9. Chp18 Index Numbers

08 May 2024 10:44

Chp 18 Index Numbers...

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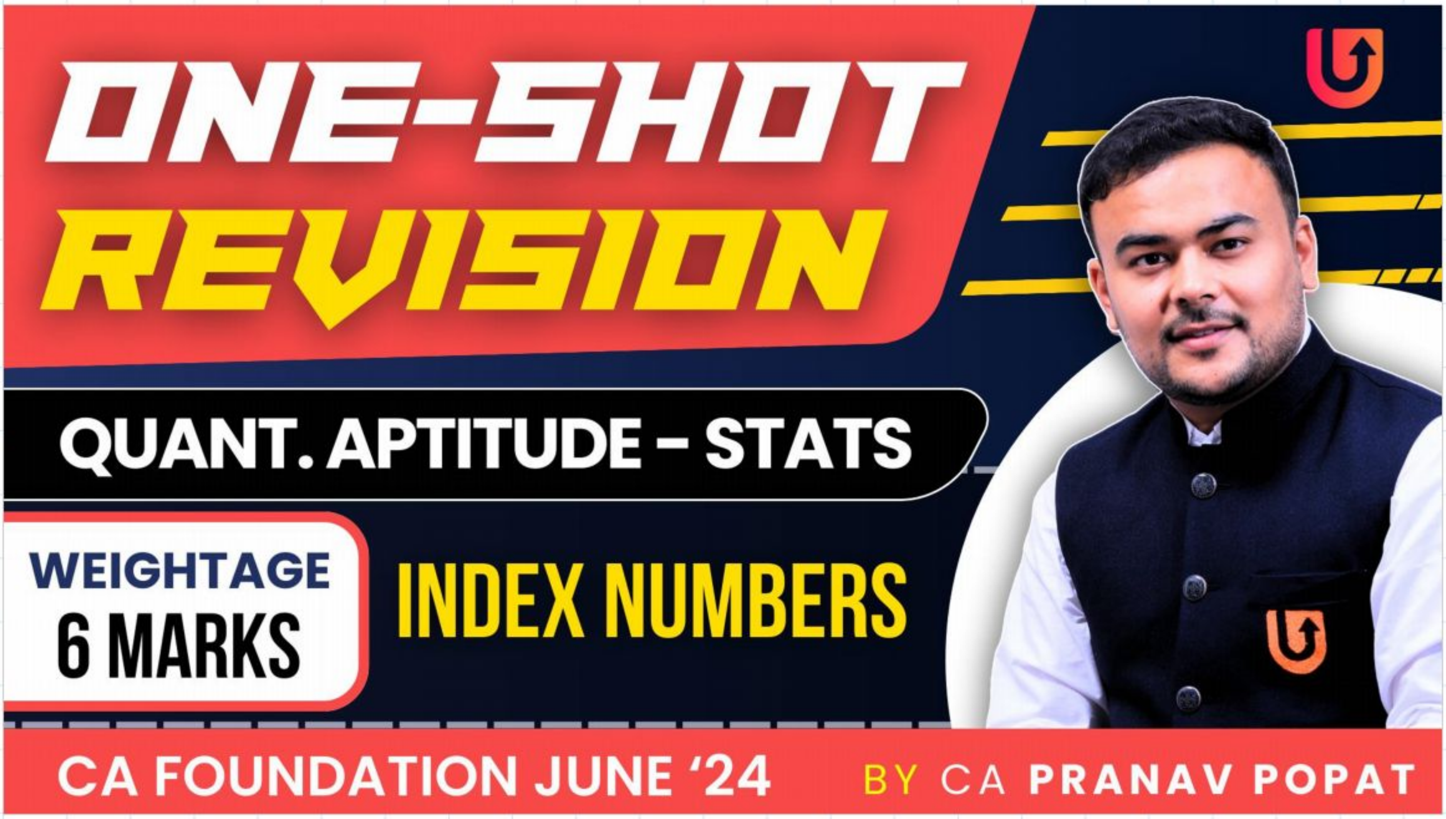

One Shot Revisions

Live Revision on YouTube

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YT Revisions – Phase I

Date	Day	Chapter Name	Category	Marks	Time
25-Apr-24	Thu	One Shot - Blood Relations	A	6	11.30 AM
27-Apr-24	Sat	One Shot - Maths for Finance	A	12	11.30 AM
28-Apr-24	Sun	One Shot - Seating Arrangements	A	4	11.30 AM
30-Apr-24*	Tue	One Shot - Statistical Description of Data	A	6	11.30 AM
02-May-24	Thu	One Shot - Direction Test	A	5	11.30 AM
04-May-24	Sat	One Shot - Central Tendency & Dispersion	A	12	11.30 AM
05-May-24	Sun	One Shot - Number Series Coding Decoding	A	5	11.30 AM
07-May-24	Tue	One Shot - Correlation Regression	B	5	11.30 AM
09-May-24#	Thu	One Shot - Index Numbers	B	6	11.30 AM
		Total		**61**	

*rescheduled to 1-May-24
#rescheduled to 8-May-24

61

Revision Phase 2 will start after 20th May

Will make a separate announcement video for the same

ab mushkil nahi kuch bhi,
nahi kuch bhi

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let's get started.

Chapter 18 – Index Numbers

Past Trends				
Attempt	*Theory*	*Practical*	*Time Series*	*Marks*
May 2018	*7*	*2*	*1*	*10*
Nov 2018	*1*	*2*	*2*	*5*
Jun 2019	*2*	*2*	*3*	*7*
Nov 2019	*1*	*1*	*3*	*5*
Nov 2020	*2*	*1*	*0*	*3*
Jan 2021	*3*	*0*	*0*	*3*
Jul 2021	*0*	*4*	*1*	*5*
Dec 2021	*4*	*1*	*0*	*5*
Jun 2022	*6*	*0*	*0*	*6*
Dec 2022	*3*	*2*	*0*	*5*
Jun 2023	*2*	*3*	*0*	*5*
Dec 2023	*2*	*3*	*0*	*5*

Theory

Practical Examples of Index Numbers	• *Index numbers are convenient devices for **measuring relative changes (generally in %)** of differences from **time to time** or from **place to place*** • *Series of numerical figures which show relative position* • *Index Numbers show percentage changes rather than absolute amounts of change*
Data Selection	• *It **depends on the purpose** for which the index is used.* • *Index numbers are often constructed from the **sample**. **Random sampling**, and if need be, a **stratified random sampling** can be used to ensure that sample is representative.* • *Data should be **comparable** by ensuring consistency in selection method.*
Base Period	• *It is a **point of reference** in comparing various data.* • *Standard point of comparison.* • *The period should be **normal**.* • *It should be **relatively recent*** • *Choice of suitable base period is a temporary solution*
Use of Averages	• *The **geometric mean is better** in averaging relatives,* • *But for most of the index's **arithmetic mean is used because of its simplicity***

Theory

Price/ Quantity/ Value Relative	*For Individual Commodity,* $\dfrac{\textit{Current Period Price/ Quantity/ Value}}{\textit{Base Period Price/ Quantity/ Value}}$
Link Relative	$\dfrac{P_1}{P_0}, \dfrac{P_2}{P_1}, \dfrac{P_3}{P_2}, \ldots, \dfrac{P_n}{P_{n-1}}$ *Same can be created for quantities also*
Chain relatives/ Chain Indices	*When the above relatives are in respect to a fixed base period these are also called the chain relatives* $\dfrac{P_1}{P_0}, \dfrac{P_2}{P_0}, \dfrac{P_3}{P_0}, \ldots, \dfrac{P_n}{P_0}$
Formula for Chain Index (when direct data is not available)	$\dfrac{\textit{Link relative of current year} \times \textit{Chain Index of previous year}}{100}$ *The chain index is an unnecessary complication unless of course where data for the whole period are not available or where commodity basket or the weights have to be changed.*

Example: Find Link Relatives and Chain Indices using the below data:

Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Price	50	60	62	65	70	78	82	84	88	90

link relatives	100	120	103.33	104.84	107.69	. . . . .
chain relative	100	120	124	130	140	. . . .

if price data not given only link relatives 'en ghain, index

	1991	1992	1993	1994	1995
Link relatives	100	120	103.33	104.84	107.69
chain rel.	100	$\frac{120 \times 100}{100} = 120$	$\frac{103.33 \times 120}{100} = 124$	$\frac{104.84 \times 124}{100} = 130$	$\frac{107.69 \times 130}{100} = 140$

Theory

Limitations of Index Numbers	• *Chances of errors due to Sampling* • *It gives broad trend not real picture* • *Due to many methods, at times it creates confusion*
Usefulness of Index Numbers	• *Index numbers are very useful in deflating (eg. Nominal wages into real)* • *Framing suitable policies in economics and business* • *They reveal trends and tendencies in making important conclusions* • *They are used in time series analysis to study long-term trend, seasonal variations and cyclical developments*
Shifted Price Index	$\frac{\text{Original Price Index}}{\text{Price Index of the year on which it has to be shifted}} \times 100$

2012 2016 2017 2018 2018 new base

100 130 144 150 100

$100 \times \frac{144}{150} = 96$

$\frac{100}{150} \times 144 = 96$

Practical

Methods of Index Numbers
Simple Aggregative Method

Method	• *Price Index is expressed as* ***total of commodity prices*** *in a given year as a percentage of total of commodity prices in the base year*
Formula	$\frac{\Sigma P_n}{\Sigma P_0} \times 100$
Merits	• *Easy to compute*
Demerits	• *Commodity with higher price will have greater influence in index value*
	• *price quotations become the concealed weights which have no logical significance* (hidden) • *If units of prices are changed, index will also change*

Example: Find Price Index of Year 1999 and 2000 taking 1998 as base using Simple Aggregative Index Method.

Commodities	1998 (Base)	1999	2000
Cheese (per 100 gm)	12.00	15.00	15.60
Egg (per piece)	3.00	3.60	3.30
Potato (per kg)	5.00	6.00	5.70
Sum	20	24.6	24.6

Index for 1999 = $\frac{24.6}{20} \times 100 = 123$

Index for 2000 = $\frac{24.6}{20} \times 100 = 123$

Example: Find Price Index of Year 1999 and 2000 taking 1998 as base using Simple Aggregative Index Method.

Commodities	1998	1999	2000
Cheese (per 100 gm)	12.00	15.00	15.60
Egg (per dozen)	36.00	43.20	39.60
Potato (per kg)	5.00	6.00	5.70
	53	64.2	60.9

Price Index 1999 $\frac{64.2}{53} \times 100 = 121.132$

Price Index 2000 $\frac{60.9}{53} \times 100 = 114.9056$

MTP June 22

(1) ☆ The simple index number for the current year using simple aggregate method for the following data

Commodity base	Base year Price (P0)	Current Year Price (P1)
Wheat	80	100
Rice	100	150
Gram	120	250
Pulses	200	300

a. 200   500   800   b. 150

c. 240   d. 160

$$\frac{800}{500} \times 100 = 160$$

Practical

Simple Average of Relatives Method	
Method	• Under this method, we invert the actual price for each variable into percentage of the base period. These percentages are called relatives. • The index number is the average of all such relatives.
Formula	$\dfrac{\Sigma \frac{P_n}{P_0}}{N}$
Merits	• One big advantage of price relatives is that they are **pure numbers**.
	• Price index number computed from relatives will remain the same regardless of the units by which the prices are quoted
Demerits	• Inspite of some improvement, the above method has a flaw that it gives **equal importance to each of the relatives** (Will not be suitable if the commodities do have equal importance in Index) • This defect can be remedied by the introduction of an appropriate weighing system

Example: Find Price Index of Year 1999 and 2000 taking 1998 as base using Simple average of Price Relatives Index Method.

Commodities	1998	1999	2000
Cheese (per 100 gm)	12.00	15.00	15.60
Egg (per piece)	3.00	3.60	3.30
Potato (per kg)	5.00	6.00	5.70

Price relatives

Cheese	100	125	130
Egg	100	120	110
Potato	100	120	114
avg of price relatives	100	121.66	118

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Example: Find Price Index of Year 1999 and 2000 taking 1998 as base using Simple average of Price Relatives Index Method.

Commodities	1998	1999	2000
Cheese (per 100 gm)	12.00	15.00	15.60
Egg (per dozen)	36.00	43.20	39.60
Potato (per kg)	5.00	6.00	5.70

egg	100	120	110

(Index same)

MTP Mar 22

(2) *The index number for the year 2012 taking 2011 as the base year from the data given below by using simple average of price relative method is*

Commodity	A	B	C	D	E
Price in 2011	115	108	95	85	90
Price in 2012	125	117	108	95	95

a. 112   b. 117

c. 120   d. 111

2012
Price relative

$$\underbrace{\left(\frac{125}{115} + \frac{117}{108} + \frac{108}{95} + \frac{95}{85} + \frac{95}{90}\right)}_{\text{avg}} \times 100 \div 5$$

109.60

Practical

Weighted Aggregative Index Method

General Points	• *Under this method we weigh the price of each commodity by a **suitable factor** often taken as the **quantity or value weight** sold during the base year or the given year or an average of some years.* • *There are various alternate formulas **(depends on base used)*** • *Here indices are shown as %*

Practical

Method Name	Remark	Formula
Laspeyres' Index	Weight – Base Year Quantity	$\frac{\Sigma P_n Q_0}{\Sigma P_0 Q_0} \times 100$
Passche's Index	Weight – Current Year Quantity	$\frac{\Sigma P_n Q_n}{\Sigma P_0 Q_n} \times 100$
Marshall-Edgeworth Index	Weight – Sum of Base Year Quantity and Current Year Quantity	$\frac{\Sigma P_n (Q_0 + Q_n)}{\Sigma P_0 (Q_0 + Q_n)} \times 100$
Fisher's Index	GM of Laspeyres' Index and Paasce's Index	$\sqrt{\frac{\Sigma P_n Q_0}{\Sigma P_0 Q_0} \times \frac{\Sigma P_n Q_n}{\Sigma P_0 Q_n}} \times 100$
Bowley's Index	AM of Laspeyres' Index and Paasce's Index	$\frac{\frac{\Sigma P_n Q_0}{\Sigma P_0 Q_0} + \frac{\Sigma P_n Q_n}{\Sigma P_0 Q_n}}{2}$

Example:

Find Price Index using all weighted aggregative index methods

Commodities		1998 (Base Year)		2020 (Current Year)	
	$q_0 + q_n$	Price P_0	Quantity q_0	Price P_n	Quantity q_n
A	19	4	10	5	9
B	7	20	3	20	4
C	4.5	50	2	44	2.5

$L = \frac{\Sigma P_n q_0}{\Sigma P_0 q_0} \times 100 = \frac{198}{200} \times 100 = 99$

$P = \frac{\Sigma P_n q_n}{\Sigma P_0 q_n} \times 100 = \frac{235}{241} \times 100 = 97.51$

$M = \frac{\Sigma P_n (q_0 + q_n)}{\Sigma P_0 (q_0 + q_n)} \times 100 = \frac{433}{441} \times 100$

$= 98.18$

$F = \sqrt{L \times P} = \sqrt{99 \times 97.51}$

$= 98.25$

$B = \frac{L+P}{2} = 98.255$

PYQ June 19

(3) *The prices and quantities of 3 commodities in base and current years are as follows:*

$\frac{\Sigma P_1 q_0}{\Sigma P_0 q_0} \times 100$

$= \frac{600}{560} \times 100 =$

p_0	p_1	q_0	q_1
12	14	10	20
10	8	20	30
8	10	30	10

The Laspeyre price index is

a. 118.13   b. 107.14

c. 120.10   d. None of these

PYQ July 21

(4) *The weighted aggregative price index turnover for 2001 with 2000 as the base year using Paasche's Index Number is:*

$\frac{\Sigma P_n q_n}{\Sigma P_0 q_n} \times 100$

Commodity	Price (In ₹)		Quantities	
	2000 P_0	2001 P_n	2000	2001 q_n
A	10	12	~~20~~	22
B	8	8	~~16~~	18
C	5	6	~~10~~	11
D	4	4	~~7~~	8

a. 112.32   b. 112.38

c. 112.26   d. 112.20

$\frac{\Sigma P_n q_n}{\Sigma P_0 q_n} = \frac{506}{451} \times 100 = \underline{\underline{112.195}}$

PYQ July 21

(5) *The weighted aggregative price index turnover for 2001 with 2000 as the base year using Marshall Edgeworth Index Number is:*

Commodity		Price In (₹)		Quantities	
	q_0+q_n	2000 p_0	2001 p_n	2000 q_0	2001 q_n
A	42	10	12	20	22
B	34	8	8	16	18
C	21	5	6	10	11
D	15	4	4	7	8

a. ✓ 112.26 b. 112.20
c. 112.32 d. 112.38

$$\frac{\Sigma p_n(q_0+q_n)}{\Sigma p_0(q_0+q_n)} \quad \frac{962}{857} \times 100 = 112.252$$

MTP Nov 21

(6) *If Laspeyres index number is 250 and Paasche index number is 160, them Fishers Index number is*

a. ✓ 200 b. 120
c. 150 d. 170

$$\sqrt{250 \times 160} = 200$$

PYQ July 21

(7) The weighted aggregative price index turnover for 2001 with 2000 as the base year using Fisher's Index Number is:

Commodity	Price (In ₹)		Quantity	
	2000 p_0	2001 p_n	2000 q_0	2001 q_n
A	10	12	20	22
B	8	8	16	18
C	5	6	10	11
D	4	4	7	8

a. 112.26 ✓ b. 112.20

c. 112.32 d. 126.01

$L = \frac{\Sigma p_n q_0}{\Sigma p_0 q_0} = \frac{456}{406} \times 100 = 112.31$

$P = \frac{\Sigma p_n q_n}{\Sigma p_0 q_n} = \frac{506}{451} \times 100 = 112.20$

$F = \sqrt{112.31 \times 112.20} = 112.254$

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PYQ Nov. 20

(8) In Laspeyre's index number is 110 and Fisher's ideal index number is 109. Then Paasche's index number is

a. 118 b. 110

c. 109 d. 108 ✓

$109 = \sqrt{110 \times P}$

$P = 108$

PYQ May 18

(9) If $\sum P_0Q_0 = 1360, \sum P_nQ_0 = 1900$ $\sum P_0Q_n = 1344$ $\sum P_nQ_n = 1880$ then Lasperey's Index number is

a. 0.71   b. 1.39

c. 1.75   d. None of these

$\frac{1900}{1360} = 1.39$

MTP Dec 22 – Series I

(10) ☆ In the data group, Bowley's and Laspyre's index number is as follows. Bowley's index number is 150, Laspyre's index number is 180 then Paasche's index number is

a. 120   b. 30

c. 165   d. None of these

$B = 150 \quad L = 180 \quad P = ?$

$150 = \frac{180 + P}{2}$

$P = 120$

Practical

Weighted Aggregative of Relative Method α

General Points	• *To overcome the disadvantage of a simple average of relative method, we can use weighted average of relative method* • *Generally weighted arithmetic mean is used although the weighted geometric mean can also be used.* • *It is same as* ***Laspeyres' Index***
Formula	$\frac{\Sigma \frac{P_n}{P_0} \times P_0 Q_0}{\Sigma P_0 Q_0} \times 100 = \frac{\Sigma P_n Q_0}{\Sigma P_0 Q_0} \times 100 \longrightarrow L$

Practical

Other Topics having practical problems

Cost of Living Index (also called General Index)	• *CLI is defined as the* ***weighted AM of index numbers*** *of few groups of basic necessities.* • *AM of group indices gives the General Index* • *Generally, for calculating CLI; food, clothing, house rent, fuel & lightning and miscellaneous groups are taken into consideration.* • *Examples of CLI: WPI, CPI, etc.*
Formula for Deflated Value	$\text{Deflated Value} = \frac{\text{Current Value}}{\text{Price Index of the current year}}$ • *It is used to calculate the value in real terms*

MTP Oct 21

(11) *From the following data for the 5 groups combined*

Group	Weights ω	Index no I
Food	35	425
cloth	15	235
Power&fuel	20	215
Rent&rates	8	115
miscellaneous	22	150

$$\frac{\Sigma wI}{\Sigma w} = \frac{26920}{100} = 269.2$$

The general Index number is

a. 270   b. 269.2 ✓

c. 268.5   d. 272.5

MTP Nov 20

(12) *In year 2005, the whole sale price index number is 286 with 1985 as base year, then how much the prices have increased in 2005 in comparison to 1995?*

a. 286%   b. 386%

c. 86%   d. ✓ 186%

$$100 \xrightarrow{+186\%} 286$$

MTP Apr 21

(13) *The cost of living index numbers in years 2015 and 2021 were 97.5 and 115 respectively. The salary of a worker in 2015 was ₹ 19,500. How much additional salary is required for him in 2021 to maintain living standard of 2015?*

a.	₹ 3000	b.	₹ 4000
c.	₹ 3500	d.	₹ 4500

	2015	2021
CLI	97.5	115
Salary	19500	

$$\frac{19500}{97.5} \times 115 = 23000$$

additional $23000 - 19500 = 3500$

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MTP March 22

(14) *Suppose a business executive was earning F₹ 2,050 in the base period. What should be his salary in the current period if his standard of living is to remain the same? Given ∑ W = 25 and ∑ IW = 3544:*

a.	₹ 2096	b.	₹ 2906
c.	₹ 2106	d.	₹ 2306

Cal of Index

$$\frac{3544}{25} = 141.76$$

$$\frac{2050}{100} \times 141.76 = 2906.08$$

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MTP Nov 20

(15) ☆ *During the certain period the C.L.I. goes up from 110 to 200 and the Salary of a worker is also raised from 330 to 500, then the change in real terms is*

a. Loss by ₹ 50
b. Loss by ₹ 75
c. Loss by ₹ 90
d. None of these

CLI	110	200
salary	330	500
Real salary (Base year)	$\frac{330}{110} \times 100 = 300$	$\frac{500}{200} \times 100 = 250$

50 loss

Theory

Test of Adequacy

Unit Test	• *This test requires that the formula should be independent of the unit in which or for which prices and quantities are quoted.* • *Except for the simple (unweighted) aggregative index all other formulae satisfy this test.*
Time Reversal Test	• *It is a test to determine whether a given method will work both ways in time, forward and backward.*
	• $P_{01} \times P_{10} = 1$ • *Laspeyres' method and Paasche's method do not satisfy this test, but Fisher's Ideal Formula does.*

Theory

Factor Reversal Test	• *This holds when the product of price index and the quantity index should be equal to the corresponding value index.* • *Symbolically* $$P_{01} \times Q_{01} = V_{01}$$ • *Fisher's Index Number is ideal as it satisfies Unit, Time Reversal and Factor Reversal Test*
Circular Test	• *This property therefore enables us to adjust the index values from period to period without referring each time to the original base.* • *It is an extension of time reversal test* • *The test of this **shiftability of base** is called the circular test.* • *This test is not met by Laspeyres, or Paasche's or the Fisher's ideal index.* • *The weighted GM of relative, **simple geometric mean of price relatives** and the **weighted aggregative with fixed weights meet this test.*** *(These methods are not in syllabus)*
Symbol of Index	• P_{01} *is the index for time 1 on 0* 01 1 on 0 • P_{10} *is the index for time 0 on 1* 10 0 on 1

Theory

Concept Insights (Newly Added)

Stock Market Index	• *It represents the entire stock market. It shows the changes taking place in the stock market.* • *Movement of index is also an indication of average returns received by the investors.* • *With the help of an index, it is easy for an investor to compare performance as it can be used as a benchmark, for e.g. a simple comparison of the stock and the index can be undertaken to find out the feasibility of holding a particular stock.* • *Examples: India – Sensex of BSE, Nifty of NSE*
Bombay Stock Exchange Limited	• *It is the oldest stock exchange in Asia and was established as "The Native Share & Stock Brokers Association" in 1875.* • *The Securities Contract (Regulation) Act, 1956 gives permanent recognition to Bombay Stock Exchange in 1956.* • *BSE became the first stock exchange in India to obtain such permission from the Government under the Act.* • *BSE Sensex contains basket of 30 constituent stocks. The base year of BSE SENSEX is 1978-79 and the base value is 100 which has grown over the years and quoted at about 592 times of base index as on date.* • *As the oldest Index in the country, it provides the time series data over a fairly long period of time (from 1979 onward).*
National Stock Exchange	• *NSE was incorporated in 1992. It was recognized as a stock exchange by SEBI in April 1993 and commenced operations in 1994.*

Theory

	• *NIFTY50 is a diversified 50 stocks Index of 13 sectors of the economy.* • *The base period of NIFTY 50 Index is 3 November 1995 and base value is 1000 which has grown over years and quoted at 177 times as on date.*
	Following steps are involved in calculation of index on a particular date: • *Calculate market capitalization of each individual company comprising the index*

Market Capitalization Weighted Method	*Following steps are involved in calculation of index on a particular date:* • *Calculate market capitalization of each individual company comprising the index.* • *Calculate the total market capitalization by adding the individual market capitalization of all companies in the index.* • *Computing index of next day requires the index value and the total market capitalization of the previous day and is computed as follows:* • $index\ value\ today =$ $index\ on\ previous\ day \times \frac{total\ market\ capitalisation\ for\ current\ day}{total\ market\ capitalisation\ for\ previous\ day}$ *Note: almost all equity indices worldwide are calculated using the market capitalization weighted method.*
CPI	• *Consumer Price Index/ Cost of living Index or Retail Price Index is the Index which measures the effect of change in prices of basket of goods and services on the purchasing power of specific class of consumer during any current period w.r.t to some base period.*
WPI	• *Whole Sale Price Index - The WPI measures the relative changes in prices of commodities traded in wholesale market.*

Theory MCQs

Study Mat

(16) *A series of numerical figures which show the relative position is called*

a. *index number*
b. *relative number*
c. *absolute number*
d. *None of these*

Study Mat

usually

(17) *Index number for the base period is always taken as*

a. *200* b. *50*
c. *1* d. *100*

Study Mat

(18) ________ *play a very important part in the construction of index numbers.*

a. *weights* b. *classes*
c. *estimations* d. *none*

Study Mat

(19) ________ *is particularly suitable for the construction of index numbers.*

a. *H.M* b. *A.M*
c. *G.M* d. *None*

Study Mat

(20) *Index numbers show* ________ *changes rather than absolute amounts of change.*

a. *relative* b. *percentage*
c. *both* d. *None*

Study Mat

(21) The ________ makes index numbers time-reversible.

a.	A.M	b.	G.M
c.	H.M	d.	None

Study Mat

(22) Price relative is equal to

a. $\dfrac{\text{Price in the given year} \times 100}{\text{Price in the base year}}$

b. $\dfrac{\text{Price in the year base year} \times 100}{\text{Price in the given year}}$

c. Price in the given year $\times$ 100

d. Price in the base year $\times$ 100

Study Mat

(23) Index number is equal to

a. sum of price relatives
b. average of the price relatives
c. product of price relative
d. None

Study Mat

(24) The ________ of group indices gives the General Index

a.	H.M	b.	G.M
c.	A.M	d.	None

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Study Mat

(25) Circular Test is one of the tests of

a.	index number	b.	hypothesis
c.	both	d.	None

Study Mat

(26) ___________ is an extension of time reversal test

a. Factor Reversal test
b. Circular test
c. both
d. None

Study Mat

(27) Weighted G.M. of relative formula satisfy ________test

a. Time Reversal Test
b. Circular test
c. Factor Reversal Test
d. None

Study Mat

(28) Factor Reversal test is satisfied by

a. Fisher's Ideal Index
b. Laspeyres Index
c. Paasches Index
d. None

Study Mat

(29) *Laspeyre's formula does not satisfy*

a. Factor Reversal Test
b. Time Reversal Test
c. Circular Test
d. all the above

Study Mat

(30) *A ratio or an average of ratios expressed as a percentage is called*

a. a relative number
b. an absolute number
c. an index number
d. None

Study Mat

(31) *The value at the base time period serves as the standard point of comparison*

a. false   b. true
c. both   d. none

Study Mat

(32) *An index time series is a list of _______ numbers for two or more periods of tim*

a. index   b. absolute
c. relative   d. None

Study Mat

(33) *Index numbers are often constructed from the*

a. frequency   b. class
c. sample   d. none

Study Mat

(34) *________ is a point of reference in comparing various data describing individual behaviour*

a. Sample   b. Base period
c. Estimation   d. None

Study Mat

(35) *The ratio of price of single commodity in a given period to its price in the preceding year price is called the*

a. base period   b. price ratio
c. relative price   d. None

Study Mat

(36) $$\frac{\text{Sum of all commodity prices in the current year} \times 100}{\text{Sum of all commodity prices in the base year}}$$ *is*

a. Relative Price Index
b. Simple Aggregative Price Index
c. both
d. None

Study Mat

(37) Chain index is equal to

a. $\dfrac{\text{link relative of current year} \times \text{chain index of the current year}}{100}$

b. $\dfrac{\text{link relative of previous year} \times \text{chain index of the current year}}{100}$

c. $\dfrac{\text{link relative of current year} \times \text{chain index of the previous year}}{100}$

d. None

Study Mat

(38) P_{01} is the index for time

P_{01}

a. 1 on 0

b. 0 on 1

c. 1 on 1

d. 0 on 0

Study Mat

(39) P_{10} is the index for time

P_{10}

a. 1 on 0

b. 0 on 1

c. 1 on 1

d. 0 on 0

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Study Mat

(40) When the product of price index and the quantity index is equal to the corresponding value index then the test that holds is

$P_{01} \times Q_{01} = V_{01}$

a. Unit Test

b. Time Reversal Test

c. Factor Reversal Test

d. none holds

Study Mat

(41) The formula should be independent of the unit in which or for which price and quantities are quoted in

a. Unit Test

b. Time Reversal Test

c. Factor Reversal Test

d. None

Study Mat

(42) Laspeyre's method and Paasche's method do not satisfy

a. Unit Test

b. Time Reversal Test

c. Factor Reversal Test

d. b & c

Study Mat

(43) The purpose determines the type of index number to use

a. yes

b. no

c. may be

d. may not be

Study Mat

(44) *The index number is a special type of average*

a.	false	b.	true
c.	both	d.	None

Study Mat

(45) *The choice of suitable base period is at best temporary solution*

a.	true	b.	false
c.	both	d.	None

Study Mat

(46) *Fisher's Ideal Formula for calculating index numbers satisfies the _______ tests*

a. Unit Test
b. Factor Reversal Test
c. both
d. None

Study Mat

(47) *Fisher's Ideal Formula dose not satisfy _________ test*

a. Unit Test
b. Circular Test
c. Time Reversal Test
d. None

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Study Mat

(48) *________________ satisfies circular test*

a. G.M. of price relatives or the weighted aggregate with fixed weights
b. A.M. of price relatives or the weighted aggregate with fixed weights
c. H.M. of price relatives or the weighted aggregate with fixed weights
d. None

Study Mat

(49) *Laspeyre's and Paasche's method _________ time reversal test*

a. satisfy
b. do not satisfy
c. are
d. are not

Study Mat

simple

(50) *There is no such thing as unweighted index numbers*

a.	false	b.	true
c.	both	d.	None

Study Mat

(51) *Theoretically, G.M. is the best average in the construction of index numbers but in practice, mostly the A.M. is used*

a.	false	b.	true
c.	both	d.	None

Study Mat

(52) *Laspeyre's or Paasche's or the Fisher's ideal index do not satisfy*

a. Time Reversal Test
b. Unit Test
c. Circular Test
d. None

Study Mat

(53) ___________ *is concerned with the measurement of price changes over a period of years, when it is desirable to shift the base*

a. Unit Test
b. Circular Test
c. Time Reversal Test
d. None

Study Mat

(54) *The test of shifting the base is called*

a. Unit Test
b. Time Reversal Test
c. Circular Test
d. None

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Study Mat

(55) *The formula for conversion to current value i.e. Deflated Value =*

a. $\frac{\text{price index of the current year}}{\text{previous value}}$

b. $\frac{\text{current value}}{\text{price index of current year}}$

c. $\frac{\text{price index of the previous year}}{\text{previous value}}$

d. None

Study Mat

(56) $\text{shifted price index} = \frac{\text{original price index} \times 100}{\text{price index of the year on which it has to be shifted}}$

a. True
b. False
c. Both
d. None

Study Mat

(57) *The number of test of Adequacy is*

a. 2
b. 5
c. 3
d. 4

		Study Mat
(58)	*We use price index numbers*	
	a.	*To measure and compare prices*
	b.	*to measure prices*
	c.	*to compare prices*
	d.	*None*
		Study Mat
(59)	*Simple aggregate of quantities is a type of*	
	a.	*Quantity control*
	b.	*Quantity indices*
	c.	*both*
	d.	*None*