue receipts because:
   (Choose correct alternate)
   
   (a) It creates liability to the government
   
   (b) It neither creates any liability nor reduce any asset of the
govt.
   
   (c) It neither creates any asset nor reduce any liability of the
government.
   
   (d) It increases asset of the government.


17. Distinguish between autonomous and accommodating
   transaction of Balance of payment account.

18. Why does the demand curve of foreign exchange slope down
    words.

   OR

   Give three sources of supply of foreign exchange.

19. From the following data calculate gross value added at factor
    cost:

   Particulars (₹ in crore)
   (i) Sales 180
   (ii) Rent 05
   (iii) Subsidies 10
   (iv) Change in stock 15
   (v) Purchase of raw material 100
   (vi) Profits 25

21. Complete the following table:

<table>
<thead>
<tr>
<th>Income</th>
<th>MPC</th>
<th>Saving</th>
<th>APS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
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<td>–110</td>
<td>–</td>
</tr>
<tr>
<td>100</td>
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<td>0.6</td>
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</tr>
<tr>
<td>300</td>
<td>0.6</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

OR

Explain the working of investment multiplier with the help of a numerical example.

22. How does the central bank perform the function of controller of credit.

OR

State briefly the various instruments of monetary policy.

23. Explain the concept of inflationary gap with the help of a diagram.

OR

For blind students in lieu of Q-23.

Explain two fiscal measures by which excess demand in an economy can be corrected.

24. What are externalities? Give an example of a positive externality and its impact on welfare of the people.

OR

Giving reasons explain how the following should be treated in estimation of national income.

(i) Payment of interest by a firm to a bank.

(ii) Payment of interest by a bank to an individual

(iii) Payment of interest by individual to a bank.
COMMON ERRORS COMMITTED BY STUDENTS IN BOARD EXAMS

1. Students are not clear about slope of PPC and indifference curve. They interchange them while writing answers.

2. Students draw wrong curves of MC, MR, AC, MP, AP, TC etc.

3. Not clear between economic problem and problems of economy.

4. Students use conditions of a consumer's equilibrium (utilizing analysis and indifference curve analysis) in place of each other.

5. Students explain consumer equilibrium (indifference curve analysis) with help of diagram and does not explain its conditions, whereas diagram is not asked in the questions.

6. Does not differentiate between change in demand and change in quantity demanded. Students use them in place of each other. The same is with supply.

7. In case of related goods they don't differentiate them between substitute goods and complimentary goods.

8. To show the effect of change in income many students don't differentiate between normal goods and inferior goods.

9. Many students don't explain law of variable proportion with marginal product or total product as asked in the question. They also do error in writing relationship between TP and MP.

10. Students explain relationship between MR and AR in special care only i.e. (i) sell more at same price and (ii) sell more at less price Whereas question has not specified any condition. Write general condition in that case.


12. While determining the equilibrium price many students shift demand or supply in wrong direction. They label the diagram wrong or not label at all.

13. Not clear between final goods and intermediate goods. Services used by arms are always intermediate consumption. Students add them while estimating GDP which is wrong.
14. Do not reason of treatment of various transactions while estimating GDP or national income.

15. Draw market demand curve in place of aggregate demand curve to show equilibrium of economy.

16. Do not write steps to draw saving line from consumption line and to derive saving function from consumption function.

17. Do not explain credit money creation process with suitable numerical example.

18. Do not write formulas and show the steps while solving numerical. Markign scheme have marks for the formulas.

19. Do not follow the words limit soem time they write three pages for 3 marks question. It should be clear how many points to be written for 3 marks questions.

20. Sometime students draw diagram even when it is not asked. It consumes their time and makes it difficult to finish on time. Use diagram only whom asked.