ECONOMICS

BOOKS - VK GLOBAL PUBLICATION ECONOMICS (HINGLISH)

ARITHMETIC LINE-GRAPHS OR TIME SERIES GRAPHS

Illustration

1. Following table shows production of a factory between January and June. Present the information in the form of a one variable time series graph.

Month	January	February	March	April	May	June
Production (Quintals)	5	7.5	5	10	12.5	15

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2. Following table gives hypothetical figures of exports from India during the years 2013-14 to 2017-18. Present the information in the form of a suitable graph.

Year	2013 − 14	2014 − 15	2015 − 16	2016 − 17	2017 −
Exports (Rs. core)	600	640	670	780	900

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3. The following table gives data on the production and sales of a factory (in thousand rupees) between January and June. Present the information in the form of a two variable arithmetic-line graph.

Month	January	February	March	April	May	June
Production	5	7.5	5	10	12.5	15
Sales	7.5	10	7.5	12.5	15	17.5

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4. Represent the following data (hypothetical data) graphically:

Year	2012	2013	2014	2015	2016
Production of Wheat (in million tonnes)	5	8	13	16	20

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5. Represent the following data related to population (in thousands) of men and women in a village in different years graphically:

Year	2012	2013	2014	2015	2016	2017	2018
Number of Men	10	13	15	14	17	18	21
Number of Women	12	18	16	17	20	22	24

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6. Draw the graph of interest on deposits for a year:

Deposite (in Rs.)	10,000	20,000	30,000	40,000	50,000
Interest (in Rs.)	750	1,500	2,300	3,300	4,400

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7. Represent the following data related to export and imports to India (hypothetical figures) graphically:

Year	2012	2013	2014	2015	2016	2017	2018
Exports (in Rs. crore)	300	350	400	380	450	280	250
Imports (in Rs. crore)	420	460	600	480	550	450	400

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1. Arithmetic line-graphs are also known as:

A. linear graphs

B. non-linear graphs

C. time series graphs

D. none of these

Answer: C

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2. Axis divides the plain of a paper into :

A. two quadrants

B. three qaudrants

C. four quadrants

D. none of these

Answer: C

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3. In the first quadrant, the values of X and Y are :

A. $+ve$

B. $-ve$

C. X is +ve and Y is -ve

D. none of these

Answer: A

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4. If the values in series are very large and the difference between the smallest value and zero is high, then we use_____base line.

A. original

B. false

C. true

D. none of these

Answer: B

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5. In which quadrant, the value of X will be positive but that of Y will be negative ?

A. 1st

B. 2nd

C. 3rd

D. 4th

Answer: D

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6. Graphs are always drawn with reference to :

A. scale

B. origin

C. both (a) and (b)

D. none of these

Answer: A

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B Fill In The Blank

1. A graph showing_____values of a variable on a graph paper is called arithmetic line-graph. (arithmetic/geometric)

2. In_____quadrant, the value of X will be negative but that of Y will be positive. (second/third)

3. False base line is used when there is big difference between the smallest value and _____. (highest value/zero)

4. In_____, values of two or more than two variables are simultaneously shown with respective to some period of time. (one variable graphs/two variable graphs)

C True Or False

1. Graphic presentation helps to identify correlation between the variables. (True/False)

2. In the third quadrant the values of both X and Y are negative. (True/False)

D Concept Based Objective Questions

1. What are time series graphs?

Or

What are arithmetic-line graphs ?

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2. What is false base line?

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3. How many types are there of time series graphs?

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4. State one merit of graphic presentation of time series data.

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5. State one limitation of graphic presentation of time series data.

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Short Answer Type Questions

1. Define a graph. Describe its types.

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2. What is graphic presentation? Explain the rules for the contruction of a graph.

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3. Describe the general rules of constructing a diagram.

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4. Describe the advantage s of graphic presentation.

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5. Describe the limitations of graphic presentation.

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Long Answer Type Questions

1. What is meant by graphic presentation of a data? Discuss the procedure you would adopt in constructing graphs.

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2. What are uses or a advantages of graphic presentation of the statistical data ? Discuss its limitations.

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3. Explain hoe a time series graph is prepared. Also distinguished between one variable and two variable time series graphs.

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Essential Practicals

1. Plot the annual profits of a firm on a time series graph:

Year	2013	2014	2015	2016	2017	2018
Profit ('000 Rs.)	60	72	75	65	80	95

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2. Plot the following hypothetical figures on time series graphs:

Year	Imports(Rs. thousand crore)	Exports (Rs. thousand crore)
2013 – 14	123	106
2014 – 15	178	140
2015 – 16	215	159
2016 – 17	231	203
2017 – 18	245	209

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3. The following are the figures of sales of two firms A and B for the years 2011-2018. Present the dats graphically.

Year	Sales of Firm A (in thousand units)	Sales of Firm B (in thousand units)
2011	15	4
2012	17	9
2013	20	11
2014	19	12
2015	25	8
2016	28	10
2017	29	13
2018	27	12

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4. The following are the sales figures of TVs of Firm A, during 2013, 2018:

Year	2013	2014	2015	2016	2017	2018
Sale (in thousand units)	2,155	2,201	2,190	2,250	2,095	2,170

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1. Data represented through arithmetic line graph help in understanding:

(i) long term trend (ii) cyclicity in data

(iii) seasonality in data (iv) all of the above

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2. The following table shows the estimated sectoral real growth rates (percentage change over the previous year) in GDP at factor cost.

Year	Agriculture and Allied Sectors	Industry	Services
(1)	(2)	(3)	(4)
1994–95	5.0	9.2	7.0
1995–96	−0.9	11.8	10.3
1996–97	9.6	6.0	7.1
1997–98	−1.9	5.9	9.0
1998–99	7.2	4.0	8.3
1999–2000	0.8	6.9	8.2

Represent the data as multiple time series graph.

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