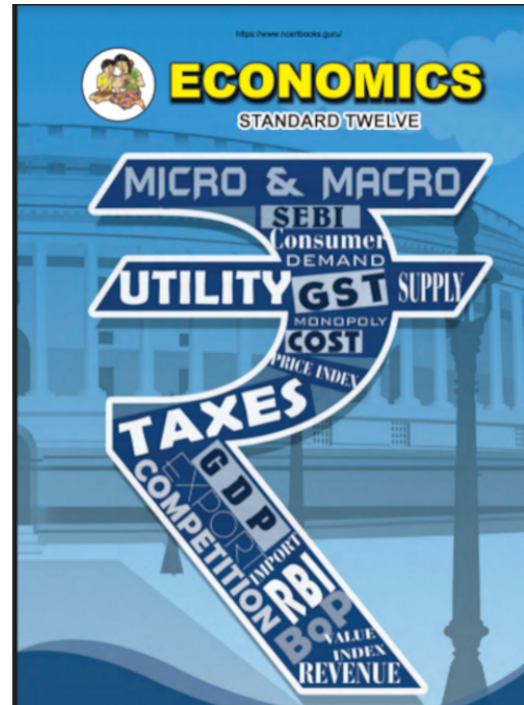


Maharashtra Board Solutions Class 12

Commerce: Chapter 6- Index Numbers

Class 12 - Chapter 6 Index Numbers



For any clarifications or questions you can write to info@indcareer.com

Postal Address

IndCareer.com, 52, Shilpa Nagar, Somalwada Nagpur - 440015
Maharashtra, India

WhatsApp: +91 9561 204 888, **Website:** <https://www.indcareer.com>

<https://www.indcareer.com/schools/maharashtra-board-solutions-class-12-economics-chapter-6-index-numbers/>



Maharashtra Board Solutions Class 12

Commerce: Chapter 6- Index Numbers

Class 12:Economics Chapter 6 solutions. Complete Class 12 Economics Chapter 6 Notes.

Maharashtra Board Solutions Class 12 Commerce: Chapter 6- Index Numbers

Maharashtra Board 12th Economics Chapter 6, Class 12 Economics Chapter 6 solutions

1. Choose the correct option:

Question 1.

Statements that are incorrect in relation to index numbers.

- a) Index number is a geographical tool.
- b) Index numbers measure changes in the air pressure.
- c) Index numbers measure relative changes in an economic variable.
- d) Index numbers are specialized averages.

Options :

- 1) c and d
- 2) a and b
- 3) b and c
- 4) a and d

<https://www.indcareer.com/schools/maharashtra-board-solutions-class-12-economics-chapter-6-index-numbers/>

Answer:

2) a and b

Question 2.

Statements that highlight the significance of index numbers.

- a) Index numbers are useful for making future predictions.
- b) Index numbers help in the measurement of inflation.
- c) Index numbers help to frame suitable policies.
- d) Index numbers can be misused.

Options :

- 1) b, c and d
- 2) a, c and d
- 3) a, b and d
- 4) a, b and c

Answer:

4) a, b and c

Question 3.

Statements that apply to weighted index numbers.

- a) Every commodity is given equal importance.
- b) It assigns suitable 'weights' to various commodities.
- c) In most of the cases, quantities are used as weights.

<https://www.indcareer.com/schools/maharashtra-board-solutions-class-12-economics-chapter-6-index-numbers/>

d) Laaspeyre's and Paasche's method is used in the calculation of weighted index numbers.

Options :

- 1) b, c and d
- 2) a, c and d
- 3) a, b and d
- 4) a, b, c and d

Answer:

- 1) b, c and d

Question 4.

Statements related to limitations of index numbers.

- a) Index numbers are not completely reliable.
- b) There may be a bias in the data collected.
- c) Every formula has some kind of defect.
- d) Index numbers ignore changes in the qualities of products.

Options :

- 1) a, c and d
- 2) a, b, c and d
- 3) a, b and d
- 4) b, c and d

Answer:

<https://www.indcareer.com/schools/maharashtra-board-solutions-class-12-economics-chapter-6-index-numbers/>

2) a, b, c and d

Question 5.

Choose the correct pair:

Group A	Group B
1) Price Index	a) $\frac{\Sigma p_1 q_1}{\Sigma p_0 q_0} \times 100$
2) Value Index	b) $\frac{\Sigma q_1}{\Sigma q_0} \times 100$
3) Quantity Index	c) $\frac{\Sigma p_1 q_1}{\Sigma p_0 q_1} \times 100$
4) Paasche's Index	d) $\frac{\Sigma p_1}{\Sigma p_0} \times 100$

Options :

- 1) 1-d, 2-c, 3-a, 4-b
- 2) 1-d, 2-a, 3-b, 4-c
- 3) 1-b, 2-c, 3-d, 4-a
- 4) 1-c, 2-d, 3-a, 4-b

Answer:

- 2) 1-d, 2-a, 3-b, 4-c

2. Complete the Correlation:

- 1) Price Index: Inflation :: : Agricultural production
- 2): Base year prices :: P_1 : Current year prices
- 3) Laaspeyre's index : :: Paasches index : Current year quantities

<https://www.indcareer.com/schools/maharashtra-board-solutions-class-12-economics-chapter-6-index-numbers/>

4): Single variable :: Composite index: Group of variables

Answers:

1. Quantity Index
2. P_0
3. Base year quantity
4. Univariate Index

3. Solve the following:

Question 1.

Calculate Price Index number from the given data:

Commodity	A	B	C	D
Price in 2005 (₹)	6	16	24	4
Price in 2010 (₹)	8	18	28	6

Answer:

Commodity	Base Year price 2005 (P_0)	Current Year price 2006 (P_1)
A	6	8
B	16	18
C	24	28
D	4	6
Total	$\Sigma p_0 = 50$	$\Sigma p_1 = 60$

Steps:

Add the price of base year (p_0)

<https://www.indcareer.com/schools/maharashtra-board-solutions-class-12-economics-chapter-6-index-numbers/>

Add the price of current year (p_1)

$$P_{01} = \frac{\sum p_1 \sum p_0}{\sum p_0} \times 100$$

$$= \frac{6050}{50} \times 100$$

$$= 120$$

Hence $P_{01} = 120$

Question 2.

Calculate Quantity Index number from the given data:

Commodity	P	Q	R	S	T
Base year quantities	170	150	100	195	205
Current year quantities	90	70	75	150	95

Answer:

Commodity	Base Year Qty. (q_0)	Current Year Qty. (p_1)
P	170	90
Q	150	70
R	100	75
S	195	150
T	205	95
Total	$\sum p_0 = 820$	$\sum p_1 = 480$

Steps : Add quantities of base year (q_0).

<https://www.indcareer.com/schools/maharashtra-board-solutions-class-12-economics-chapter-6-index-numbers/>

Add quantities of current year (q_1).

$$Q_{01} = \frac{\sum q_1 \sum q_0}{\sum q_0 \sum q_1} \times 100$$

$$= \frac{480820}{8000} \times 100$$

$$= 58.53$$

Hence, $Q_{01} = 58.53$

As quantity in the current year has fallen Q_{01} is less than 100.

Question 3.

Calculate Value Index number from the given data:

Commodity	Base Year		Current Year	
	Price	Quantity	Price	Quantity
A	40	15	70	20
B	10	12	60	22
C	50	10	90	18
D	20	14	100	16
E	30	13	40	15

Answer:

Steps:

(1) Formula used for Value Index Number

$$V_{01} = \frac{\sum p_1 q_1}{\sum p_0 q_0} \times 100$$

(2) We find product of prices and their respective quantities of the different commodities for the base year to derive $p_0 q_0$, then take the sum total of the products to derive $\sum p_0 q_0$.

(3) Similarly, find the product of prices and their respective quantities for the current year to derive $p_1 q_1$, then take the sum total of the products to derive $\sum p_1 q_1$.

<https://www.indcareer.com/schools/maharashtra-board-solutions-class-12-economics-chapter-6-index-numbers/>

Commodity	Base year		Current year		p_0q_0	p_1q_1
	Price p_0	Qty q_0	Price p_1	Qty q_1		
A	40	15	70	20	600	1400
B	10	12	60	22	120	1320
C	50	10	90	18	500	1620
D	20	14	100	16	280	1600
E	30	13	40	15	390	600
					Σp_0q_0	Σp_1q_1
					1,890	6,540

Value Index Number = $\frac{\Sigma p_1q_1}{\Sigma p_0q_0} \times 100$

= $\frac{6,540}{1,890} \times 100$

= 346.03

Value Index Number = 346.03

Question 4.

Calculate Laaspeyre's and Paasche's index from the given data:

Commodity	Base Year		Current Year	
	Price	Quantity	Price	Quantity
X	8	30	12	25
Y	10	42	20	16

Answer:

I'm 7

Price Index $P_{01} = \frac{\Sigma p_1}{\Sigma p_0} \times 100$

<https://www.indcareer.com/schools/maharashtra-board-solutions-class-12-economics-chapter-6-index-numbers/>

$$= 4240 \times 100$$

$$= 105$$

Hence, $P_{01} = 105$

4. Distinguish between:

Question 1.

Simple Index Numbers and Weighted Index Numbers.

Answer:

Simple Index Number	Weighted Index Number
(a) Simple index number is a simple average of index number of individual goods.	(a) Weighted index number is a weighted average of products after assigning suitable weights to individual goods.
(b) It is easy to calculate.	(b) It is difficult to calculate.
(c) All commodities are given equal importance.	(c) All commodities are given different levels of importance.
(d) It gives rough estimates of price change	(d) It gives an accurate estimate of price change.
(e) It is less used in practice.	(e) It is mostly used in practice.

Question 2.

Price Index and Quantity Index.

Answer:

<https://www.indcareer.com/schools/maharashtra-board-solutions-class-12-economics-chapter-6-index-numbers/>

Price Index Number

- (a) Price index number measures the changes in price over a period of time.
- (b) It can be used for measuring the changes in prices as well as other purpose e.g. in fixing wages, interest rates, tax rates, etc.
- (c) It is a very popular concept and can be easily calculated and understood.

Quantity Index Number

- (a) Quantity index number measures the changes in quantity over a period of time.
- (b) It can be used only for measuring the changes in the quantities e.g. of items like exports, imports, etc.
- (c) It is not so popular as it cannot be easily calculated.

Question 3.**Laaspeyre's Index and Paasche's Index.****Answer:**

Laspeyre's Index Number

- (a) Laspeyre uses base year quantity (Q_0) as weights to calculate index numbers.
- (b) He gave this formula $P_{01} = \frac{\sum p_1 q_0}{\sum p_0 q_0}$ [where P_{01} = Price index number, p_0 = Price of the base year, p_1 = Price of the current year, q_0 = Quantities of the base year]

Paasche's Index Number

- (a) Paasche uses current year quantity (Q_1) as weights to calculate index number.
- (b) He gave this formula $P_{01} = \frac{\sum p_1 q_1}{\sum p_0 q_1}$ [where P_{01} = Price index number, p_0 = Price of the base year, p_1 = Price of the current year, q_0 = Quantities of the base year]

<https://www.indcareer.com/schools/maharashtra-board-solutions-class-12-economics-chapter-6-index-numbers/>

- (c) He is a German Economist who gave the method of calculating Index Number in the year 1871. . (c) He is a German Statistician who devised the method of calculating Index Number in the year 1874.

5. State with reasons whether you agree or disagree with the following statements:

Question 1.

Index numbers measure changes in the price level only.

Answer:

No, I do not agree with this statement.

- Index numbers are statistical devices which are used to measure changes in some quantities which cannot be measured directly.
- It shows the changes in the variables like price, quantity of output, exports, standard of living, cost of living, stock markets, etc.
- Index numbers are like economic barometers, measuring changes in variables over time with respect to a chosen base year.
- Hence, it is not right to say Index Numbers measures changes in price only.

Question 2.

Index numbers are free from limitations.

Answer:

No, I do not agree with this statement.

Although index numbers are very useful in business and industry, they suffer from following limitation:

- Bias in the data: If the data is not collected properly, we may not get proper index numbers.
- Based on samples : If the samples are not collected properly, there may be error in index number calculations.

<https://www.indcareer.com/schools/maharashtra-board-solutions-class-12-economics-chapter-6-index-numbers/>

- Misuse of index number : We compare the index numbers with the base year, but if a businessman chooses a base year in which profits are high and show that his profits are falling now.
- Changes in the economy : In long run habits, tastes, etc of people may change, so it is difficult to include all such changes in index number.
Hence, it is not right to say that index numbers are free from limitations.

Question 3.

Index numbers can be constructed without the base year.

Answer:

No, I do not agree with this statement.

Index numbers can be constructed without the base year because :

- Index Numbers are the tools for measuring the changes in the magnitude of a variable or a group of variables over time with respect to a chosen year.
 - Prices of some goods may increase and of other may decrease during the two periods. Index numbers solves this problem by taking the average change.
 - For example, to know cost of living of people in general in India, Government chooses a base year 2010 which is taken as 100. Then cost of living is calculated in 2019 which may be 140.
 - This difference of 40(140-100) shows that cost of living in India has increased by 40% (since 2010).
- Hence, Index Numbers cannot be constructed – without the base year.

6. Answer the following:

Question 1.

Explain the features of index numbers.

Answer:

Features of Index Numbers :

- Index numbers are a specialised form of averages.

<https://www.indcareer.com/schools/maharashtra-board-solutions-class-12-economics-chapter-6-index-numbers/>

- They are expressed in percentage form without using a percentage sign.
- The year for which index number is being prepared is the current year.
- The year from which index number is being prepared is called the base year which is always taken as 100.
- They are used in measuring the changes (in magnitudes which cannot be measured directly).
- The formula used for Price Index Number =
$$\frac{\text{Total price of the current year}}{\text{Total price of the base year}} \times 100$$
- They are considered as barometer of economic activity.
- Index number which is calculated from a single variable is called “univariate index” and which is constructed from a group of variables is called a “composite index”.

Question 2.

Explain the significance of index numbers in economics

Answer:

Index numbers are significant tools of economic analysis in the following ways:

- (1) Help in formulating Policies : Index numbers help the government and business organisations in framing their suitable economic policies for agriculture and industrial sector, wage and dearness allowance policies, etc.
 - (2) Help in the study of Trends and Tendencies : Index numbers study the relative changes in the level of phenomenon of different periods of time, so they can be used to predict future events. The economists can study the general trends of changes in price levels, agricultural and industrial production, export, imports, etc.
 - (3) Economic Barometer : Just as barometer is used to measure atmospheric pressure, index numbers measure the level of economic and business behaviour. They are very important for an economist, businessman, planners, policy makers, etc.
 - (4) Helps in Measurement of Inflation :
- It helps the government to take measures against inflation by giving additional D.A. to the employees on the basis of Dearness Index.

<https://www.indcareer.com/schools/maharashtra-board-solutions-class-12-economics-chapter-6-index-numbers/>

(5) Help to adjust National Income : By comparing current year's national product prices with the base year's prices, the Domestic Product (GDP) produced. Hence, this shows changes in real national income.

(6) To present Financial Data in Real Income : Index numbers are used to adjust price change, wage change, etc. Thus deflating helps to present the financial data at constant prices.

(Note: Deflating means to make adjustments in the original data)

(7) Helps in determining Depreciation

Cost: The price index helps in determining the depreciation cost of durable goods. At the time of inflation, it is useful to know the original cost of the commodities.

7. Answer in detail:

Question 1.

Explain the steps involved in the construction of index numbers.

Answer:

Steps involved in the construction of index numbers are as follows :

1. Purpose of an Index Number : Before constructing an index number, one must know the purpose for which the index number is constructed. E.g. for the whole sale price or retail price or for agricultural – output, etc.
2. Selection of a Base Year : It is important to select a base year against which comparisons are made. So base year or reference year should be
 - (i) a recent year and not a distant past.
 - (ii) it should be normal and free from natural calamities, war, etc.
3. Selection of Commodities: When the cost of living index number of the middle class families is to be constructed, the items that are used by middle class families in everyday life should be included and items like big cars, AC's, etc. should not be included.

<https://www.indcareer.com/schools/maharashtra-board-solutions-class-12-economics-chapter-6-index-numbers/>

4. Selection of Prices : Prices differ from city to city and even from shop to shop in the same city. Hence, we should take a few standard shops from where middle class families buy goods and take the average of the prices of goods sold by them. Otherwise index number

constructed may be misleading.

5. Selection of suitable Average : An ; index number is a special kind of average, Generally arithmetic mean is commonly ? used for construction of index number as it is simple to calculate.

6. Selection of Formula : Number of formulae can be used for construction, of index numbers. Economists have to decide which formula to use for the construction of a particular index number.

7. Assigning proper Weights : Weights refer to the relative importance of different items in the construction of an index number. (Weights may either be quantity weights (q) or value weights (p). All weights may not be equally important. Therefore, by s assigning specific weights better result can be obtained.

Index Questions

Find out (Textbook Page 58) :

(a) List of crops included in the Index of Agricultural Production in India.

Answer:

Food grains : Rice, Wheat, Jowar, Bajra, Maize, Ragi, Barley and Small Millets. Gram, Tur and other pulses.

Fibres: Cotton, Jute, Mesta and Sannhemp.

Non-food grains : Oilseeds Groundnut, Sesame, Rapeseed and Mustard, Linseed, Castorseed, Safflower, Nigerseed, Soyabean, Sunflower, Coconut and Cottonseed.

Plantation crops: Tea, Coffee and Rubber.

Condiments and Spices : Pepper, Ginger, Garlic, Chillies, Turmeric, Arecanut, Coriander and Cardamom.

<https://www.indcareer.com/schools/maharashtra-board-solutions-class-12-economics-chapter-6-index-numbers/>

Fruits and Vegetables : Potato, Onion, Banana, Cashewnut, Tapioca and Sweet Potato.

Other Crops : Sugarcane, Tobacco and Guarseed.

(b) List of products included in the Index j of Industrial Production in India.

Answer:

Index of Industrial Production in ; India includes – Consumer Durable goods, Consumer non-durable goods, manufacturing goods, mining, electricity, infrastructure or construction goods, etc.

Find out (Textbook Page 59) :

Newspaper headlines related to the following types of index numbers :

- (a) Price Index
- (b) Agricultural Productivity Index
- (c) Index of Industrial Production
- (d) Equity Share Price Index

Answer:

[Students should do this activity by themselves.]



Maharashtra Board Solutions

Class 12 Economics

- Chapter 1- Introduction to Micro and Macro Economics
- Chapter 2- Utility Analysis
- Chapter 3 (A)- Demand Analysis
- Chapter 3 (B)- Elasticity of Demand
- Chapter 4- Supply Analysis
- Chapter 5- Forms of Market
- Chapter 6- Index Numbers
- Chapter 7- National Income
- Chapter 8- Public Finance in India
- Chapter 9- Money Market and Capital Market in India
- Chapter 10- Foreign Trade of India

<https://www.indcareer.com/schools/maharashtra-board-solutions-class-12-economics-chapter-6-index-numbers/>

About About Maharashtra State Board (MSBSHSE)

The Maharashtra State Board of Secondary and Higher Secondary Education or MSBSHSE (Marathi: महाराष्ट्र राज्य माध्यमिक आणि उच्च माध्यमिक शिक्षण मंडळ), is an **autonomous and statutory body established in 1965**. The board was amended in the year 1977 under the provisions of the Maharashtra Act No. 41 of 1965.

The Maharashtra State Board of Secondary & Higher Secondary Education (MSBSHSE), Pune is an independent body of the Maharashtra Government. There are more than 1.4 million students that appear in the examination every year. The Maha State Board conducts the board examination twice a year. This board conducts the examination for SSC and HSC.

The Maharashtra government established the Maharashtra State Bureau of Textbook Production and Curriculum Research, also commonly referred to as Ebalbharati, in 1967 to take up the responsibility of providing quality textbooks to students from all classes studying under the Maharashtra State Board. MSBHSE prepares and updates the curriculum to provide holistic development for students. It is designed to tackle the difficulty in understanding the concepts with simple language with simple illustrations. Every year around 10 lakh students are enrolled in schools that are affiliated with the Maharashtra State Board.

<https://www.indcareer.com/schools/maharashtra-board-solutions-class-12-economics-chapter-6-index-numbers/>

FAQs

Where do I get the Maharashtra State Board Books PDF For free download?

You can download the Maharashtra State Board Books from the eBalbharti official website, i.e. cart.ebalbharati.in or from this article.

Add image

How to Download Maharashtra State Board Books?

Students can get the Maharashtra Books for primary, secondary, and senior secondary classes from here. You can view or download the Maharashtra State Board Books from this page or from the official website for free of cost. Students can follow the detailed steps below to visit the official website and download the e-books for all subjects or a specific subject in different mediums.

Step 1: Visit the official website ebalbharati.in

Step 2: On the top of the screen, select "Download PDF textbooks"

Step 3: From the "Classes" section, select your class.

Step 4: From "Medium", select the medium suitable to you.

Step 5: All Maharashtra board books for class 11th will now be displayed on the right side.

Step 6: Click on the "Download" option to download the PDF book.

Who developed the Maharashtra State board books?

As of now, the MSCERT and Balbharti are responsible for the syllabus and textbooks of Classes 1 to 8, while Classes 9 and 10 are under the Maharashtra State Board of Secondary and Higher Secondary Education (MSBSHSE).

How many state boards are there in Maharashtra?

The Maharashtra State Board of Secondary & Higher Secondary Education, conducts the HSC and SSC Examinations in the state of Maharashtra through its nine Divisional Boards located at Pune, Mumbai, Aurangabad, Nasik, Kolhapur, Amravati, Latur, Nagpur and Ratnagiri.

<https://www.indcareer.com/schools/maharashtra-board-solutions-class-12-economics-chapter-6-index-numbers/>

About IndCareer

IndCareer.com is a leading developer of online career guidance resources for the Indian marketplace. Established in 2007, IndCareer.com is currently used by over thousands of institutions across India, including schools, employment agencies, libraries, colleges and universities.

IndCareer.com is designed to assist you in making the right career decision - a decision that meets your unique interests and personality.

For any clarifications or questions you can write to **info@indcareer.com**

Postal Address

IndCareer.com
52, Shilpa Nagar,
Somalwada
Nagpur - 440015
Maharashtra, India

WhatsApp: +91 9561 204 888

Website: <https://www.indcareer.com>

<https://www.indcareer.com/schools/maharashtra-board-solutions-class-12-economics-chapter-6-index-numbers/>