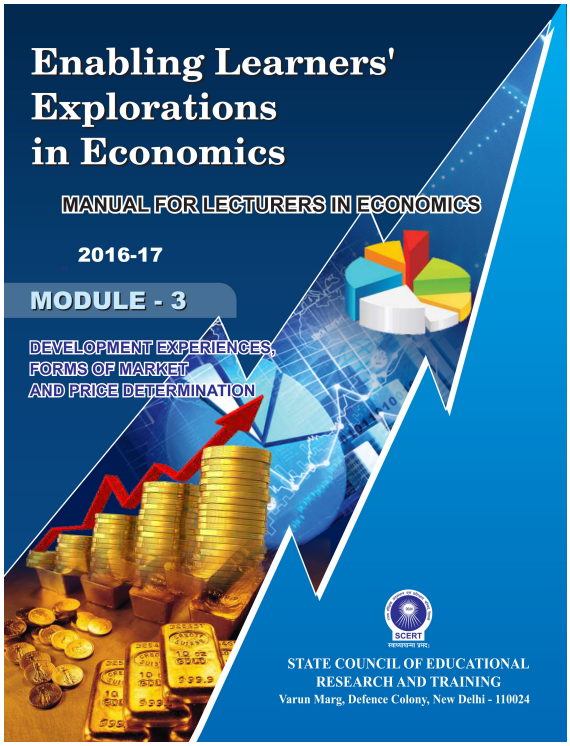
Enabling Learners' Explorations in Economics

MANUAL FOR LECTURERS IN ECONOMICS

2016-17

MODULE - 3

DEVELOPMENT EXPERIENCES, FORMS OF MARKET AND PRICE DETERMINATION



SCERT

STATE COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING

Varun Marg, Defence Colony, New Delhi - 110024

ENABLING LEARNERS' EXPLORATIONS IN ECONOMICS

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DEVELOPMENT EXPERIENCES, OTBA, PROJECTS IN ECONOMICS, FORMS OF MARKET AND PRICE DETERMINATION

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Foreword

In the changing scenario of business world and fast changing technology subject like Economics poses a challenge for teachers to update their knowledge by keeping pace with these changes and preparing students in these globallycompletive economies. Economics education is directly linked with such changes. The recent times have seen drastic change at the international level like Brexit, demonetization in India have impacted almost every economy. The IT has taken in a massive way not only in doing business; modes of selling and making payments have also changed.

CBSE has been making provision for these changes by introducing Project work, VBQs, HOTS, and Case Studies in Assessment etc. to bring children close to the real world of work. SCERT organises Capacity Building Programs to orient them to carry out effectively in the classroom. This time SCERT has re-designed its training by developing 6 modules based on critical components identified across the XI & XI syllabus at Senior Secondary level. Teachers are given an option to attend any 2 Modules based training out of 6 based on their felt needs; however all the modules will be made available for their reference.

I, hereby, extend a sincere word of appreciation for the entire team of contributors who have brought these modules in present shape. It was a tremendous task which would not have been possible without the vision and passion of the people who have incorporated interactive activities, recent changes in syllabus, innovative methodology of teaching-learning processes and enriching reading material for teachers.

I extend a deep sense of reverence and gratitude to all concerned authorities; DOE, NCERT and CBSE for extending all academic support for incorporating required content in the Modules for capacity building of Lecturers in Economics . We look forward for your continued supports and academic associations for quality education and capacity building of teachers.

I sincerely wish and hope teachers will also take it enthusiastical y with same zeal and passion to their classrooms. Your observations and suggestions are welcome on the modules.

Anita Satia

Director, SCERT

Editorial

If we look around, we will find the principles of economics working in every sphere of life. The very famous quote by Thomas Sowell, the Economist emphasises that;

‘The first lesson of economics is scarcity: there is never enough of anything to fully satisfy all those who want it. The first lesson of politics is to disregard the first lesson of economics.’ This states the fact that how the Politics and Economics are so close.

The curious task of economics is to demonstrate to men how little they really know about what they imagine they can design. It turns out that advancing equal opportunity and economic empowerment are both moral y right and good economics, because discrimination, poverty and ignorance restrict growth, while investments in education, infrastructure and scientific and technological research increase it, creating more good jobs and new wealth for all of us, as stated by William J. Clinton.

Geography has made us neighbours. History has made us friends. Economics has made us partners, and necessity has made us allies.

Economics is a discipline that can help us answer these questions. Economics can actually be defined in different ways: it’s the study of scarcity, the study of how people use resources, or the study of decision-making. Economics often

involves topics like wealth, finance, recessions, and banking, leading to the misconception that economics is all about money and the stock market. actually, it's a much broader discipline that helps us understand historical trends, interpret today's headlines, and make predictions for coming decades.

Economic study ranges from the very small to the very large. The study of choices by individuals (like how someone decides to budget their pay check each month) is called microeconomics. Researchers have used the tools of microeconomics to measure the link between health and economic wel -being, study the impact of micro loans in poor countries, and understand why people never seem to save as much for retirement as they would like.

The study of Governments, industries, central banking, and the boom and bust of the business cycle is called macroeconomics. Macroeconomics can help us answer some of the biggest questions about how and why recessions occur, how surges in immigration or gas prices will affect the economy, or what the aging of the Baby Boomer generation could do to the national debt.

Important public policy debates revolve around questions of economics. Governments the world over employ economists to help understand how government health programs will af ect the incentives of doctors, whether farm subsidies will raise or lower prices at the grocery store, and the best ways to fight poverty.

Much of economics involves using data gathered by Governments, businesses, or in the laboratory to test hypotheses about whether a certain program, event, or incentive will have the expected ef ect. Another branch of economics focuses on using economic theory to make predictions about how people and markets will behave.

Use of Statistics in Project Work, Changed approach for teaching Dynamics of Indian Economy in class XI, Understanding in the dealing Mechanisms of Mathematical Portion in Class XI Economics, Analysis of Class XI Papers and discussion on improving Students Performance, Gaming in Economics for effective Joyful Learning, Blooms Taxonomy and Question Paper Design, HOTS, Understanding Budget and Government Policies implicating Economy are major areas that will be addressed during the Capacity Building Program for teachers along with hard spots and reading material from class XI syllabus also.

These Modules address the significant changes in Curriculum, Assessment Practices and provides the useful reading material that will help you in your classroom teaching–learning processes. As Teachers play an important role in implementing all new changes taking place in the curriculum and also the new technologies in the field of education, SCERT and DIETs have been orienting the teachers in implementing the same effectively in classrooms. FAQs on Project work will provide an insight on all aspects and stages of project work. A list of 30 suggestive Projects are also given to improve the quality of Projects corresponding to the learning objectives stated by CBSE.

NCERT and CBSE have brought in the desirable changes in the textbooks and examination pat ern to connect the text with real world of work in true sense. NCF 2005 also strongly emphasizes on the departure from rote learning to child cantered-processes which is the core of constructivist approach. The support material developed by SCERT /DIET is an initiative in this direction for capacity building of teachers.

I appreciate team of Contributors who have worked tirelessly and brought these Modules in the present shape. I take this opportunity to express a deep sense of reverence and gratitude to Ms. Anita Satia, Director, SCERT, Dr. Nahar Singh, Joint Director, SCERT and Late Dr. Pratibha Sharma, Former Joint Director, SCERT for their continuous support and encouragement. I owe special thanks to Dr. Dushyant Kaur, Principal DIET Moti Bagh and al my colleagues; Academic and Administrative Staf for facilitating and extending unconditional support at all stages of completing this assignment. My sincere thanks are extended to Ms. Sunita Rani, Lecturer, DIET, Moti Bagh who has provided her valuable inputs and has been a constant support at all stages of development of these Modules. Special thanks are extended to the team of Contributors, Subject Experts, and their concerned authorities, Faculty of various Col eges/Institutes, DDEs and Officials of Directorate, Principals and Teachers of Government Schools, Aided / Public Schools for providing valuable suggestions and support at all stages of development of these Modules. I wish all Stakeholders an insightful reading.

The observations, suggestions and comments related to the Manual are welcome.

*The brief of all Modules are given in the following pages.

Dr. Seema Srivastava

ABOUT THE MODULES-

An Introductory Note

The present enrichment material is integrative in nature and contains 6 Modules. Each module deals with a different set of selected topics from the senior secondary CBSE syllabus of Economics, applicable from session 2016-17 onwards. Every Module covers syllabus topics from both Class XI and XI . The topics have been included after a thoroughbrainstorming with experts and feedback received from in-service teachers of economics, especially those recently promoted in to teaching of economics.

The objective is very clear: to enable the teachers to upgrade their knowledge and develop their capacity to become better facilitators in teaching-learning Economics. To this end many current related news/ happenings, links to websites, topic wise key terms, photographs/pictures and games and projects, guide notes for teachers, Value Based Questions, Life Skills and Higher Order Thinking Skills (HOTS) have been included in every module. Use of these will surely make every class of economics abuzz with discussion, debate and activity. Difficult topics have also been explained. Without going overboard, it can be stated to serve as a quick reckoner and repository of related material for teachers. A brief description of the 6 Modules, divided into topical units, is as fol ows so teachers can decide to go through these as per their individual requirement and choice. all modules will be uploaded on SCERT website for reference.

Module- I- Foundations of Economics-Several Facets

This contains four units. The first unit deals with India's development experience since independence and focuses on why Planning was adopted as a tool to development. Long term objectives of planning, a tabular display of plan-wise objectives, brief on five year plans I- V and discussion of Industrial Policy Resolution, 1956, Green Revolution and small Scale Industries have been included. Supporting images for each can either be shown to the class or displayed on the digital board or computer to generate the right environment. A critical evaluation of economic policies and MCQ's completes Unit- I. Unit -I deals with economic reforms post 1990. The NEP, 1991 has been explained in the light of LPG and its impact on domestic and international economy has been dealt with followed by a critical review and HOTS. In Unit -I I we sail through the basic concepts of Micro and Macro Economics, economic problems, central problems, PPC, opportunity cost and MRT with use of tables, diagrams, smart art ending with MCQ's and MDQ's. HOTS in Hindi have also been included. Unit IV is on Consumer Equilibrium and Demand. Meaning of Consumer Equilibrium has been explained fol owed by the Utility Approach Theory by Marshal and Hicks' Indif erence Curve Analysis and Demand Analysis. Mathematical treatment of each of these theories and dif iculties arising in specific areas has been covered with worked out examples and MCQ's.

Module- II -Current challenges Facing Indian Economy and Producers' Behaviour

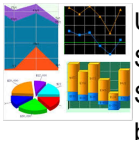
This has been presented in two units. The first unit deals with the challenges of Poverty, Rural Development, Human Capital Formation, Inflation, Employment Generation, Infrastructure Development and Sustainable Development. Poverty covers absolute and relative poverty, measure of poverty, a box containing World Bank Report has been given to initiate a report on India's place in world poverty and another one to compare the state of poor in developed and developing countries. Rural Development deals with measures and rural credit- institutional and non- institutional credit, agricultural marketing and the need for diversification of agricultural activities. Human Capital includes the problems and challenges facing its formation in India especially with provision of education and training at all levels. Employment defines unemployment, jobless growth, casualisation and informalisation of work force and causes of unemployment. Details of a project on unemployment to acquaint students with the gravity of unemployment and use tools of Statistics and an interview has been suggested to begin a discussion in the class and thereby sensitize to Life Skil Development towards the right career choice. The topic of Inflation discusses the present Consumer Price Index (CPI), types of inflation and causes of inflation. A research project has been provided as an activity integrating it with Statistics. Infrastructure covers energy and the challenges within this sector, road network and healthcare with economic growth, using related diagrams and

images. Sustainable development has been included here to relate its need for sensitizing students towards the environment and their domestic and global responsibility towards it as individuals and society, especially in Indian context. Each topic has its own Value Based Questions (VBQ's), HOTS, suggestive activity and exemplar Unit Tests with suggestive answers. Unit- II covers Producer Behaviour and Supply. This deals with Production function, Cost, supply, Revenue and Producer's equilibrium. Relationships between the concepts of marginal, average and total have been explained with ample use of examples, numerical, tables and diagrams as wel as concept mapping. Shapes of different curves have also been shown and reasoned out in a quick sum up.

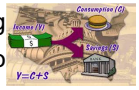
Module- III-Development Experiences: India, Pakistan and China: OTBA, Projects in Economics, Forms Of Market and Price Determination

Unit- I deals with the Development Experience of India- Comparison with Pakistan and China. This is examined as Open Text Book section. The three countries have been compared using data from World Development Report, Human Development Report, World Health Report and Indian Economic Survey. Suggested new areas of comparison are agricultural land as a percentage of land area, irrigated land as percentage of agricultural area, access to electricity, time required to start business, market capitalisation of listed companies, women employed in non- agricultural sector, health expenditure etc. Exemplar case studies have been included for OTBA examination. A very interesting section under the first unit appears as Simulation Games in Economics. Simulation of a Market, suggestions for more games and a game of Snakes and Ladders on Economic Policy will prove to be a definite stress buster in your economics period! The important aspects of Perfect Competition, Monopolistic Competition, Monopoly and Duopoly deal with their features, profit maximization conditions and existence in real world are covered in unit –I . Test yourself and interesting cartoons make this unit more relevant.

Module- IV- Introduction to Statistics, Col ection, Organisation Presentation of Data and National Income Aggregates

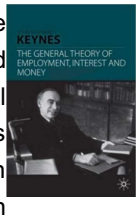


Unit- I is based on an explanation of what statistics is and how it is useful in Economics. Functions of Statistics and sources for primary and secondary data have been presented interestingly. Sampling techniques, organisation of data into tables and different types of classification has been dealt with. The display of statistical information as tables, graphs and diagrams is included. Each topic has its own set of HOTS, FAQs and MCQs. Unit- I - National income and its Aggregates begins with types of goods and services, circular flow of income and matures to the three methods of measuring national income with interesting diagrams to assist easy understanding and recall . Questions and tips to improve understanding have been included.



Module- V -Measures of Central Tendency and Dispersion, Components of Macro Economics

Unit-I provides a deeper understanding of Mean, Median and Mode. It explains the need for a central tendency and when to use each one of these with ample examples and reports from publications that have used them to draw conclusions. Partition values have also been dealt with and their calculation and usage explained. Relative and Absolute dispersion values such as Range, Quartile Deviation, Mean Deviation and Standard Deviation have been worked out and their use clarified. The unit ends with MCQ's and numerical with solutions. Unit- I is based on Money and Banking and Determination of Income. Barter system and its deficiencies, definition of various functions of money and the four measures of money supply have been dealt with. An explanation of CRR and how banks create credit and increase money supply has been demonstrated. Concept mapping of instruments used by RBI to control supply of money and a case study depicting each of these instruments has been included. Under income determination, propensity to consume and save, aggregate supply and aggregate demand have been explained. Derivation of investment multiplier and role of government in wiping out excess demand and excess supply has been explained with use of examples and concept mapping. This unit too has ample exercises for guidance and practice.



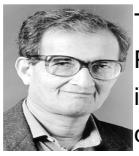
Module- VI-Correlation, Index Numbers, Global Economic Scenario (New Initiatives and Government Policies), Government Budget and Balance of Payment

Unit- I includes concepts of Correlation and Index Numbers. The difference between correlation and causation has been explained in a lucid and simple manner with examples from real life. Positive and negative, linear and non- linear correlations and degrees of correlation coef icient have been clarified. Examples il ustrate the application of formulae and interpretation of diagrams. MCQ's HOTs and exemplary unit test has also been included. The topic of Index Numbers begins with an activity to initiate this topic in class. Important components in construction of an index and which Index is to be used in a situation are the highlights of this unit. Il ustrations and suggested projects are some other value-additions in this topic.

Unit-II is on Government Budget. The structure of budget and various types of receipts and expenditures have been shown using relationship diagrams. A number of questions and tips for teachers are important components of this unit. Balance of payments is considered tough and its scanty delivery in text book makes this worse. This topic therefore discusses common errors made by students. This is fol owed by the exchange rate, fixed and floating exchange rates and depreciation and devaluation. The global economic scenario relates current changes in the world and Indian economy. Globalization in India, emergence of Brexit, current development policies and other measures by the government will update all . The unit also suggests a class activity.

The 6 Modules as briefly described above are support material and teachers will gain by making use of these in their class. It should be clear that in no way at all this is an exhaustive material. It is meant to complement and not substitute the text books. This is a teacher's teaching aid. Using this will surely make your students look forward to their Economics class!

Supplementary Handbook for Teachers of Economics



This contains the syllabus for the year 2016-17, CBSE Board Papers including Foreign Centre Question Paper-2016 and Marking Scheme of CBSE Papers. Sample Paper of CBSE for the year 2016 is also included. An Exemplar Question Paper by NCERT is also given for classroom practice. Common Errors commit ed by the students are also detailed out to provide you an insight to prepare students to score bet er. Contributions of few eminent economists like Chanakya, Samuelson, Keynes and Amartya Sen, Bengt Holmstro - british born Harvard economist, Oliver Hart - Nobel prize in economics in 2016 and also the contribution by Robert Kiyosaki, an investor, businessman, best sel er and author of the book 'Rich Dad Poor Dad' will provide you interesting facts and principles of economics and about life that hold water even today. Encourage students to explore more and discuss their contributions in the class. Project Work remains a neglected area in terms of its true spirit to make the students understand the real world of economics. The genuineness and authenticity of the project work largely depend on teachers' guidance and monitoring. As far as possible, project work should be executed in school, under the teacher's guidance and facilitation. The different aspects of Project formulation and different stages of project have been addressed in form of Frequently Asked questions (FAQs). Newspapers cut ings and print material are the most important and ef ective teaching tools in teaching of economics. An exemplar has been given and you may build up your own library to discuss and debate with real data and news items. You will be amazed to find out what you teach in theory will enable students to find meaningful application in daily newspapers. This will also develop the habit of reading newspapers among students and sharpen their analytical ability too. Everyone loves watching movies. How movies communicate strong messages for students has also been covered in this Handbook which you will find interesting. Movies not only entertain, they also strongly showcase the fabric of society. Explore and watch good movies and encourage students to discuss and debate in class. Few movies like Nil Battey Sannata (2016), The Man Who Knew Infinity (2016), Mother India (1957) and Beautiful Mind (2001) have been briefly discussed for your reference. Simulation and Games in Economics can play a major role in making the teaching of economics a joyful experience. A chapter on the same from NCERT site has been included which elaborates its need and how to use it. You may develop your own games as wel . Key features of Budget-2016 have been briefly discussed in the supplementary module for you to discuss and provide an understanding to students in the classroom to highlight the priority sectors and all ocations. Brief of various government initiatives and programs have also been included. The brief abstract on research findings on Constructivist Approach in teaching of economics has been included to explore and use its research applications in classroom. The assessment and evaluation in economics will enable you to guide students to perform better in boards.

It would be our endeavor to bring back the glory to this noble task of teaching and meaningfully contribute to ef ective teaching- learning processes to make the students globallycompetitive. all the best and hope that creativity of users of these modules gets inspired to take flight beyond this resource. Take this with the same zeal and compassion to make the teaching of economics joyful and meaningful.

Your observations, comments and suggestions on the Modules are welcome.

Dr. Seema Srivastava

MODULE - 3

DEVELOPMENT EXPERIENCES: INDIA, PAKISTAN AND CHINA; OTBA, PROJECTS IN ECONOMICS, FORMS OF MARKET AND PRICE DETERMINATION

Unit-I

Unit-II

DEVELOPMENT EXPERIENCE OF INDIA, CHINA AND PAKISTAN: CONDUCTING OPEN TEXT BOOK EXAMINATIONS

Why this chapter?

For a very long time, Indian social science textbooks have discussed the details of affairs outside India only in world history textbooks. This is for the first time in an economics textbook, the details of aspects related to economic development of other countries and particularly India's neighbouring countries are discussed. This is because of various reasons. India occupies a special position in the south Asian region, both economically and politically and has a greater scope to foster regional peace and prosperity. India's long-term prosperity depends to a great degree on a conflict-free neighbourhood. Students are expected to understand how other neighbouring countries grow economical y. Since India has spatial and geographical advantages in producing certain goods and services and other countries also have similar advantages, we all know from the study of theories of international trade that building trade relations with neighbouring nations would also benefit India. We know that many countries forge al iance among themselves to meet trade and other non-trade challenges. Understanding India's neighbours and forming all iances also would help India to meet global challenges.

What was presented in the chapter?

different textbooks provide the details of development experiences of India and its neighbours in different ways. In the NCERT textbooks for example took up two kinds of data - economic and human development dimensions of three countries – India, China and Pakistan are compared over the last few decades. In this textbook, some of the policy initiatives all the three countries took up such as five-year plans were also discussed. In the end of the chapter, some of the challenges these three countries face despite the development initiatives have been discussed.

What were the sources used to compare three countries?

This is one of the topics students and teachers may find Difficult to collect additional materials or get latest data on - Gross Domestic Product (GDP) and Human Development Indicators (HDI). Teachers are required to visit a nearby library and look for the following published documents or download pdf from the website.

(i) **World Development Report:** This document is published by the World Bank, Washington every year. This report focuses on a specific theme each year. The Appendix to the report contains statistics relating to development indicators

for each country.

(ii) **Human Development Report:** This report, published every year contains data relating to health, education and income of countries. Even countries are also classified into three – low development, medium development and high development. This is published by United National Development Programme (UNDP) of the United Nations Organisation (UNO).

(iii) **World Health Report:** This report is published by World Health Organisation, Geneva. Almost all the statistics relating to health aspects are available in this report.

(iv) **Economic Survey:** The Ministry of Finance of the Government of India publishes this document annual y, based on budgetary details. Though most of the statistics is pertaining to India, in some sections, details of other countries are also compared.

One of the best ways to access these reports, if they are not available in the library is the internet. Not only are the reports available in PDF format, statistics relating to previous years can also be downloaded from the websites of the publishers of these reports.

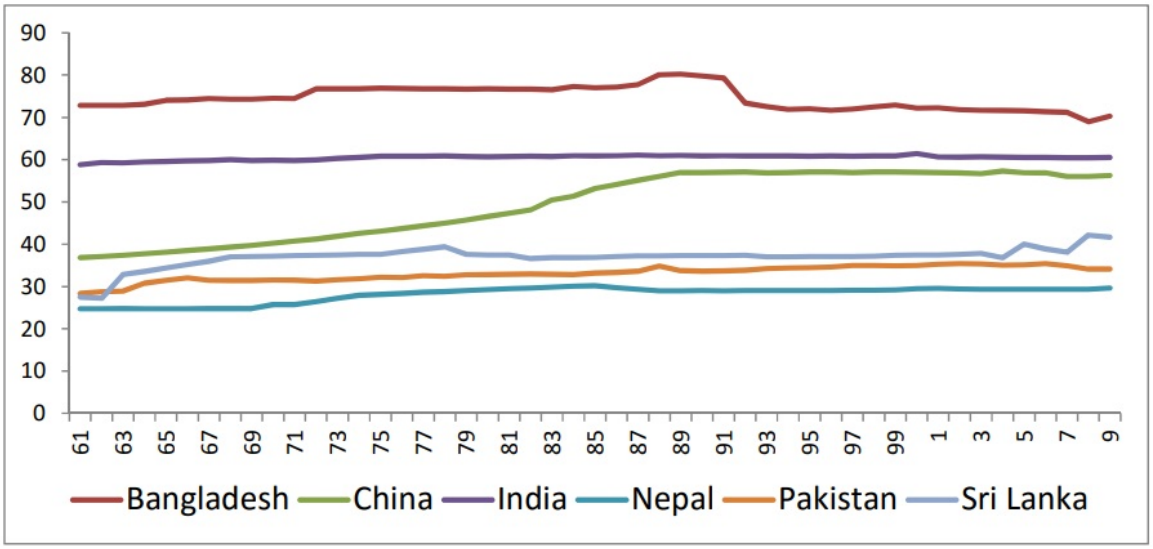
Though the statistics may be available from these reports, the policy initiatives of these countries are the ones Difficult to get from Indian libraries. For this, teachers are required to search for books, articles written by scholars and available on the internet. It is also necessary to look at the websites of the governments of these respective countries. One data mine available on the internet is the world development indicator (WDI) (www.data.worldbank.org). The World Bank has kept the statistics of various countries during the last 30-40 years in one single excel file. If the teacher is able to work with excel software, she would find this databank extremely useful for understanding of how countries' developmental path has changed over the last four decades.

UNIT - I (A)

UNDERSTANDING INDIA'S NEIGHBOUR COUNTRIES' ECONOMIES: GOING BEYOND TEXTBOOK

In the textbooks, only three set of data sources are provided to understand the comparative developmental trajectory of India, China and Pakistan. They are, Gross Domestic Product, Employment in three sectors and Human Development Indicators. Teachers can also use other statistics while facilitating this chapter and use them for open book examinations. Examples of a few other development indicators are given below. The data used to develop the line and bar diagrams are available in World Development Indicator (www.data.worldbank.org) and Human Development Reports (www.undp.org). It should be noted that the data for latest years can also be accessed from these reports and websites.

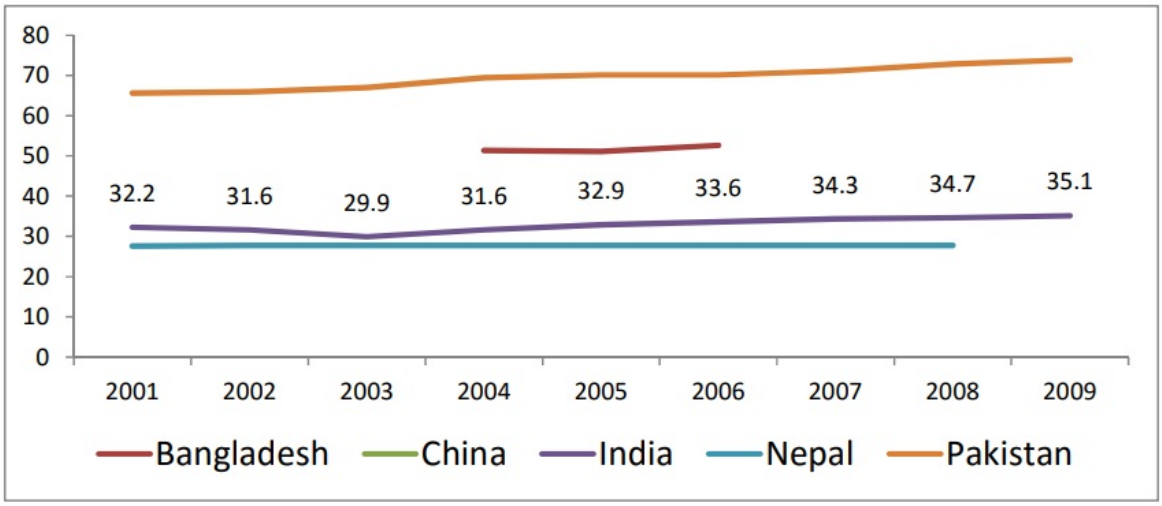
1. Agricultural land as a percentage of land area (1961-2009)



You will notice that for the last 40 years India did not make major improvement in increasing the land under agriculture. In contrast, China has increased the agricultural land area from about 35% to 55% during the same period. Sri Lanka besides war-af ected nature, has also increased the agricultural area over the years.

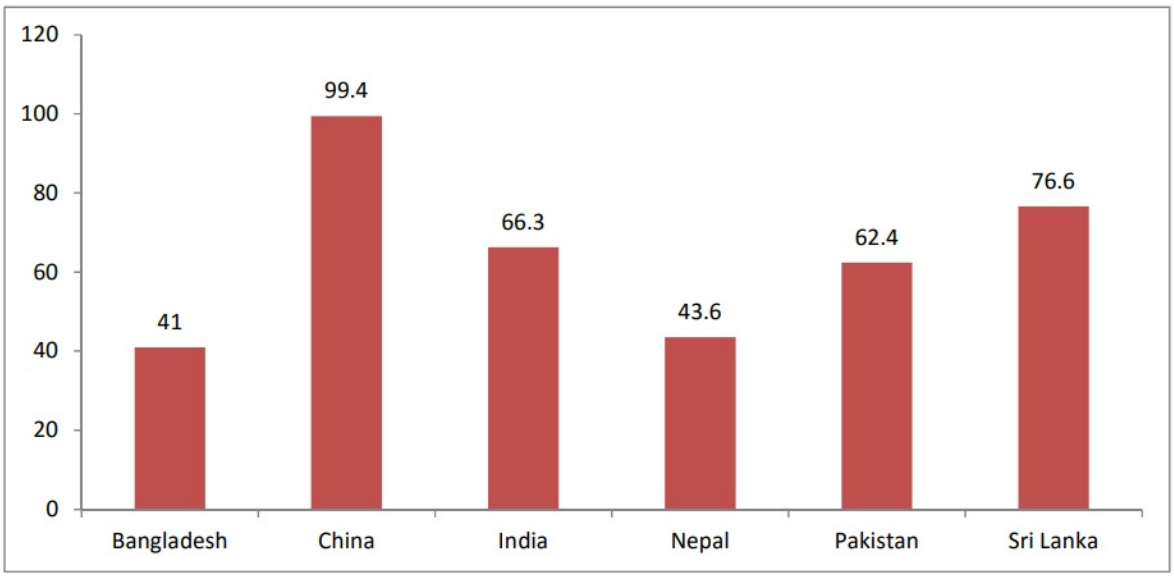
2. Irrigated land as a percentage of total agricultural lands (2001-2009)

Irrigation is an essential component of agricultural prosperity in a country. The following chart shows that Pakistan has the highest level of irrigation as more than two-thirds of its agricultural land gets irrigation facilities. In India, there has been a very slow growth during the 10-year period with only about one-third of land getting irrigation facilities. This also shows that not all of India's neighbouring countries are backward.



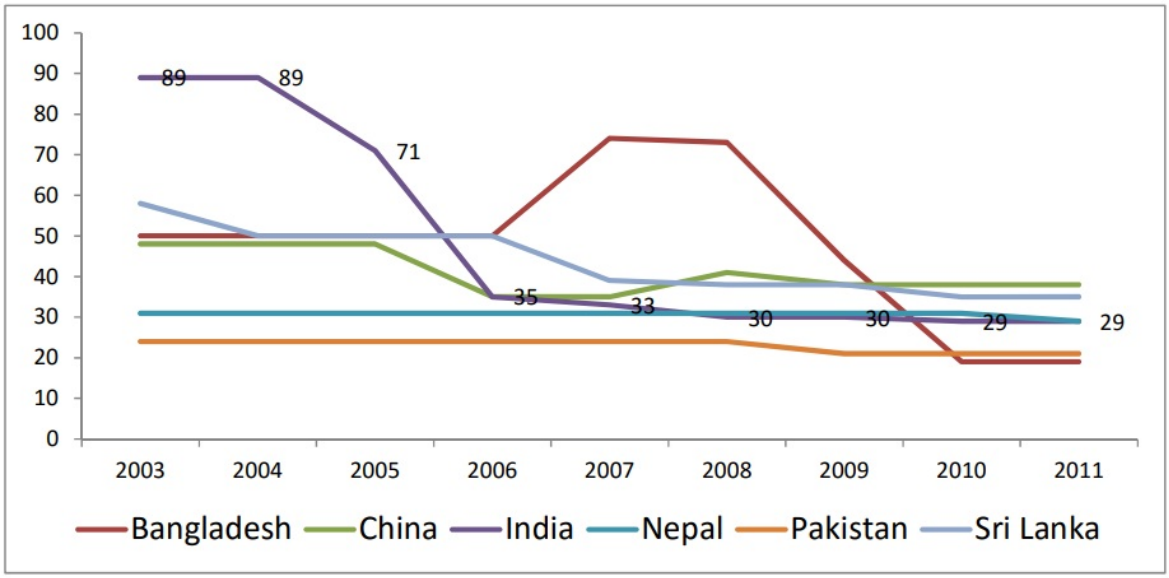
3. Access to electricity (as a % of population - 2009)

Electricity is a basic infrastructure for any country. India is behind Sri Lanka and China in this regard.

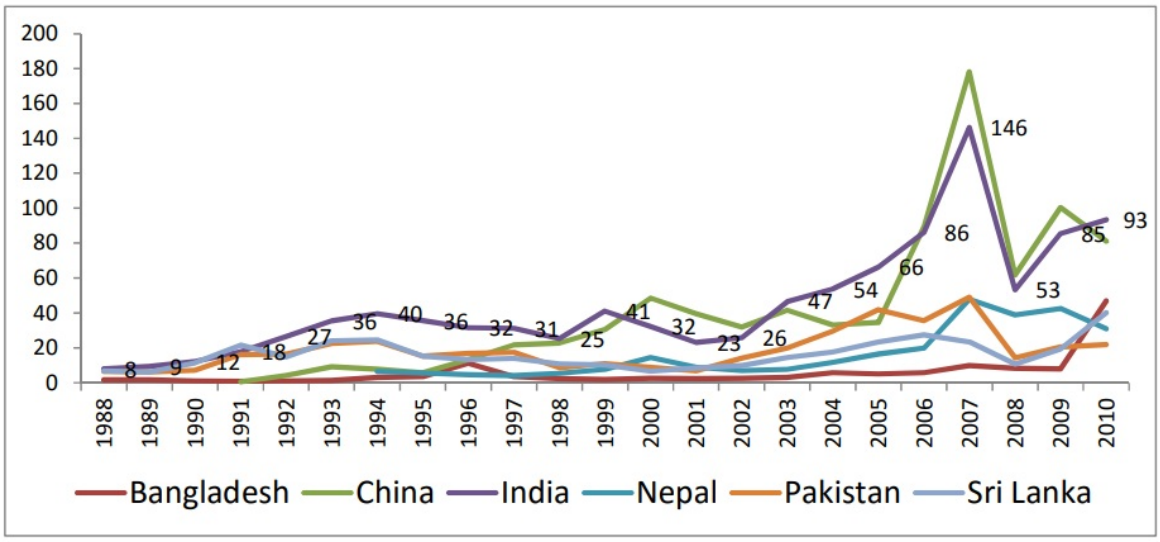


The folowing are examples of similar line diagrams depicting different statistics. Can ou write 5-10 lines for on each one? The lines with data labels are pertaining to India.

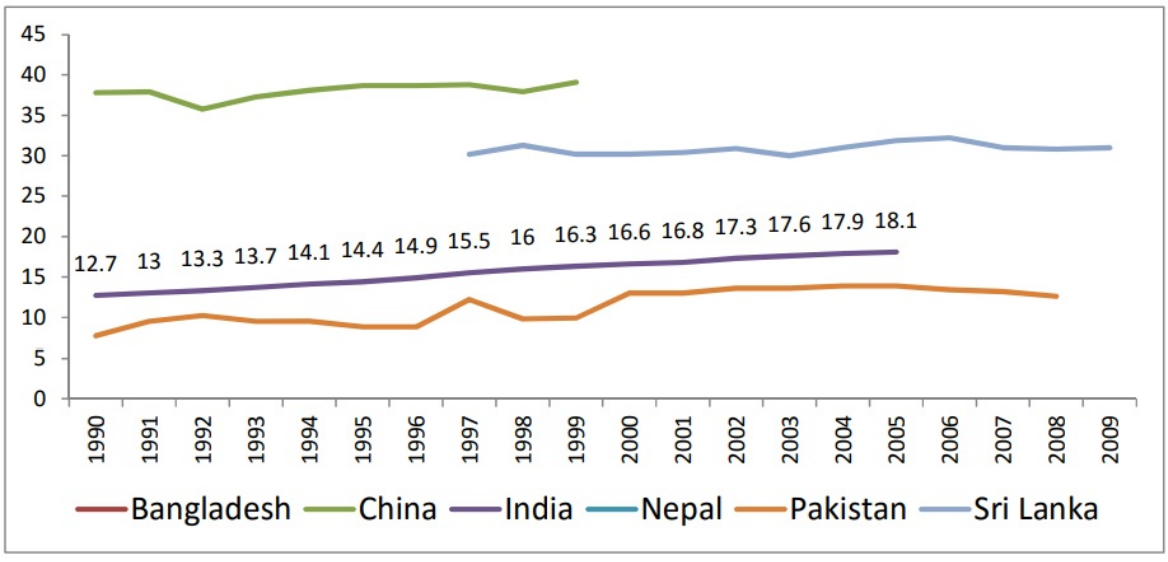
Time required to start business (days)



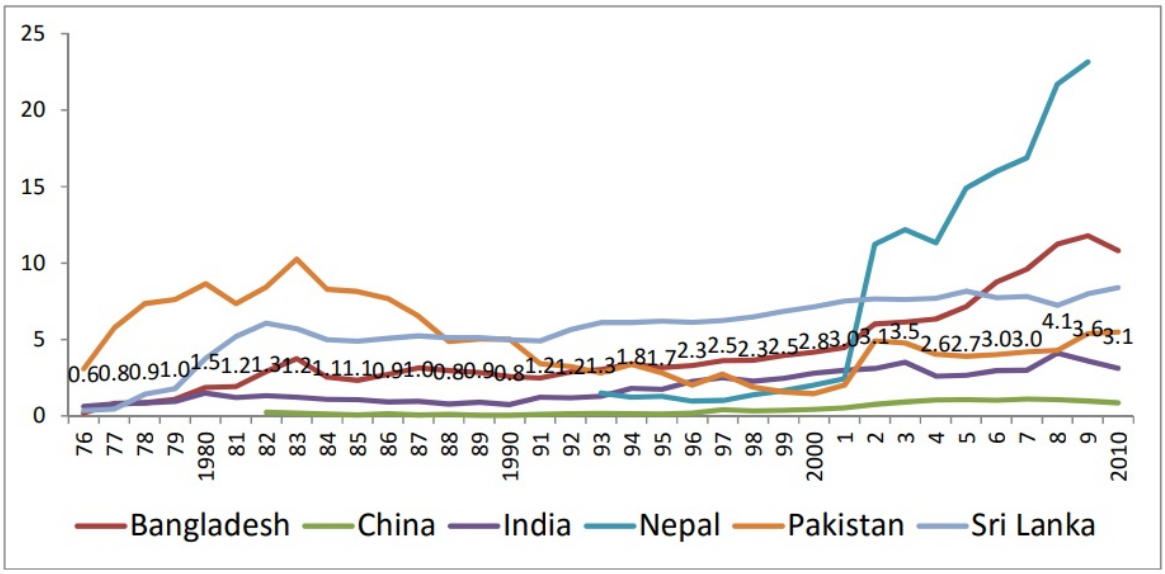
Market capitalization of listed companies (as a % of GDP)



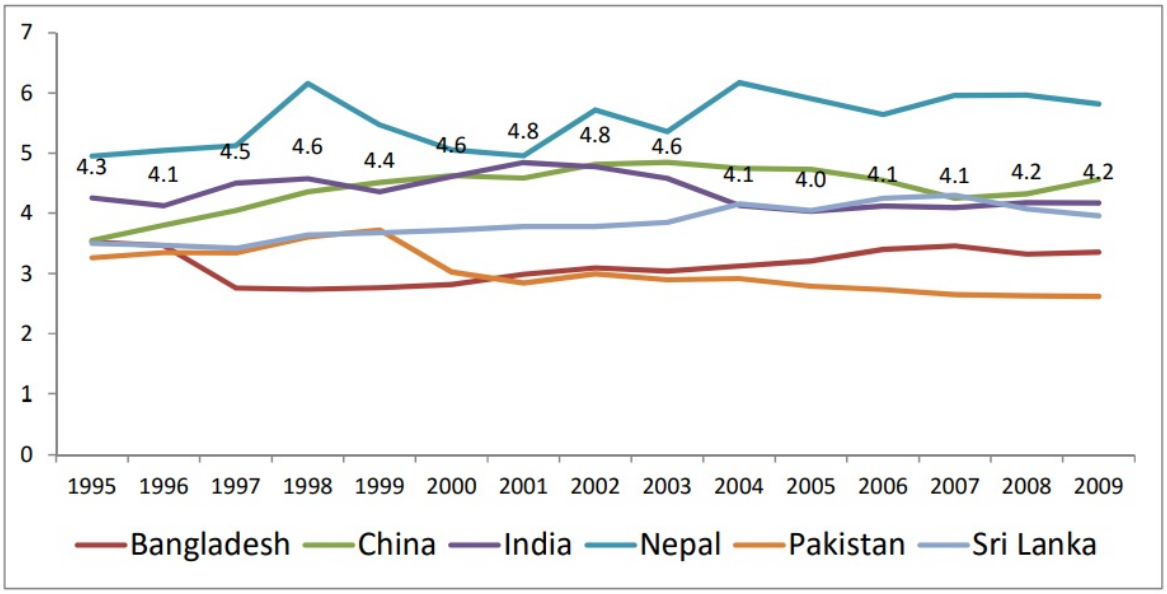
Women employed in the nonagricultural sector (as a % of total non-agricultural employment)



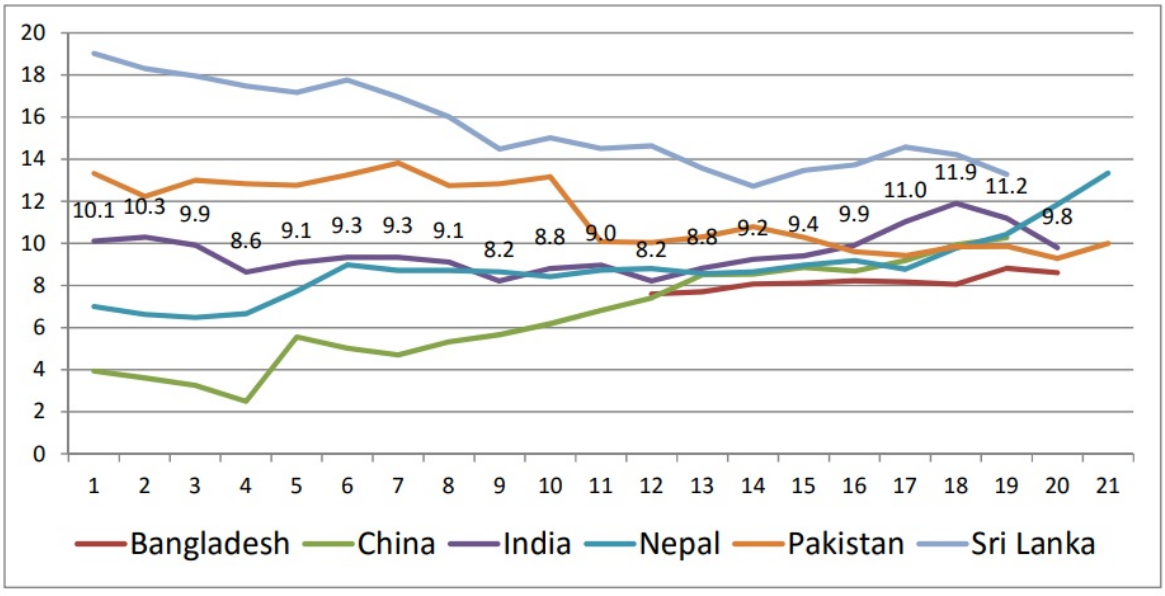
Workers' remittances as a % of GDP



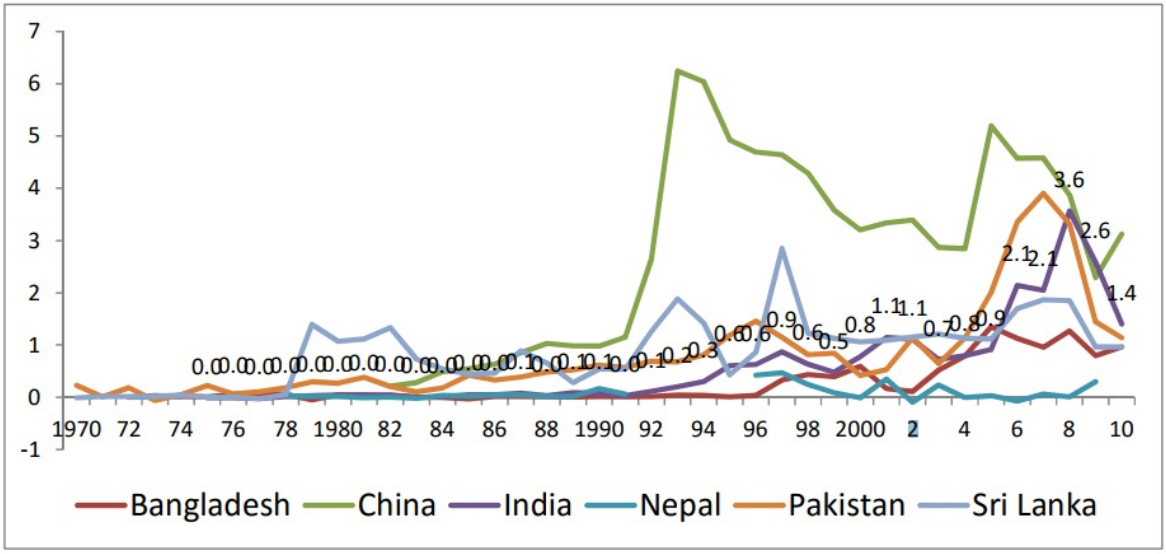
Health Expenditure as Percentage of GDP



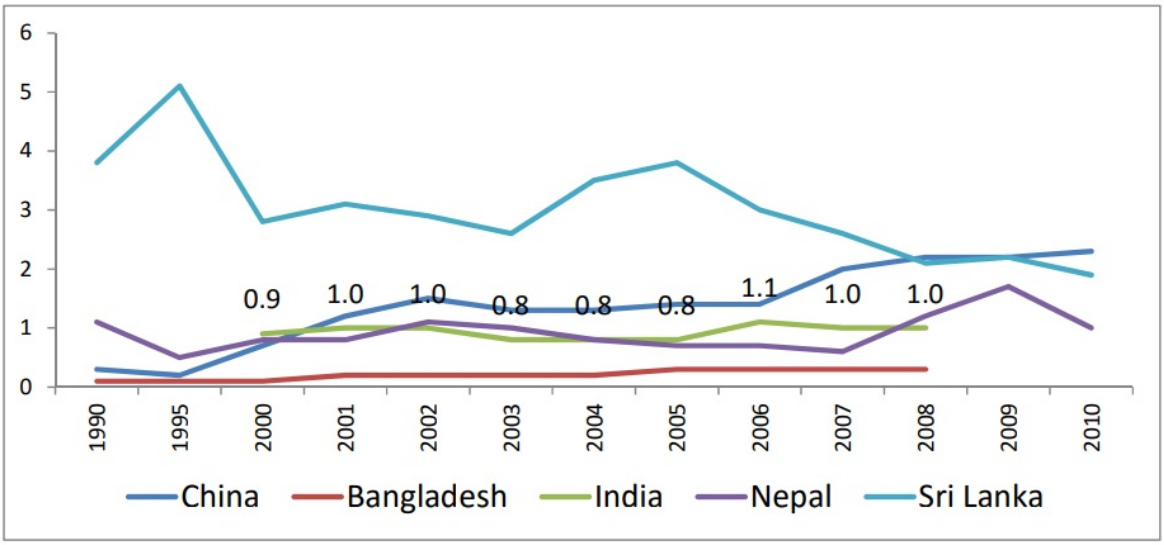
Tax Revenue as a % of GDP



Foreign Direct Investment as a % of GDP



Government expenditure on social security and welfare (as a % of GDP)



To sum up, while comparing India's neighboring countries, one important point we may notice is that not all the countries are developmental y inferior to India or China. One country may have performed better in one developmental indicator whereas a few others could be developed in other parameters.

Suggestive Assessment Strategies

Students studying this chapter are expected to understand the background of each country, geographical details, level of employment and output, and the state of human development indicators and so on. Students are also expected to understand, how countries make policies with regard to economic aspects. Students may be given opportunities by supplying the details of a few countries and may be encouraged to collect details of other countries. For example, the details of India, China and Pakistan are already available in the textbook. The teacher can collect statistics relating to other neighbouring countries – Nepal, Sri Lanka, Afghanistan and Bhutan. If learners feel that some other developed countries such as United States of America, United Kingdom, France, Germany, need to be studied, the teacher can collect the data and present in the class. This can motivate students to search the details of other countries which can be given as home work.

In the closed book examinations, no statistics are provided and students are expected to write based on what has been given in the textbook. In contrast to this, if there is open book examination, students may be given a table of statistics relating to a few countries and the students may be asked to analyse and interpret the data. One example based on the textbook is given below:

Question for Practice

The folowing data shows the demographic details of India, China and Pakistan. Explain the differences between three countries and what could be reasons for this trend.

Country	Population Density (per square km)	Urbanisation	Population Growth (Annual)	Sex Ratio
India	421	32	1.24	934
Pakistan	236	38	1.65	947
China	145	53	0.43	929

Hints-

Students answering this question are expected to-

- Understand concepts given in the table.
- They are expected to provide the details of geography, history, and polity behind each data.
- For example, students can answer a question on why China has a higher level or urbanization compared to India and Pakistan.
- They are also expected to give details of economic policies each government took for reducing population growth.
- Students can draw bar or line diagrams to interpret the numerical table.
- They can also compare how far these three countries have performed on the demographic front when compared with other developed countries.

Students may be given better grades / miarks if they are able to cite the sources long with their responses. It will generate a healthy competition and motivate others to perform better.

UNIT - I (B)

OPEN TEXT BASED ASSESSMENT

Abstract

CBSE Economics syllabus 2016-17 specifies that OTBA will be based on Unit IV of Indian Economic Development: Development Experiences of India – A comparison with neighbours. This section starts with the Role of Teachers incase of OTBA. Then a case study based on China's one-child policy is given along with questions based on the case study. The present section highlights the objectives of OTBA introduced by CBSE, Role of Teachers and how students can be oriented to at empt with ease and ef iciency. One of the important objective of teaching Economics at Senior Secondary level as stated by CBSE -

Development of understanding that there can be more than one view on any economic issue and necessary Skills to argue logical y with reasoning can be best achieved through OTBA if teachers prepare students objectively.

Introduction

CBSE Syllabus (2016-17) specifies Following objectives of teaching economics at senior secondary level-

- Understanding of some basic economic concepts and development of economic reasoning which the learners can apply in their day-to-day life as citizens, producers ,workers and consumers.
- Realisation of learners' role in nation building and sensitivity to the economic issues that the nation is facing today.
- Equipment with basic tools of economics and statistics to analyse economic issues. This is pertinent for even those who may not pursue this course beyond senior secondary stage.
- Development of understanding that there can be more than one view on any economic issue and necessary Skills to

argue logical y with reasoning.

For achieving these objectives a pedagogical shift is required from teacher centered to learner centered teaching. Techniques of evaluation also need to be changed. OTBA was introduced by CBSE in order to enhance higher order thinking skills, thus moving away from rote learning to application based learning. OTBA is introduced in economics class XI where case studies are provided strictly based on the syl abi prescribed by the CBSE. The questions are based on these case studies carries 10 marks weightage in examination. This test provides student with active participation through discussion, brainstorming and critical thinking.

Role of Teachers

Teachers have the misconception that the unit on which OTBA is based is non evaluative and hence not to be taught. Teachers need to first explain the entire context of the unit from the text book and relate it to real life situations. With this background, teachers have to provide students with the text material on OTBA received from CBSE to the students in groups so that they can read & understand it through brainstorming. The teacher should encourage students to engage in dialogue both with the teacher and with one another. The teacher then asks thoughtful & open-ended questions based on the case studies. The role of teacher is to achieve Following learning outcomes:

- Integration of textbook knowledge with the case studies.
- Application of subject knowledge in understanding of the case studies.
- Multi disciplinary approach
- Cause and effect relationships
- Differentiate between the development paths of different countries
- How one aspect of economic development talked about in the case study affects the overal economic development experience of a country? Students can relate these.
- Prepare some questions for practice and given to students as home assignments.
- Teachers must provide slip tests while discussing this content in order to develop writing skills and provide a direction in answering the questions posed.
- Ideal/Best answers may be displayed in chart form in the class.

May focus on preparing students keeping these in mind-

1. How to study for OTBA?
2. How to at empt the questions?
3. How to go about discussion of OTBA in class?
4. Suggestive Questions

How to attempt OTBA?

OTBA or Open Text Based Assessment is an initiative by the CBSE to make students get acquainted with the need for Economics in daily life.

These are some suggestive guidelines which can be given to children so that they are able to at empt the questions with interest.

1. The chapter on India / China, Pakistan must be read in advance with special focus on areas important for exam.
2. The content is provided in advance. So students must read it properly and discuss it in class.
3. During the exam, the students need not spend time reading the whole content, but only concentrate on the areas which are expected to contain answers to the questions asked. Just like in comprehension passages
4. Read the identified portion again and frame the answer in his/her mind before starting to write.
5. Answers should be factual, related to content and relevant to the question.
6. Language should be simple and according to content.
7. Word limit must be fol owed. Therefore, answers must be brief and crisp.

Instructions for Teachers

How to make use of Case Studies based on newspaper cutting?

Before the Newspaper clipping you select for classroom activity, you should study the case yourself and make note of the key /central theme in the article. You must prepare beforehand the –

- Key features of a case.
- Group work for students and guidelines and instructions for group work are to be spelt out.
- Questions to be asked with tentative answers.
- Consolidation and channelization of group presentations.
- Open discussions with students and orienting them to read newspapers and bring clipping for next classroom activity.

Exemplar Case Study is given for your reference in the following pages

Illustration on OTBA- Development Experience of India : India & China Class XI

implemented through coerced abortions. Now, as the work force diminishes, couples are being encouraged to have a second baby

Sutirtho Patranobis

Introduced in the late 1970s, China's one-child policy involved large scale monitoring of the population and forced abortions and sterilisations, and led, in some cases, to fractured families where the 'extra' child had to be given away. However, the policy did not apply to all Chinese couples. Minority communities like the Uyghurs, rural couples whose first-born was a girl and, later, if both the wife and the husband were single children — could have a second baby. Last week, China scrapped the old policy and introduced the two-child rule. "China will allow all couples to have two children, abandoning its decades-long one-child policy," a brief communiqué issued by the Communist Party of China (CPC) said at the end of a meeting on the upcoming 13th five-year plan. "The change of policy is intended to balance population development and address the challenge of an aging population," it said. It is easier said than done; the scars of the one-child policy have hardly been hidden and are far from healed. The couples not exempted by the earlier policy could only have the second child at considerable risk of government censure and physical and emotional trauma. Apart from forced abortions and sterilisations, punishing fines were levied to cover the welfare and education costs of the "illegal" second child; those employed by the government lost their jobs.

Birth control authorities comprising hundreds of thousands of CPC members were directed to monitor women. "In local communities, work places, universities and the like, women of childbearing age were monitored by birth control authorities, down to menstrual cycles and contraceptive practices to prevent unauthorised pregnancies and to terminate pregnancies that should not have happened," said Stein Ringen, professor of Sociology at Oxford University.

This abuse of women's reproductive rights went on for decades. The ominous long-term impact gradually emerged but the information was quickly submerged in the din of development. Allegations of large-scale forced sterilisations were made as recently as 2010. "Amnesty International (an international rights group) has continued to receive reports of coerced abortions — which are technically illegal — and sterilisations in China. In 2010, 1,377 relatives of couples targeted for sterilisation in Puning City, southern China, were detained in an apparent attempt to pressurise the couples to 'consent' to sterilisation," said William Nee of Amnesty. By the middle of the last decade, the negative impacts of the policy had become clear even to population researchers within the Communist fold. Opinions against the policy became sharper and so did the clamour for adjusting it. By late 2013, the CPC announced a new exemption; in cities like Beijing and Shanghai, if either the wife or the husband was a single child, they could have a second one. But, clearly, that didn't still add up for China. Wang Guangzhou of the state-run Chinese Academy of Social Sciences recently wrote: "... figures indicate China will face a worsening labour shortage and increased aged population in future decades if the national family planning policy isn't adjusted."

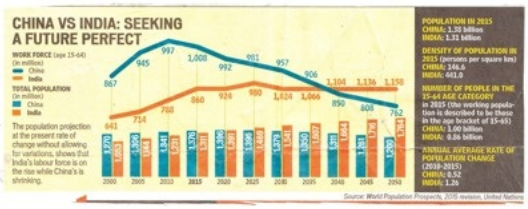
Fuxian Yi, senior scientist at the University of Wisconsin-Madison, whose "Big Country with an Empty Nest" — a book critical of the one-child policy — was banned in China, said the policy had zero positive impact on Chinese economy and society. "China should not have implemented the one-child policy in the 1970s. If the policy never came out, the fertility rate would still drop and now China's population would be 1.5 billion, which means that the one-child policy only helped to get rid of 0.2 billion people instead of the official figure: more than 0.4 billion," Fuxian said. Experts say the one-child policy has left China with a shortage of labour force in the working age between 15 and 64. "The two-child policy will reduce the aging population by about 2 percentage points. But the aging issue cannot be entirely solved by the relaxed policy because China already has a huge elderly population of people above 60-65. The absolute numbers cannot be reduced. To address the issue, economic and social help (for the elderly) might be more important," said Yang Juhua, demography expert at the Centre for Population and Development Studies at Renmin University in Beijing.

This brings us to an inevitable comparison of the population graph between India and China. India's 2011 Census said that India has one of the largest proportions of population in the younger age groups in the world. 35.3 per cent of the population of the country was in the age group of 0-14 years and 41 per cent were under 18. "With economic and cultural development, the total fertility rate (the UN defines this as the average number of live births a woman would have by 50 if she were subject, throughout her life, to the age-specific fertility rates observed in a given year) in India has naturally dropped from 4.7 in 1980 to 2.3 in 2013. India's demographic structure is far healthier and younger than that of China. India has a rich a labour force, little pressure from aging population and without doubt will have greater economic potential than China," Fuxian said. The focus is will now be on how many couples opt for a second child given the rising costs of living and education here. It will also be on what the government can do to provide social insurance for the elderly. After the partial relaxation of the one-child rule in late 2013, 1.45 million couples registered for a second child by the end of May 2015. The Communist party will be hoping for a minor baby boom in the short term and a major miracle in the long-run to continue on its path to all-round economic and social development.

pros and cons

The GDP per capita increased by about at least 7.7 per cent each year in the 1990s, and in last decade, by over 10 per cent. The one-child policy has largely improved social development as in education, health and life expectancy."
PROFESSOR YANG JUHUA

In the next 15 years, the share of the population that is 60 or older will increase from 14 to 25 per cent. Selective abortions have resulted in an imbalance in the numbers of boys and girls born – about 117 boys for every 100 girls."
PROFESSOR STEIN RINGEN



POWER OF TWO

- The Chinese government is yet to release details like the date of implementation of the new two-child policy.
- It will be interesting to see whether — and how — violators who opt for a third child will be punished.
- Estimates say 13 million will be added to China's population by 2050 because of the new policy.

Key Features of the Case Study

The following case study talks about China's One-Child policy. This study covers only one aspect of economic development of India and China that is demography .China has the highest population in the world and geographical y occupies the largest area among the three nations (India, Pakistan & China). The population growth is highest in Pakistan foll owed by India and China. One Child norm introduced in China in Late 1970s was the major reason for low population growth. This however resulted in high dependency ratio in China over the decades. There are more elderly people in proportion to young people. This case study explains how India's demographic structure is for healthier and younger than that of China and how India has a rich labor force as wel as greater economic potential than China.

Q1. Why is China shifting to two child -policy from one child policy?

Ans. Hint: The change of policy is intended to balance population development and address the challenge of an aging population.

Q2. What is the age bracket of working population?

Ans. 15-65 years

Q3. How is India's demographic structure healthier than that of China?

Ans. India has a rich labor force and lesser aging population.

*The case studies given for OTBA are not to be treated as unseen passages by the students for answering the questions. They will be assessed on how they can relate the question to the content studied by them from the text book.

UNIT - I (C)

SIMULATION GAMES IN ECONOMICS

Learning objectives

This module would help teachers to

- recognise the need to change the traditional teaching strategies;
- play a economics simulation game to made the learners understand the concept of demand;
- identify concepts and theories in school economics syllabus in which games can be used and
- know a few steps to be fol owed to play economics simulation games in economics class.

Introduction

Economics is a subject for a very long time taught only in col eges and universities. Only in recent times, one can find it is increasingly included in school curriculum. Also this is happening particularly at the secondary levels. In most countries, economics topics are included as part of social sciences. At the higher secondary / senior secondary / intermediate / diploma levels after 10 years of schooling, it is of ered as an optional subject. The syllabus at this stage intends to introduce students some fundamental aspects of economics. However, the nature of syllabus, textbooks and the way economics topics taught give little scope for intuitive understanding of economics and promote rote memorization of concepts for use examinations. This happens not only in schools but also in colleges and universities.

Simulations games are one form of modern classroom activities, economics teachers conduct to change this scenario. Economics simulation games help students to develop conceptual understanding by working within and reflecting on the representation of a real environment. Games transform the way economics contents are taught in classrooms by engaging the learners actively by col aborating in the teaching-learning activities. While games usual y have winners and losers, it need not be so in all the economics simulation games. The rules formulated determine the winners and losers. An economics simulation game can also become role play when students participating in the game are expected

to act as if they imagine appropriate to a given role. In this essay, we will discuss how simulation game can be used an alternative to traditional lecture and chalk & talk method of teaching economics.

To begin with, one illustrative game I played in a school is given.

Theory of Demand

It was the class 12 economics classroom in a small town government higher secondary school in Uttar Pradesh where there were 60 students in the class. The economics teacher told me that she has completed teaching the chapter on Theory of Consumer Behaviour. I took with me a two 2-litre bottle of MIRINDA a cool drink to the classroom along with five tumblers of 250 mili capacity.

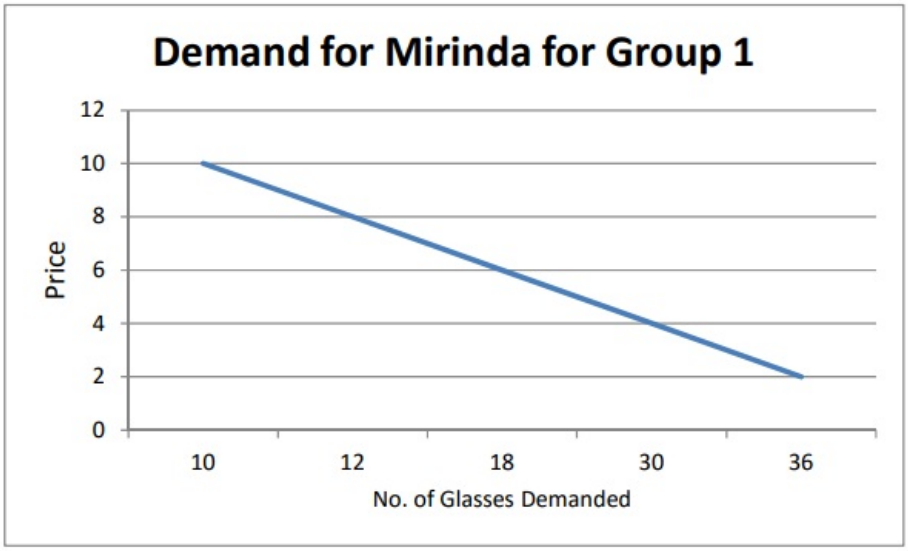
I told students that I wish to sel MIRINDA in glass at different prices given in the following price on different days. Students were also told to assume that each one of them got Rs. 20 as pocket money and they do not have to spend all the pocket money. The school is closed on Saturday and Sunday. I asked them to estimate the number of glasses of MIRINDA they wish to demand on every day of the week. I wrote price details on the Board.

Day	Price (per glass)
Monday	10
Tuesday	8
Wednesday	6
Thursday	4
Friday	2

I then suggested that 30 students to come forward voluntarily to the front side of the class. The rest - 30 students were asked to sit on the last benches as observers. I asked students who came forward to form into 5 groups and each group. One facilitator and a recorder were identified in each group. The facilitator asked each one in the group to give the details of demand and the recorder noted the details. Later the recorder summed up demand for MIRINDA for the whole week from each member. The total demand for MIRINDA for one group is given below.

Day	price (per glass)	Details of demand of each member						Total Demand
		M1	M2	M2	M4	M5	M6	
Monday	10	2	1	2	2	1	2	10
Tuesday	8	2	2	2	2	2	2	12
Wednesday	6	3	3	3	3	3	3	18
Thursday	4	5	5	5	5	5	5	30
Friday	2	6	6	6	6	6	6	36

After calculating the total demand for each group, each group was asked to draw the demand curve using the data on Total Demand and the price per glass. The demand curve for one group is given below.



Once all the groups have drawn demand curves, each one can be asked to draw the demand curve on the board. Some of them were similar and a few others were different. I later explained why the demand curve slopes downwards and the shapes were different. With that the activity got completed.

Advantages

One difference between the demand curves which are drawn hypothetically by the teachers on the board during the lecture based teaching and the ones drawn by students by participating in this game is that students got engaged actively. All thenumbers – the demand for MIRINDA were formulated by them. They also develop understanding of the demand theory much better than traditional lecture method teaching of demand theory. Students get an opportunity to reflect on what they acquire as knowledge of demand theory. They come to know how and why demand curve slopes downwards.

While playing this game, students were expected to interact with each other, form groups and report their demand details to the group facilitators and recorders. This helps them to develop some responsibility to the tasks in which they were collectively involved. They learn to recognise each ones role in the group.

How to develop economics simulation games?

Economics contains areas ranging from financial economics, behavioural economics, and environmental economics and so on. Students at the school level are mainly introduced to basics economic concepts. They can be broadly categorised as microeconomics concepts and macroeconomics concepts. A few theories such as classical and neoclassical theories of consumer behaviour and Keynes' Theory of Income Distribution are also taught in schools. School students in India are also introduced to statistics and developmental issues of Indian economy.

Four points need to be kept in view while playing simulation games. One, we cannot play games for all the topics in economics. Teachers wanting to introduce games initial y study some games already available in the magazines, journals and in some books. For example, the SCERT already published two manuals for economics teachers during 2013 and 2015. They contain two games – one to learn elasticity of demand and another to derive aggregate demand. In the internet, til a few years ago, one journal called EXPERNOMICS was published. Now it is not published but all the previous issues are available in the internet. When we search in the Google or any other search engine, all these materials can be found. You need to read and modify and develop your own game depending upon concepts. For example, if there is a game that is available to teach all the elasticity of demand – price elasticity of demand, income elasticity of demand and cross elasticity of demand. In Indian syllabus for schools, only price elasticity of demand is included. You can plan the game in such a manner that you go up to price elasticity of demand and the rest can be ignored. Hence, first try to play the game already experimented and played by other teachers and students.

As of today, games can be played to teach market-related concepts. A few games can also be played in the area of macroeconomic concepts. The Following topics included in CBSE syllabus have greater scope to develop games.

Microeconomics

- Consumer Behaviour and Demand
- Demand: market demand, determinants of demand, demand schedule, demand curve, movement along and shifts in demand curve,
- Price elasticity of demand, measurement of price elasticity of demand
- Producer Behaviour and Supply
- Production function: returns to factor and returns to scale
- Supply: market supply, determinants of supply, supply schedule, supply curve movement along and shifts in supply curve,

Macroeconomics

- Measurement of Gross Domestic Product - Value Added method, Income method and Expenditure method
- Determination of Income and Employment: Aggregate demand
- Propensity to consume and propensity to save (average and marginal)
- Money and Banking: Credit creation

It may be essential to note the above list is only suggestive. Once as a teacher you begin to play simulation games, you will find other concepts and theories also having scope to teach through simulation games. It is not essential to teach the whole theory up to equilibrium to play the game. Even if the students are taken up to drawing the schedule and the curves, the purpose of the simulation is complete. Students playing the simulation are expected to develop intuitive understanding of the models and theories in economics.

The second aspect we need to take note of is the time – when to play simulation game nd the possibility to play simulation game when the syllabus is overloaded. Let us take two issues separately. Due to pressures from school administration, we are compelled to complete the syllabus wel in time – October of every year whereas the examinations are conducted in March the Following year. We are compel ed to 'finish' the syllabus whether students have understood or learnt or not. The syllabus is also very abstract and heavy. In this context, it is suggested that not to look games to teach all the topics suggested above. To begin with, in the initial years, at least if 5-6 games are played in the whole year, it will be sufficient.

It is generally suggested that teachers first teach topics using traditional method and play the simulation game. This means, learners and teachers need to have prior knowledge of the concepts. For example teachers can make use of revision period – October to February to play simulation games.

The third aspect of the simulation game is the preparation required. Teacher wishes to play the game, first need to select the game and determine when – which month of the school time table this game can be played. Once this is done, they need to prepare a clear cut guidelines - write down all the activities required to play the game – prepare handouts and make multiple copies, procure materials (in the present case – buying MIRINDA in advance), plan in the school time table, get prior permission from school principal or headmaster and inform (also called debriefing) students one day earlier that they need to study the topic of the game. The guideline need to contain different stages of the game, role of members in each student and criteria that will be used in the assessment. This is required for every game.

The fourth aspect is the need to look at the possibility of developing the game by the teacher by own. Economics simulation games are almost similar to role play and teachers need to look for realistic use of situations. This means, as suggested by Mark Sutcliffe in the book – The Handbook for Economics Lecturers available in the website www.economicsnetwork.com, "a simulation must first be realistic in appearance. . it must imitate how the real world works in practice and produce realistic outcomes" (p.22).

Conclusion

In this module, we have at empted to introduce economics simulation games as a modern teaching activity in economics classrooms. Studies have shown that simulation games help students to develop understand economics concepts deeply. One limitation of this approach is the long planning required on the part of teacher. Another limitation is that not all the topics can be taught using simulation games. It is also essential that games can be played only after

the topics are taught in the traditional manner or students require prior knowledge of concepts to be taught using simulation games. If at least a few games are played, it will not only lead to better learning of economic concepts but also motivate students' to pursue economics at higher education level.

Economic Policy through Game of Snakes and Ladders

Another Game we can play is the very common **Snakes and Ladders**. Very interesting

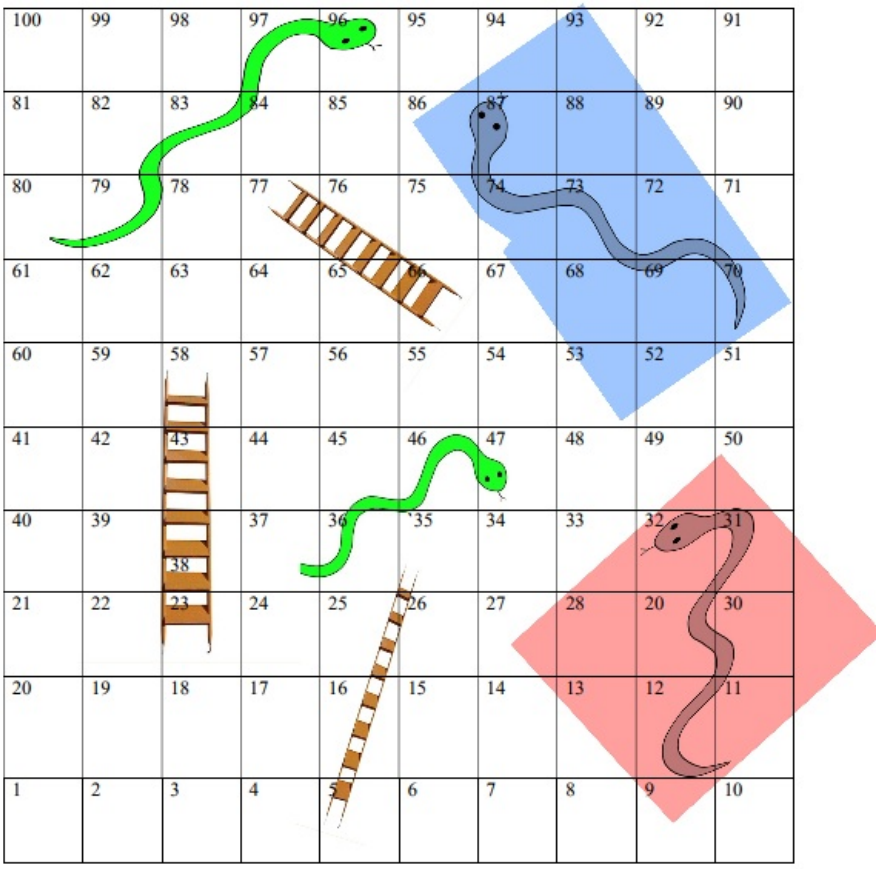
to make and easy and fun to play. Make your game board as shown:

What do you need:

1. Game board
2. Identification of Snakes and ladders
3. Dice
4. Make your rules such as a person can begin the game by getting only 6 or 1 on the dice.
5. The second one to reach the same numbered cel stays and sends back the earlier occupant back to zero.
6. Maximum players: 4

ENJOY AS YOU LEARN !!

VALUES IN ECONOMIC POLICY AS A GAME OF SNAKES AND LADDERS



SNAKES AND LADDERS IN ECONOMIC POLICY

Examples of some Snakes in Economics:

1. Cutting down trees without sowing and growing more
2. Building a road through farmland without reclaiming fertile land
3. Shutting down a small scale industry to make a large scale one in a town

4. Increasing tax on food items

Others: Reducing of tax

Examples of some LADDERS in Economics:

1. Charging Education Cess from tax payers

2. Subsidy being given to women entrepreneurs

3. Appointing Inspectors to test Food products

Others: a. Reducing the interest on loan for housing

b. Investment in schools and col eges in rural areas

You can add many more to make your game more interesting!!

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UNIT - II

FORMS OF MARKET & PRICE DETERMINATION

Learning Outcomes

- Understand diferent forms of market and the bases on which various forms of markets are differentiated
- Identify the different markets- perfect competition, monopoly, monopolistic and oligopoly
- Learn how firms take decisions under different market conditions.
- Analyse the pricing and output decisions in the short run and long run

Abstract

This unit discusses the features of different forms of markets like Perfect Competition, Monopoly, Monopolistic Competition and Oligopoly. It explains the bases on which forms of markets are differentiated and analyses how these market forms effect quantity (production of the commodity), demand and supply curves. What are the various parameters that differentiate the market forms were discussed in detail in this unit. It explains how the price of a product/what forces determine the price of a product in each form of market. Also explain the shapes of AR (Average Revenue) & MR (Marginal Revenue) curves.

Key Terms

- **Total Cost:** Total of all costs. It includes both total fixed costs and total variable costs. TC= TFC +TVC
- **Average Cost:** Total cost per unit of output. AC= TC/q
- **Marginal Cost:** Increase in the total cost when one more unit is produced.

- **Total Revenue** (TR) of the firm is the product of the market price and the firms output.

TR = p q

- **Average Revenue** (AR) of a firm is defined as total revenue per unit of output.

AR = TR/q

- **Marginal Revenue** is the increase in total revenue for a unit increase in the firm's output. It is the addition to the total revenue when one more unit of commodity is sold.

$MR_n = TR_n – TR_{n-1}$

- **Profit** is the difference between total revenue and total cost of production.

Π = TR – TC

- **Market** – A market is a place where buyers and sellers interact to purchase and sell a commodity.
- **Market supply** shows how much of a good producers overal are will ing to supply as it price changes. The market supply curves can be derived as the horizontal summation of the individual supply curves of all producers.
- **Market Equilibrium** occurs when quantity demanded is equal to the quantity supplied.
- **Perfect Competition** – is that market structure in which certain ideal conditions prevail e.g. (i) there are large number of buyers & sellers so that none can exert a significant influence on price and quantity demanded and supplied (i) All products are homogenous.
- **Monopoly** – is a market situation is which, there is only a single seller who controls the entire output of a particular product or service. A monopolist decides the price and quantity to be supplied in the best interest of his own.
- **Monopolistic Competition** – is a market situation in which there are large number of sell ers who are selling differentiated products. No individual seller is big enough to influence the market in a big way.
- **Oligopoly** – refers to a market situation in which a few firms produce goods which are either close substitutes or homogenous products. Each firm decides its own price & output keeping in view the consideration and reactions of the other firms.
- **Price Discrimination** – It is an act of charging different prices by a monopolist for the same product from different buyers and different markets.

Introduction

The consumers and entrepreneurs try to maximise the utilities and profits respectively. Their decisions in this regard are influenced by the price at which commodities are bought and sold. Prices are decided in the market. The consumers demand for a particular commodity and the producers supply together determine the prices. There exist different types of market which faces different conditions. Accordingly the firm takes decisions of its output for maximising the profit. Before we discuss the different forms of market let us get acquainted with the revenue structure of the firms.

REVENUE

A firm earns revenue by selling the good that it produces in the market. Suppose the price of a commodity is p and the quantity sold by the firm is q, the firm will earn total revenue of pq. **Total Revenue** (TR) of the firm is the product of the market price and the firms output.

TR = p q

The total revenue curve of a firm shows the relationship between its total revenue (y axis) and its output (x axis). When the output is zero, the TR is also zero. When the quantity increases the TR also increases and will be a upward rising straight line. The slope of the total revenue curve will give us the price.

Proof: Slope is the line at point A = opposite side of angle ÷ base

When output is one unit (the distance Oq)

Total Revenue (Aq) is

p × q = p × 1 = p (as q =1)

Therefore, slope = Aq / oq = p/1 = p

The slope of the total revenue curve will be equal to the price

The **Average Revenue** (AR) of a firm is defined as total revenue per unit of output. For a perfectly competitive market the price remains the same. Suppose the price is p and the quantity sold is q then. TR = pq.

AR = TR/q = pq/q = p

Therefore for a price taking firm average revenue will be equal to the price.

The **Marginal Revenue** is the increase in total revenue for a unit increase in the firm's output. It is the addition to the total revenue when one more unit of commodity is sold.

$MR_n = TR_n - TR_{n-1}$

In a perfectly competitive market, MR also equals price.

Proof: Suppose at the market price, p. The quantity of output increased from q^0 to q^0 + 1, then the Total revenue in the two situations will be

$TR_n = p \times (q^0 + 1)$

$TR_{n-1} = p\, q^0$

$MR_n = TR_n - TR_{n-1}$

$MR_n = p \times (q^0 + 1) - p\, q^0$

$= pq^0 + p - pq^0$ [expanding the bracket]

$= p$ [as $pq^0 - p\, q^0 = 0$]

Profit Maximisation

Profit is the difference between total revenue and total cost of production.

$\Pi = TR - TC$

where, Π is the profit, TR is the total revenue and TC is the total cost.

The firm has to decide upon the output for which the difference between total revenue and total cost is the greatest. The profit is maximised at the output level at which an addition to the output will leave the profit unchanged. The marginal revenue is the addition to the total revenue due to increase in sale of one more unit of output and will be the slope of the total revenue curve. Marginal cost is the addition to the cost due to a one unit increase in output and is the slope of the total cost curve.

The conditions of profit maximisation are (i) MR = MC and (i) MC cuts MR from below, i.e. MR is rising.

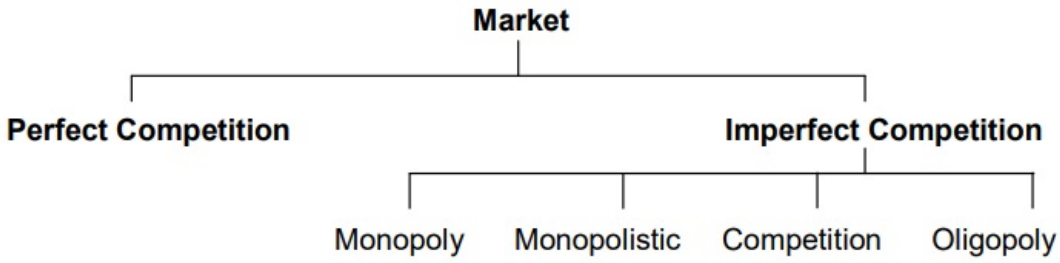
FORMS OF MARKET

Markets are differentiated on the basis of:

(i) Number of buyers & sellers of the commodity/service

(ii) Nature of the Commodity/service produced by the sellers

(iii) Degree of freedom to enter & exit



FEATURES OF DIFFERENT MARKET FORMS				
Forms of Market	**Number of Buyers & Sellers**	**Nature of Commodity**	**Degree of freedom to Entry & Exit**	**Price/Cost**
Perfect Competition	Very Large number of sellers and buyers	Homogeneous	Free Entry & Exit	Price taker-Market price
Monopoly	Single Seller	Unique, No close substitute	Barriers to Entry for new firms	Price maker-Price discrimination
Monopolistic Competition	Many Sellers and Buyers	Differentiated	Free Entry & Exit	Price taker-Involves selling cost
Oligopoly	Few Sellers dominate and few buyers	Differentiated or undifferentiated	Barriers to the Entry of Firms	Price maker but on the basis of competitors price

Price Determination under Competitive Market

By now we have discussed the demand, cost and revenue and profit maximization principles of a firm. Let us now discuss how price and output is determined in various markets both in the short run and long run.

Perfectly Competitive Firm

The essential features of a perfectly competitive market are: Large numbers of buyers and sel ers, homogeneous product, freedom of entry and exit, producers and buyers have perfect knowledge about the market and perfectly elastic demand curve. An individual firm is just a drop in the ocean. Hence each individual firm remains to be a price taker, who accepts the market price which is determined by the forces of demand and supply. In a perfectly competitive

Proof (i) :

TR = pq

MR = $\Delta TR/\Delta q$

$\Delta TR/\Delta q = p\Delta q/\Delta q = p$ (as price remains the same in perfect competition)

Therefore, MR = p

Proof (ii):

TR = pq

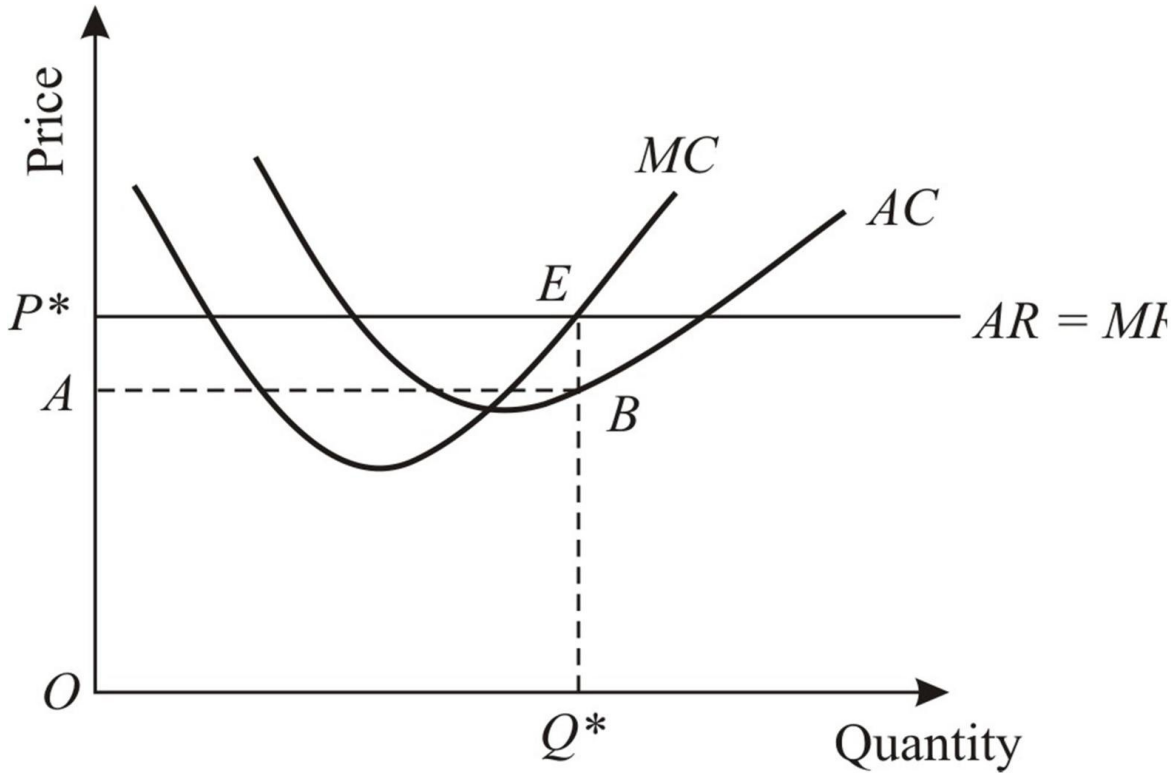
AR = TR/q = pq/q = p

Therefore AR = p

firm, the marginal revenue will be equal to its price and therefore under perfect competition, the first condition of profit maximisation will give us, MR = MC = P =AR. (See box)

Short run profit maximisation by a competitive firm

In a perfectly competitive market, where the individual firms are only price takers, the marginal revenue will be equal to average revenue which will be equal to the price. The MR, AR curves will be a straight horizontal line denoting the same level of price for all levels of output.



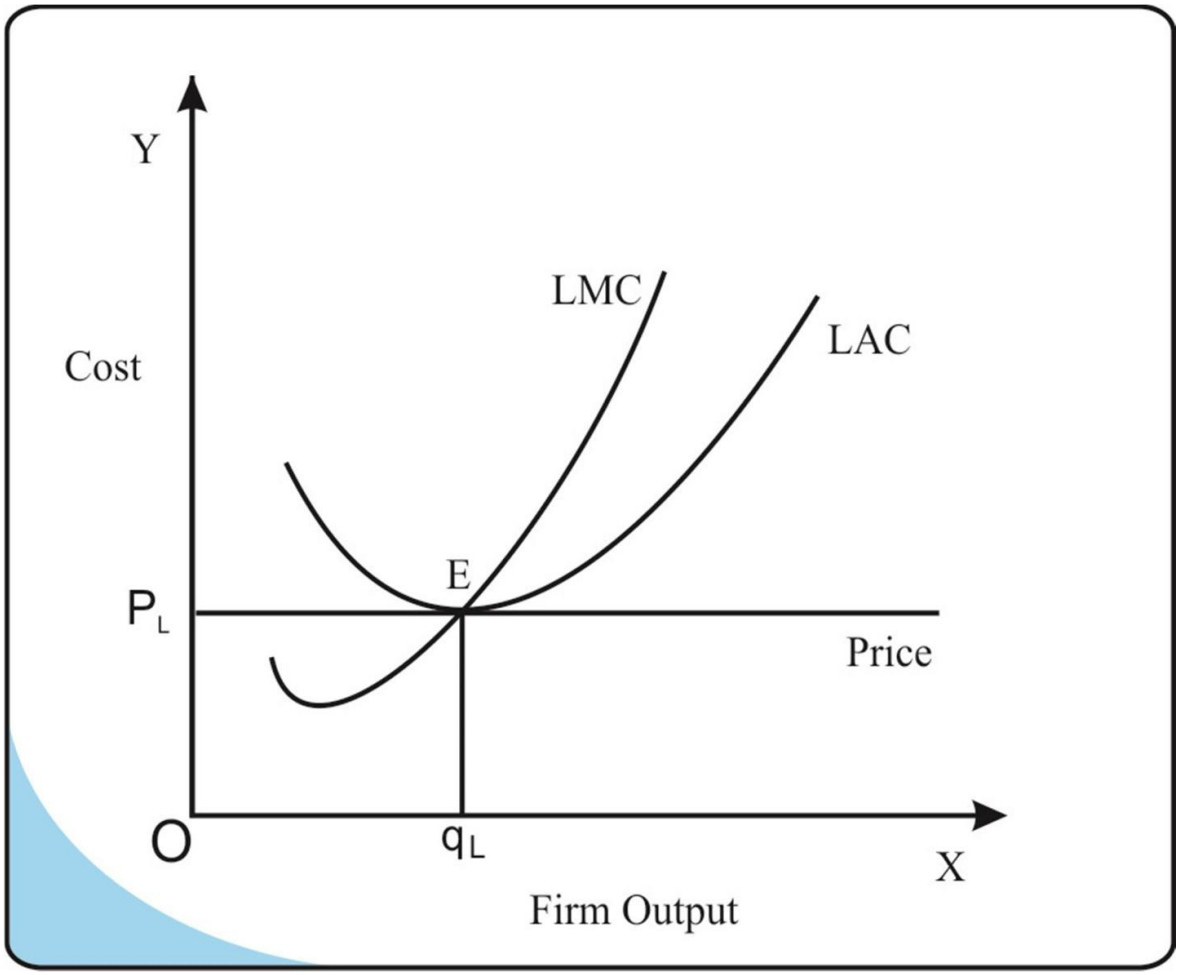
In the short run, firms may earn supernormal profit, normal profit or even loss. The figure given shows the situation where the firm earns supernormal profit.

The firms profit maximisation output is where the MC cuts MR from below, i.e where MC= MR and when firms profit is maximised. The firm will produce OQ* amount of output, a level at which MR equal MC and MC is rising. At this point of equilibrium, the total revenue is OQ*EP* (TR = AR x q) and the total cost incurred for production of Q* output is OABQ* (TC = AC × q). Here the firm will earn a profit of ABEP*. The profits will exist til the point where market price is higher than the average cost.

In perfect competitive market, situation where there is free entry and free exit, the super normal profits will attract more firms and will lead to the excess supply in the long run. This increased quantity supplied in the long run, will reduce the market price. The market price will now stabilise at a point where demand equal supply and the individual firms will earn only normal profit in the long run. Here the profit maximising equilibrium will be the point where AR = MR =MC = AC = P.

Long Run profit maximisation by a competitive firm

We have seen that in the short run, there will be firms that produce and earn supernormal profit or normal profit or even loss. However in the long run, due to the characteristic of free entry and exit, there will be firms only which can earn normal profit. Seeing the super normal profit earned by the firms, new firms will enter into the market, which will increase the supply. The market price fal s stabilizing at a point where the firms will earn only normal profit. In case of loss, the firms will stop production and exit the industry. This decreases the supply of the product in the market, leading to an increase in market price. Here again, the market price stabilizes where all firms earn normal profit. Thus we can see that in the long run with the freedom to enter and exit the market, firms will tend to earn normal profit.



Is Perfect Competition a realistic Model?

A perfectly competitive market in its pure form is a rare reality. The features of perfect competition, viz, product homogeneity, perfect knowledge etc are very Difficult to exist in the markets. In real life, products do have some degree of differentiation. Firms may differentiate the products by varying the brand name, colour, packaging etc. But if we negate some features in its true form, we can find some examples for perfect competition. Agricultural commodities, we may say to be homogenous. Hence the market of agriculture products may be said to be perfectly competitive. But, here again we have to avoid the feature of perfect knowledge. Similarly, Share market or the bul ion market also comes close to fit the features of perfect competition.

Price Determination under Non- Competitive Markets

This chapter examines the market structures of monopoly, monopolistic competition and oligopoly.

Monopoly

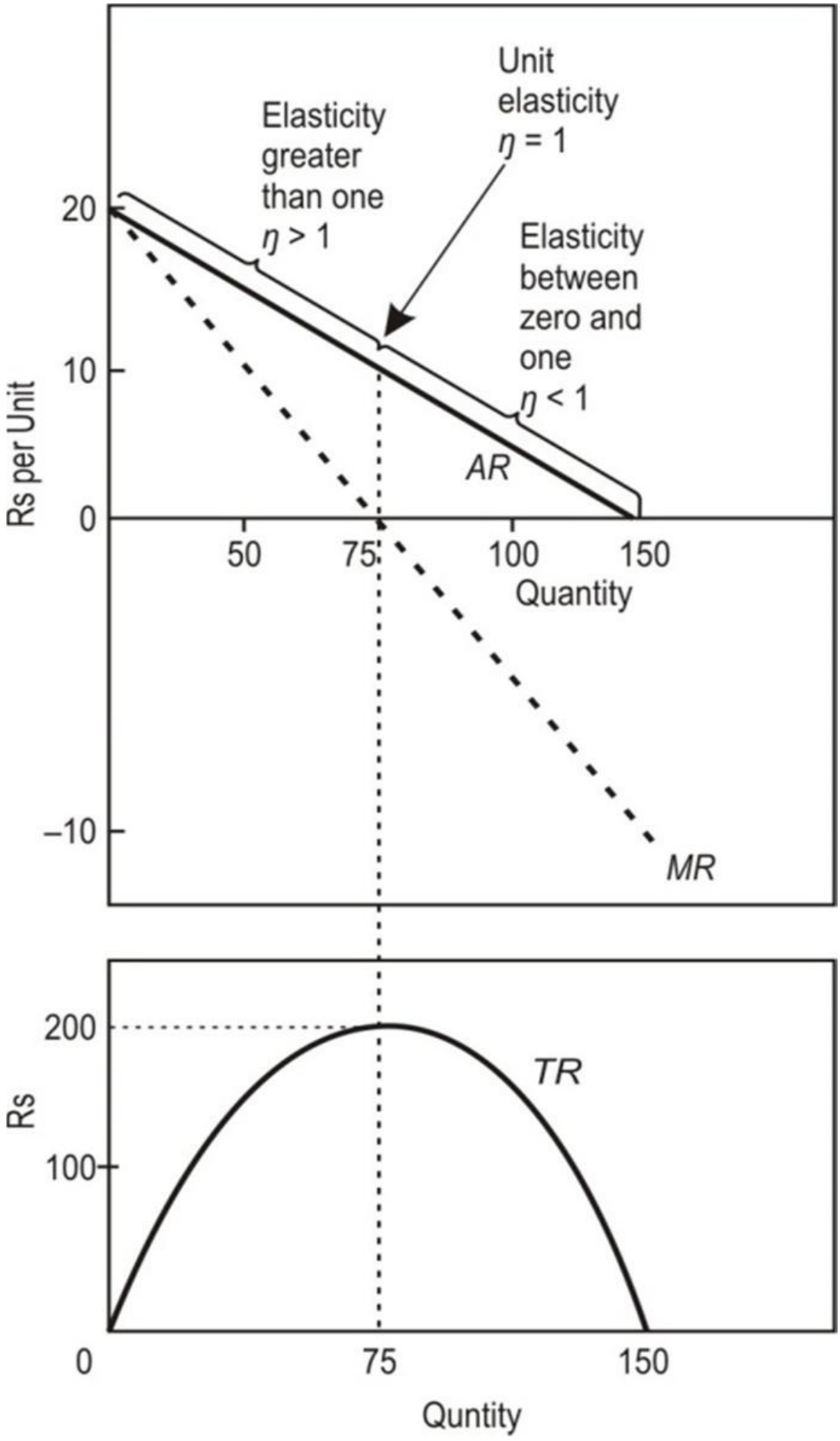
It is a market structure characterized by a single seller selling a product which does not have close substitutes and there are barriers to enter into the industry. Like perfect competition, this is another extreme case in market forms. Since one firm dominates the market, supernormal profits are possible. Following are the features of monopoly:

- Single seller, no difference between a firm and an industry.
- No close substitutes; cross price elasticity is very low.
- Barriers to entry into the industry.
- Price discrimination – It exists when the same product is sold at different prices to different buyers.
- A monopolist has ful control on the supply of a product. Hence elasticity of demand for a monopolist's product is zero i.e. demand is total y independent of the price. No matter how the price varies, people buy the same quantity of the product.

Since there is a single firm selling a commodity, the monopoly firm is itself an industry and the monopolist faces the industry demand curve. The demand curve for the product is relatively stable and slopes downward to the right. It means that more of the product can be sold at lower price than at a higher price. The monopolist firm is the price maker who can set the price to its maximum advantage.

Revenue Curves of a Monopolist Firm

A monopolist is a price maker not a price taker. The demand curve of the monopolist firm will slope downwards. This is because a monopolist cannot determine both the price and quantity of a product simultaneously. So to sell more of the commodity, it will have to reduce the price of the product. So when prices are kept high, monopolist will be able to sell only less amount of output, but if the monopolist reduces the price, more can be sold. For the monopolist, the MR will be less than the price.



Proof:

Suppose the demand curve of a monopoly firm is given as p=a-bq. The revenue will be pq. i.e.,

TR = (a-bq)q = aq –bq^2
AR = TR/q = a-bq
Slope of AR = -b
MR = a-2bq
Slope of MR = -2b
Therefore in absolute terms, the slope of MR is twice that of AR.

Hence the AR and MR curve will be downward sloping curves and the MR curve would lie below the AR curve. In case of a linear curve, the slope of MR is twice that of AR and the MR curve will be in the middle of the AR curve and the price axis. (See box for proof)

When the demand curve is elastic, TR rises as more units are sold. Here the MR will be positive. When TR is maximum the elasticity is equal to one and the MR will be zero. (See Figure) Beyond this point the elasticity is less than one, the TR curve is downward sloping and the MR becomes negative.

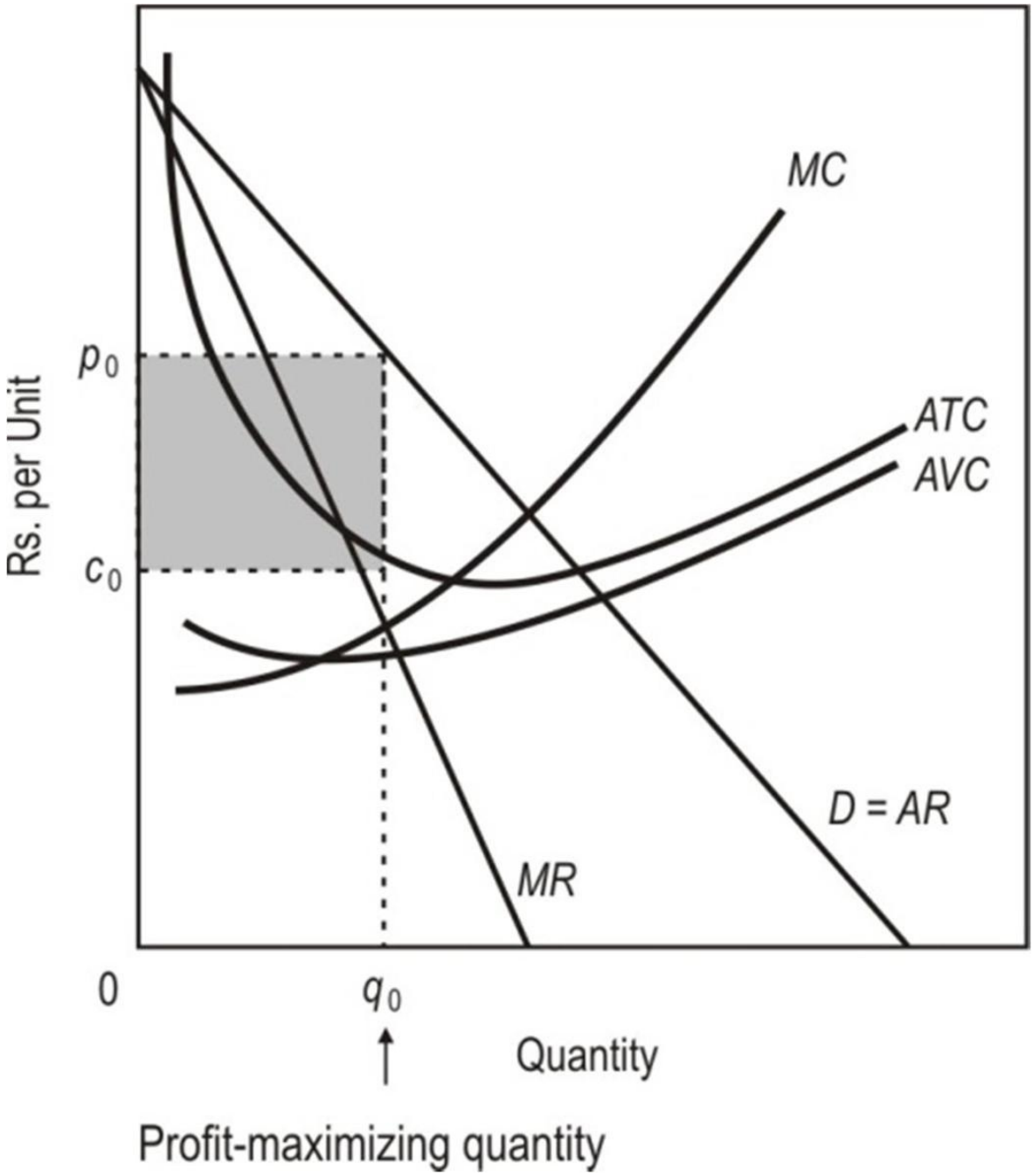
A monopoly maximises profits where MR = MC and MC is rising. It sets a price of P_o and Quantity Q_o.

Price Determination under Monopoly:

We have seen that a monopolist being a price maker, will set the price in such a way that the profit is maximized. The conditions of profit maximization remain the same-

(i) The firm will not produce at all unless there is some level of output for which price is at least equal to AVC. So when price fal s below the AVC the firm will stop its production.

(ii) MR= MC and MC must be rising. As the AR and MR curves of a monopolist firm are downward sloping, the monopolist fixes the price and can earn super normal profits.



The profit maximizing output is the quantity where the MR=MC. In the figure it is qo. The point on the demand curve from the equilibrium quantity will give us the price. In the figure it is po. In reality, the monopolist decides the quantity and price simultaneously.

Price Discrimination

Different prices charged for the same good or service is known as price discrimination. We have the railways which charges different charges for different customers on the basis of age (senior citizens, children), health grounds, etc. Airlines also discriminate the prices on the basis of the booking timings. The railways offer concessional fares to some sections of its customers from the point of view of welfare. Airlines discriminate among its customers with an objective to maximize its revenue.

Prerequisites for Price discrimination

When is it possible for a monopolist to discriminate the prices? Price discrimination is most suitable for a monopolist as he has control of the market being a price maker. There should also be possibility to divide the market. Markets may be divided based on the geography, demography etc. Difference in the price elasticity of demand is also required for

earning revenue by discriminating prices. The seller can charge higher price if elasticity is low in a particular market segment and vice versa.

Do you think that a Monopolist can go to any extent to consolidate itself and charge any price? is a U.S. antitrust law case, ultimately set led by the Department of Justice, Microsoft Corporation was accused of becoming a monopoly and engaging in abusive practices. The plaintiffs alleged that Microsoft abused monopoly power on Intel-based personal computers in its handling of operating system and web browser sales. The issue central to the case was whether Microsoft was all owed to bundle its flagship Internet Explorer (IE) web browser software with its Microsoft Windows operating system. Bundling them together is alleged to have been responsible for Microsoft's victory in the browser wars as every Windows user had a copy of Internet Explorer. It was further alleged that this restricted the market for competing web browsers. Judge Thomas Penfield Jackson issued his findings of fact on November 5, 1999, which stated that Microsoft's dominance of the x86-based personal computer operating systems market constituted a monopoly, and that Microsoft had taken actions to crush threats to that monopoly, including Apple, Java, Netscape, Lotus Notes, RealNetworks, Linux, and others. the court ordered a breakup of Microsoft as its "remedy". According to that judgment, Microsoft would have to be broken into two separate units, one to produce the operating system, and one to produce other software components. This way monopoly element of Microsoft was curbed.

Monopolistic Competition

The market structure where the number of firms is large and there is free entry and exit of firms, but the goods produced by them are not homogenous but are close substitutes is called monopolistic competition. It combines the elements of monopoly and competitive markets. In monopolistic competition, the short run equilibrium results in quantity produced being lesser and prices being higher compared to perfect competition. It is a market structure which combines elements of monopoly and competitive markets. Each firm is the sole producer of a particular brand or product. There is freedom of entry and exit, but firms are able to differentiate their products. Therefore, they have an inelastic demand curve and so they can set prices. However, because there is freedom of entry, supernormal profits will encourage more firms to enter the market leading to normal profits in the long term.

"Monopolistic competition is a challenge to the traditional viewpoint of economics that competition and monopoly ae alternatives…..By contrast it is held that most economic situations are composites of both competition and monopoly". - Edward H

In our daily life, we come across various products/ services like, soap, toothpaste, biscuits, etc whose markets are examples of monopolistic competition. Even though the firms of these products/services enjoy the monopoly position, as its products/ services have close substitutes available in the market, they face stif competition also.

Features of Monopolistic Competition

- **Large number of Sellers:** There are many firms and each sells a single differentiated product. An individual firm has limited control over the market and has to face competition.
- **Differentiated products:** The products are differentiated on the basis of brand, size, colour, shape etc. These products remain to be close substitutes.
- **Freedom of entry and exit:** The firms can exit and enter the monopolistic market. Therefore, the firms in the monopolistic market will not be able to make supernormal profits.
- **Selling costs:** the firms to sel its differentiated products will have to incur an additional expenditure on marketing and advertisement of the product. This selling cost becomes the part of the total cost.

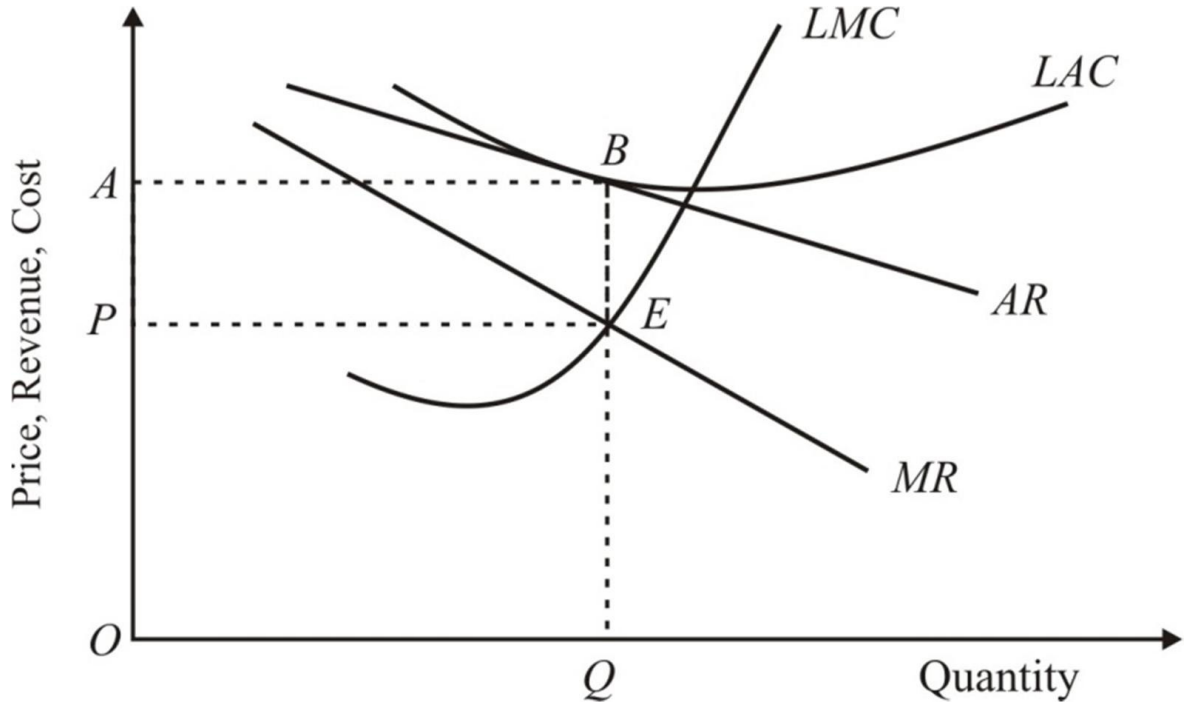
- **Non-Price competition:** The competing firms, instead changing their price, may compete with other firms by offering free gifts, servicing offers etc.

Short-run Equilibrium under Monopolistic Competition

The demand curve (AR) will be downward sloping, which means firms can sell more quantity only when the price is lowered. The demand curve in case of monopolistic competition is more elastic compared to monopoly, hence less steep. The firms may earn super normal profits, normal profits or even loss in the short run depending upon the demand for their products. Those firms which earn loss may exit or may compete with a different strategy, for eg, of ering free bee's or advertising etc.

Long-run Equilibrium under Monopolistic Competition

In the long run, the firms can lower its prices to gain more consumers. Super normal profits attract in new entrants, which shifts the demand curve for the existing firm to the left. New entrants continue until only normal profit is available. Each firm will earn normal profits in the long run. As the long run Average cost is equal to the Average revenue at the point of equilibrium, only normal profits are earned by the firm.



At profit maximisation, MC = MR & output is Q & Price P given that price (AR) is equal to LAC at Q, the firm earns normal profits in the long run. The majority of small firms in the real world operate in markets that could be said to be monopolistically competitive.

Oligopoly

In our daily life, we come across some markets, which we cannot put under the category of monopoly or monopolistic competition. They are neither single firms nor large in number. If the market of a particular commodity consists of more than one seller but the number of sellers is few, the market structure is termed oligopoly. The aspect that differentiates oligopoly from all other market forms is the interdependence of the firms. Each firm takes the decision only after considering the action of the rival firms. There is a cut throat competition between the firms, which forces them to invest heavily on advertisements and other product promotion measures.

Oligopoly is a market structure in which a few firms dominate. Although only a few firms dominate, it is possible that many small firms may also operate in the market. Few Industries which come under oligopoly are:

- Airline Industry
- Oil & Gases

Operating systems for Smartphones and computers provide excel ent current examples of oligopolies. Apple IOS and

Google Android dominate smartphone operating systems, while computer operating systems are overshadowed by Apple and Windows.

Oligopolies are prevalent throughout the world and appear to be increasing ever so rapidly. Oligopolies are noticeable in many markets. While these companies are considered competitions within the specific market, they tend to cooperate with each other to benefit as a whole, which can lead to higher prices for consumers.

Features of Oligopoly

- Few Sellers: The oligopoly market market comprises of few large firms that compete against each other. Eg: Automobile Industry, Airlines, Petroleum. In case of Automobile and Airlines industry, they represent differentiated oligopoly, while petroleum comes under pure oligopoly.
- Product: There can be both differentiated products or homogeneous products.
- Entry Barriers: As such no legal barriers exist. But there may be economic barriers like, huge investment requirements, customer preferences for a particular brand, economies of scale etc, that might restrict the entry of othe firms into the market.

*Duopoly

Duopoly is a special case of theory of oligopoly in which there are only two sellers. Both the sellers are completely independent and no agreement exists between them. Even though they are independent a change in the price and output of one will affect the other and this may set a chain of reactions.

A duopoly forces each producer to carefully consider its rival's potential reactions to certain business decisions. When members of a duopoly compete on price, they tend to drive the product's price down to the cost of production, thereby lowering profits for both members of the duopoly.

**Though Duopoly is not in the syllabus but for your awareness, some facts about Duopoly is given above.*

Let us sum up

A place where buyers and sellers interact to purchase and sel a commodity is called a market. Based on the nature of competition (number, size and distribution of sellers), nature of product, number and size of buyers and freedom to enter into and exit from the market we classify the market into perfectly competitive market, monopoly, monopolistic competition and oligopoly. In a perfectly competitive market, the price is determined by the demand and supply in the market. The individual firm, being a price taker can decide only on the quantity of output. For profit maximization, the MC must be equal to MR and MC must be rising. In the short run, a perfectly competitive firm may earn supernormal profits, normal profits or even loss. In the long run, due to free exit and entry, the firms will earn only normal profits. In case of monopoly market, where the single seller is the price maker, the demand curve has a negative slope. A

monopolist firm may earn supernormal profits, normal profits or even loss in the short run, but will not incur loss in the long run. The monopolistical y competitive firm sel s heterogeneous products, which are close substitutes. They incur selling costs. In the long run firms in monopolistic competition will earn normal profits only due to unrestricted entry and exit.

CHECK YOUR PROGRESS

MCQs

1. Perfect competition occurs in a market where there are many firms each selling

a) Unique product

b) Identical product

c) A similar product

d) a competitive product

e) a capital intensive product

Ans. (a)

2. Which one of the Following does not occur in PC?

a) No single firm can exert a significant influence on the market price of the good.

b) These are significant restrictions on entry into the industry.

c) Firms and buyers are completely informed about the prices of the products of each firm in the industry.

d) There are many buyers.

e) Firms already in the industry have no advantages over potential new entrants.

Ans. (b)

3. In PC, a firm's MR equal its :

a) average revenue

b) Price

c) Supply curve

d) Both (a) and (b)

e) Total Revenue

Ans. (b)

4. One difference between PC & MC is that :

a) There are larger number of firms in MC.

b) Firms in MC have some degree of market power.

c) There are a small er number of firms in perfectly competitive industries.

d) MC has barriers to entry, where as PC has none.

e) In PC, the products are slightly differentiated between firms.

Ans. (b)

5. To achieve more market power, firms can :

a) Advertise that they charge low prices.

b) Differentiate their products from the products of their rivals.

c) Reduce their costs of production

d) Raise their profit margin on prices

e) Lobby the government to eliminate barriers to entry

Ans. (b)

6. Under which type of market structure is price rigidity (stickness) often predicted?

a) Pure monopoly

b) Natural monopoly

c) PC

d) Imperfect Competition

e) Oligopoly

Ans. (e)

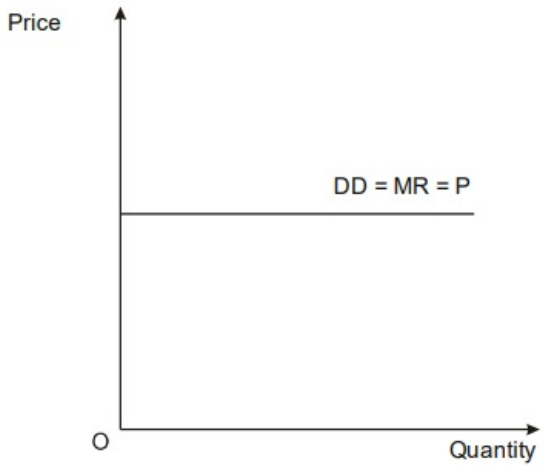
NCERT Textbook based Questions

1. What would be the shape of the demand curve so that the total revenue curve is

a) positively sloped straight line passing through the origin?

b) a horizontal line?

Sol. a) Demand curve would be a horizontal straight parallel to X-axis because positively sloped straight line TR curve passing through the origin indicates that price remains constant at all level of output.



b) Demand curve will slope downwards from left to right because horizontal TR indicates that TR remains same at levels of output. It is possible only when price fal s with rise in output.

2. From the schedule provided below calculate the total revenue, demand curve and the price elasticity of demand :

Quantity	1	2	3	4	5	6	7	8	9
Marginal Revenue	10	6	2	2	2	0	0	0	-5

Solution

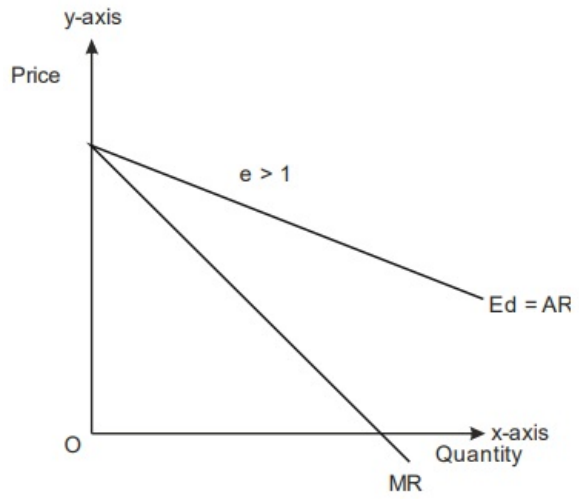
Q	MR	TR	TR/Q	Price elasticity of demand
1	10	10	1	
2	6	16	8	5

3	2	18	6	2
4	2	20	5	2
5	2	22	4.4	2.5
6	0	22	3.67	1
7	0	22	3.14	1.2
8	0	22	2.75	1.1
9	-5	17	1.89	0.38

3. What is the value of the MR when the demand curve is elastic?

Solution

When the demand curve is elastic, then MR will be positive. It means e > 1



4. A monopoly firm has a total fixed cost of Rs 100 and has the Following demand schedule:

Quantity	1	2	3	4	5	6	7	8	9	10
Price	100	90	80	70	60	50	40	30	20	10

Find the short run equilibrium quantity, price and total profit. What would be the equilibrium in the long run? In case the total cost was Rs 1000, describe the equilibrium in the short run and in the long run.

Solution

Q	Price	TR (P X Q)
1	100	100
2	90	180
3	80	240
4	70	280

5	60	300
6	50	300
7	40	280
8	30	240
9	20	180
10	10	100

The profit will be maximum when TR is maximum i.e. 6th unit (in this case)

Short run equilibrium price = 50

Profit = TR – TC

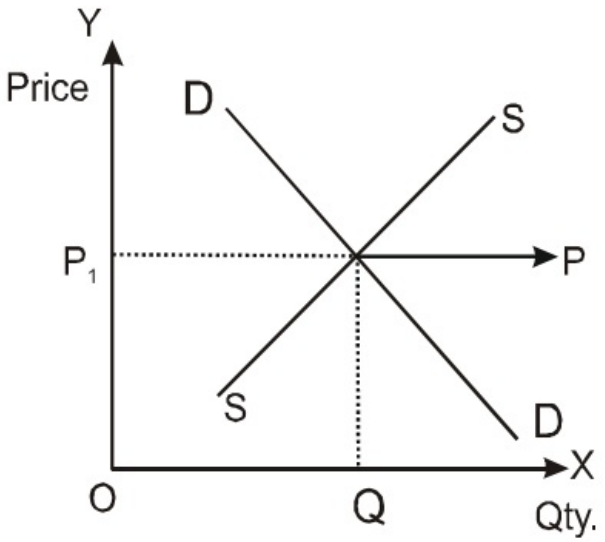
= 300 – 0 = 300

If the total cost is Rs. 1000 then

Profit = 300 – 1000 = -700

The firm is incurring loss in the short run & will stop its production in the long run.

5. If the monopolist firm in question 4 was a public sector firm. The government set a rule for its manager to accept the government fixed prince as given (i.e. to be a taker and therefore behave as a firm in a perfectly competitive market), and the government decides to set the price so that demand and supply in the market are equal. What would be the equilibrium price, quantity and profit in this case?



Hint:

Equilibrium price = P_1

Equilibrium quantity = Q_1

Profit = Normal Profit

In a perfectly Competitive market a firm earns zero profit.

Comment on the shape of the MR curve in case the TR curve is a (i) positively sloped straight line, (i) horizontal straight line.

Hint:

(i) When TR curve is positively sloped straight line, MR curve will be a horizontal line paral el to X-axis which shows AR & HR is constant.

(ii) When TR curve is a horizontal line, then MR will be zero because horizontal TR indicates that it remains constant at different levels of output.

6. The market demand curve for a commodity and the total cost for a monopoly firm producing the commodity is given by the schedules below. Use the information to calculate the following:

Quantity	0	1	2	3	4	5	6	7	8
Price	52	44	37	31	26	22	19	16	13

Quantity	0	1	2	3	4	5	6	7	8
Price	10	60	90	100	102	105	109	115	125

a) The MR and MC schedules

b) The quantities for which the MR and MC are equal

c) The equilibrium quantity of output and the equilibrium prince of the commodity

d) The total revenue, total cost and total profit in equilibrium.

Hint: (a)

Q	P	TR	MR
0	52	0	
1	44	44	44
2	37	74	30
3	31	93	19
4	26	104	11
5	22	110	6
6	19	114	4
7	16	112	-2
8	13	104	-8

Q	TC	MC
0	10	
1	60	60
2	90	30

3	100	10
4	102	2
5	105	3
6	109	4
7	115	6
8	125	10

(b) MR – MC at 6^{th} Unit of output

(c) Equilibrium quantity = 6 units of Equilibrium price = 19

(d) At Equilibrium

TR = 114

TC = 109

Total Profit = 114 – 109 = Rs. 5

7. will the monopolist firm continue to produce in the short run if a loss is incurred at the best short run level of output?

Hint: Under MC, the firms are producing goods which are close substitutes of one another. In order to increase the demand of its product , the firm has to decrease its price. OR he can say that buyers will be will ing to buy more of the commodity only if the price is reduced.

8. Explain why the demand curve facing a firm under monopolistic competition is negatively sloped.

Hint: In MC the number of firms is large and there is free entry and exit of firms. When the firms earn profits in the short run it at racts more entrants in the industry which expands the output of the commodity. It will cause fal in the market price of the commodity & it will continue til profit become zero

Suppose the demand equation for TV sets for the year 2013 given by Qd = 2000-2p and the supply equation is given by Qs = 200 + 2p

(i) What is the equilibrium price and the equilibrium quantity supplied?

(ii) How much is the excess demand or supply if prices is (a) 600 (b) 300?

Solution

(i) At equilibrium, Qd = Qs

Qd = 2000 -2p

Qs = 200+2p

Therefore at equilibrium,

2000 -2p = 200 + 2p

2P +2P = 2000-200

4p = 1800

p = 1800/4 = 450

The equilibrium price is Rs 450.

Equilibrium quantity supplied when p = 450,

Qs = 200 +2p

= 200 + 2 × 450

= 200 + 900 = 1100

(ii)

(a) When price is 500,

Qd = 2000 -2p

= 2000 – 2 × 500

= 2000 – 1000 = 1000

Qs = 200 + 2p

= 200 + 2 × 500

= 200 + 1000 = 1200

Qs > Qd, Excess supply = 1200 -1000 = 200

(b) When price is 300,

Qd = 2000 -2p

= 2000 – 2 × 300

= 2000 – 600 = 1400

Qs = 200 + 2p

= 200 + 2 × 300

= 200 + 600 = 800

Qd > Qs, Excess demand = 1400 - 800 = 600

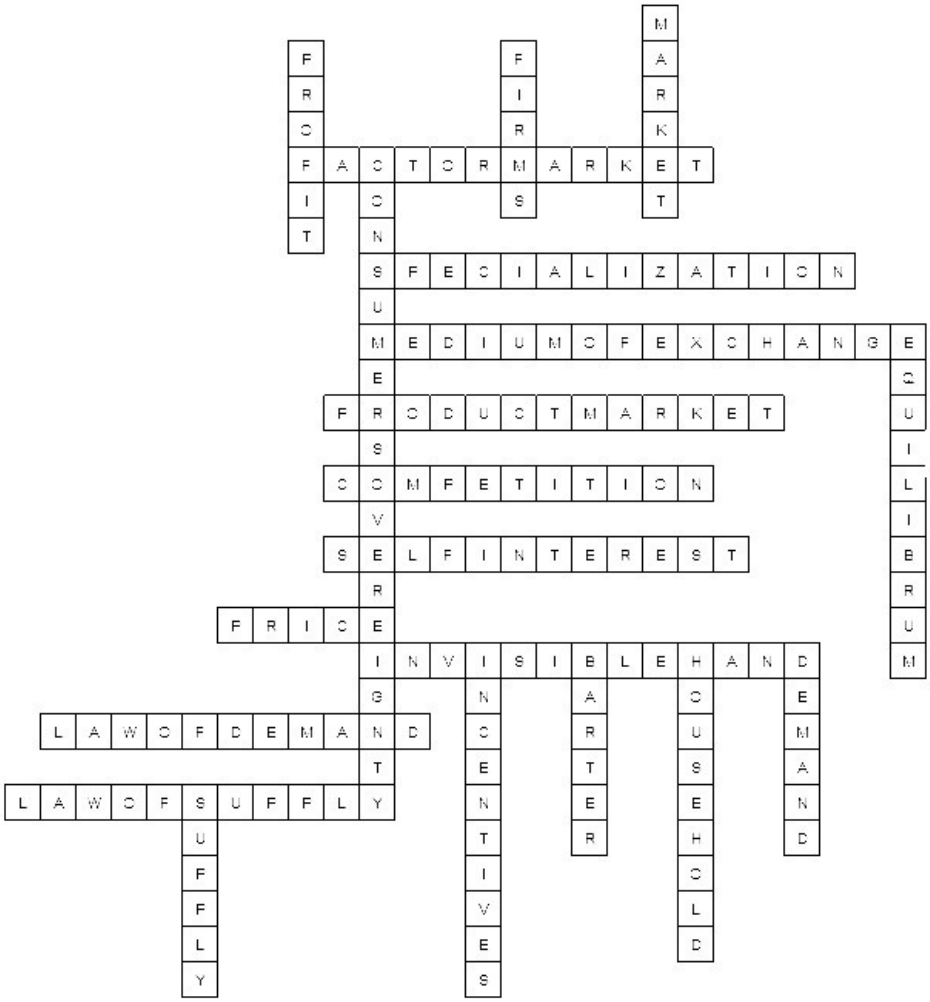
VALUE BASED QUESTIONS (VBQ)

Q. Give examples of any five consumer goods industry where product differentiation is prevalent.

FUN ELEMENT IN TEACHING OF ECONOMICS

Learning can be Fun is suf iciently supported by many researches. Any subject can become interesting and engaging if, as teachers, you bring little joy and creativity in your teaching –learning processes .By breaking the conventional methods you can make the students involved and curious in concept attainment by providing newer experiences

*Given below is the Crossword on Forms of Market which can be used as fun activity after the students have learned the fundamentals. Search for such activities and include in classroom practices.



Across

4 firms purchase the factors of production form households.
6 the concentration of the productive efforts of individuals and firms on a limited number of activities.
7 anything that is used to determine value during the exchange of goods and services.
9 households purchase the goods and services that firms produce.
10 the struggle among producers for the dollars of consumers.
11 one's own persona gain.
12 the cost of something
13 a term used to describe the self regulating nature of the marketplace.
18 when goods price is lower consumer will buy more of it.
19 the higher the price, the larger the quantity

Down

1 an arrangement that allows buyers and sellers to exchange things.
2 financial gain made in transaction.
3 transforms inputs or factors of production into outputs or products.
5 the power of consumer to decide what gets produced.
8 the point at which quantity demanded and quantity supplied are equal.
14 an expectation that encourages people to bahave in a certain way.
15 the direct exchange of one set of goods or services for another.
16 owns factors of production.
17 desire to won something and the ability to pay for it.
20 the amount of goods available.

Notes