INDIAN SCHOOL AL WADI AL KABIR

Class: XI	**Department: Commerce**
Worksheet No: 1	**Topic: INDEX NUMBER**

1. **Which of the following are the major characteristics of index numbers?**
    a. It is expressed in percentages
    b. It measures the net or relative changes in variables
    c. It measures changes over a period of time
    d. All of the above
2. **The index number for base year is always _____.**
    a. 1000
    b. 200
    c. 100
    d. None of the above
3. **The time period for which an index number is determined is known as _____.**
    a. Base period
    b. Normal period
    c. Current period
    d. None of the above
4. **Index number is a type of _____.**
    a. Dispersion
    b. Correlation
    c. Average
    d. None of the above
5. **Which of the following statements is/are correct about average prices if the price index is 110?**
    a. The prices have increased by 10 per cent
    b. The prices have increased by 110 per cent
    c. The prices have decreased by 10 per cent
    d. None of the above
6. **Which of the following are limitations of using index numbers?**
    a. The use of each index number is restricted to a specific object
    b. It ignores the quality of commodities

c. It is useful only for short term comparison
d. All of the above

7. **Which of the following is the variation within two or more variable studies by the index?**
    a. Price index
    b. Composite index
    c. Simple index
    d. None of the above
8. **The weights used in a quantity index are _____.**
    a. Quantity
    b. Values
    c. Price
    d. None of the above
9. **Which of the following methods is used to calculate the Consumer Price Index?**
    a. Laspeyres's formula
    b. Fisher's formula
    c. Palgrave's formula
    d. None of the above
10. **An index number that can serve many purposes is known as a _____.**
    a. General purpose index
    b. Special purpose index
    c. Both a and b are incorrect
    d. Both a and b are correct
11. **Fisher's method of calculating the index number is based on the _____.**
    a. Geometric mean
    b. Arithmetic mean
    c. Harmonic mean
    d. None of the above
12. **What is the name of the monthly price index that takes price changes in consumer goods and services and uses it to determine changes in the price of those products over a period of time?**
    a. Wholesale price index
    b. Consumer price index
    c. Paasche's index
    d. None of the above
13. **Which of the following is the index that is used to measure changes in total money value?**
    a. Value index
    b. Price index
    c. Quantity index
    d. None of the above
14. **Commodities that show considerable price fluctuations can be measured by a _____.**

a. Value index
b. Price index
c. Quantity index
d. None of the above

15. **The purchasing power of money is _____.**
a. Not equal to the price index number
b. Reciprocal of the price index number
c. Equal to the price index number
d. None of the above

16. The Paasche's index number is based on:
a. Base year quantities
b. Current year quantities
c. Average of current and base years
d. None of the above

17. In notation P01, 1 stand for:
a. Current year
b. Reference year
c. Both (a) and (b)
d. None of these

18. Consumers Price Index is also known as:
a. Industrial Production Index
b. Cost of Living Index
c. Wholesale Price Index
d. None of these

19. Which of the following index number, indicates the change in the industrial production?
a. Nifty
b. GDP
c. CPI
d. IIP

20. The aggregate index formula using base period quantities is known as:
a. Laspeyre's index
b. Fisher's ideal index
c. Bowley's index
d. Paasche's index

21. We use price index numbers:
a. To measure and compare prices
b. To compare prices
c. To measure prices
d. None of these

22. Index number for the base period is always taken as:
a. 100

b. 50
c. 1
d. 200
A: a

23.Price of top 30 shares of Bombay Stock exchange increased, which of these will increase?
a. WPI
b. CPI
c. Inflation rate
d. Sensex

24. Whose formula is ideal for construction of Index Number?
a. Pasche's formula
b Laspeyre's formula
c Fisher's formula
d None of these

Case Study

Question: Direction Read the following case study and answer the question no. (i) to (vi) on the basis of the same.
We frequently see index numbers, such as the Consumer Price Index (CPI), in our daily life.
Economists often use the index numbers to compare values measured at different points in time. Using an index can make quick comparisons easy. The index numbers have become a widely accepted statistical device for measuring business activity changes. A typical use of the index number technique in business is to summarize complex situations with a single performance index so that a dashboard (or report) would have enough space to show all KPIs. An index number is used to measure changes in the magnitude of a variable or group of variables regarding time,geographical location, or other characteristics such as profession.
IT professionals who need to analyse economic and business activities, but have limited experience in statistics, want to learn how to construct and interpret performance indexes. Index numbers are also not free from criticism as its base year and commodity selection requires a lot of attention and expert attention.

Question: Choose the correct statement from given below
(a) Index numbers are cent percent accurate
(b) There is null possibility of biasness in case of index numbers
(c) Index number is based upon all the items given in the data
(d) All of the above

Answer: C

Question: Which of the following problems comes in the construction of index numbers?
(a) Selection of base year
(b) Selection of commodities
(c) Selection of quantities
(d) All of these

Answer: D

Question: Index numbers can be used in which of the following fields?
(a) Geographical areas
(b) Change in magnitude of a variable
(c) Change in time periods
(d) All of the above

Answer: D

Question: Application of index numbers which is based on data related to different time period is known as ..... .
(a) Time series data
(b) Temporal data
(c) Inter-temporal data
(d) All of these

Answer: D

Question: Assertion (A) Selection of incorrect base leads to mis-leading conclusion.
Reason (R) A year with high fluctuations in prices should not be considered as base year.
Alternatives
(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).
(b) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A)
(c) Assertion (A) is true, but Reason (R) is false
(d) Both are false

Answer: A

Question: Economists often use the index numbers to .....values measured at different points in time.
(a) measure
(b) change
(c) compare
(d) All of these

A: a

2/3 marks Questions

1. Define the following:

i. Consumer Price Index

ii. Wholesale Price Index

iii. Index numbers

iv. Producer index numbers (Refer notes)

v. Sensex: It is a useful guide for investors in the stock market. If the Sensex is rising, investors are optimistic of the future performance of the economy.

2. What are the two types of price index numbers?

i. Simple or Unweighted

ii. Weighted index numbers

3. Mention two important uses of Index Numbers.

a. They are indispensable in economic policy making.

b. They measure and permit comparison of the prices of certain goods.

4. Mention two important limitations of Index Numbers.

a. Index numbers are only estimates---they are true only on an average.

b. Index numbers prepared for one purpose cannot be effectively used for other purposes

c. Index numbers do not help in international comparison.

d. It is difficult to collect retail prices so index numbers based on wholesale prices may be misleading.

5. Discuss the main problems which are faced in the construction of Index Numbers.

a. Purpose of the index number is to be absolutely clear, in order to avoid confusion.

b. Selection of the items to be included is to be done very carefully and suitably, in order to get a meaningful picture of the change involved.

c. selection of the source of data.

NUMERICALS:

1.

. Construct Cost of Living Index on the basis of the following data:

Items	Price	Weight
Wheat	241	10
Rice	150	4
Maida	200	2
Pulses	170	2
Oil	125	2

(200)

2.

In 2011 wheat was selling at an average price ₹ 120 per 20 kg, cloth ₹ 20 per metre, house rent ₹ 300 per house and other items ₹ 100 per unit. By 2019 cost of wheat rose by ₹ 180 per 20 kg, house rent by ₹ 450 and other items doubled in price. Using relative prices, index number for the year 2019 with 2011 as base year was 160. By how much the cloth rose in price during the period?

(A: Rs 8 per meter)

3.

Construct the price index from the following data, by taking 2011 as the base year.

Items	A	B	C	D	E
Price in 2011 (₹)	6	2	4	10	8
Price in 2019 (₹)	15	3	8	14	16

(A: 186.6)

4. From the set of statements given in Column 1 and Column II, choose the correct pair of Statements:

Column I	Column II
(i) Index numbers	(a) Measure absolute changes in the variable(s) over time
(ii) Laspeyre's method of index number	(b) Current year quantities are used as the weights of different items
(iii) Fisher's index number	(c) Satisfies only Time Reversal Test
(iv) Weighted index numbers	(d) A weighted average of the prices of different goods
(v) Consumer price index	(e) Applied to calculate the rate of inflation in a country

A: iv

5. Find out the price index of the year 2018, assuming 2016 as the base year of the following data by using simple average of price relative method:

Commodity:	Wheat	Sugar	Rice	Potato	Salt
P-2016 (Rs):	800	1100	400	500	300
P- 2018 (Rs):	900	1200	600	700	500

(A: 135.65)

6.

Given the following data and taking 2011 as the base year, construct index of prices using:
(i) Laspeyre's Method, (ii) Paasche's Method, and (iii) Fisher's Method.

Year	Commodities							
	A		B		C		D	
	Price	Quantity	Price	Quantity	Price	Quantity	Price	Quantity
2011	24	8	9	3	16	5	10	3
2019	30	10	10	4	20	8	9	4

(A: Laspeyre's: 120.67, Paasche's method: 120.72, Fisher's method:120.69)

7. Calculate weighted aggregate price index from the following using: i. Laspeyre's method.
ii. Paasche's method.

Commodity	Base Period		Current Period	
	Price	Quantity	Price	Quantity
A	10	6	15	8
B	25	10	40	20
C	30	15	45	12
D	15	20	30	15
E	20	8	25	6

A: (Laspeyre's : 161.06 , Paasche's : 160.31)

8. Calculate weighted average of price relative index from the following data:

Commodity	weight in (%)	Base Yr Price (Rs)	Current Yr Price (Rs)
A	40	2	4
B	30	5	6
C	20	4	5
D	10	2	3

(A: 156)

9. Calculate the simple Aggregative Price Index on the basis of the following data:

Commodity	Price (2018) (Rs)	Price (2019) (Rs)	
Rice	120	180	
Wheat	80	100	
Oil	300	400	
Pulses	130	180	
Sugar	150	200	**(A: 135.89)**