

Section -A

Year	Population(Crores)
1951	36
1961	44
1971	55
1981	68
1991	84

1736 1 . Population of India in 5 Censual year is given, represent this by Simple bar diagram.

Year	Population(Crores)
2000	46
2005	44
2010	56
2015	69
2020	85

1737 2 . Population of India in last 20 year is given, represent this by Simple bar diagram.

1738 3 . Draw a multiple bar diagram for the following data.

Year	Sales(000Rs.)	GrossProfit(000Rs.)	NetProfit(000Rs.)
1974	100	30	10
1975	120	40	15
1976	130	45	25
1977	150	50	25

1739 4 . Draw a Histogram for the following

Size	2 – 5	5 – 8	8 – 11	11 – 14	14 – 17	17 – 20
Frequency	15	20	30	40	25	10

1740 5 . Explain about the various types of diagrams.

1741 6 . Give the Diagrammatic Representation of a Histogram for the following data:

Class	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80	80 – 90
Frequency	4	6	7	14	16	14	8	16	5

1742 7 . Draw a Histogram for the following

Size	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80
Frequency	8	12	6	7	5

1743 8 . Draw a Histogram for the following

Size	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80
Frequency	3	5	12	8	4

1744 9 . Draw a frequency polygon for the following:

Age(inyears)	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80
No.ofPersons	5	12	19	21	18	10	4

1745 10 . Draw a frequency polygon for the following

Size	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80
Frequency	3	5	12	8	4

1746 11 . The wages of 5 families in Rupees are given below.Find the Mean

Family	P	Q	R	S	T
Wages	100	70	50	75	90

1747 12 . The expenditure of 10 families in Rupees are given below.Find the Mean

Family	A	B	C	D	E	F	G	H	I	J
Expenditure	30	70	10	75	500	8	42	250	40	36

1748 13 . Find the Arithmetic Mean for the following data

Height	120	122	124	126	128	130
No. of students	5	7	9	6	4	10

1749 14 . Evaluate the mean number of persons per house for the data given below

No. persons per house	2	3	4	5	6	Total
No. of house	10	25	30	25	10	100

1750 15 . Find Median for the following data 10, 9, 11, 5, 6, 12, 0, 22, 23

1751 16 . Find Median for the following data 6, 9, 21, 5, 7, -2, 0, 32, 9

1752 17 . Calculate the Mean value of the first 10 natural numbers

1753 18 . Write Mode for the following 2,5,3,7,3,8,3,7.

1754 19 . Find the Harmonic Mean 6, 15, 35, 40, 900, 520, 300, 400, 1800, 2000.

1755 20 . Can you write the formula for Geometric mean

1756 21 . Calculate Range from the following data 8, 10, 5, 9, 12, 11

1757 22 . Calculate the Standard Deviation for 77, 73, 75, 70, 72, 76,75,72,74,76

1758 23 . Can you write the formula for first quartile and Third quartile

1759 24 . Evaluate the range

Size	60 – 62	63 – 65	66 – 68	69 – 71	72 – 74
Number	5	18	42	2	5

1760 25 . Evaluate the coefficient f the Range

Size :	60 – 62	63 – 65	66 – 68	69 – 71	72 – 74
Number :	5	18	42	2	5

- 1761 26 . Find the quartile deviation 391, 384, 591, 407, 672, 522, 777, 733, 1490, 2488.  
 1762 27 . What do you mean by Range?  
 1763 28 . Calculate mean deviation for the items 8, 4, 12, 9, 16, 12, 9, 9, 13  
 1764 29 . Calculate mean deviation for the items 7, 4, 10, 9, 15, 12, 7, 9, 7.  
 1765 30 . Find mean deviation for the data below

<i>X</i>	2	4	6	8	10
<i>F</i>	1	4	6	4	1

- 1766 31 . Find the coefficient of correlation *r* if  $b_{xy} = 1/3$  and  $b_{yx} = 3/4$   
 1767 32 . Find the coefficient of correlation *r* if  $b_{xy} = -4$  and  $b_{yx} = -1/9$   
 1768 33 . From the following data Find the coefficient of correlation

$$N = 11, \sum X = 117, \sum Y = 260, \sum X^2 = 1313, \sum Y^2 = 6580, \sum XY = 2827$$

- 1769 34 . For the data given below, calculate the rank correlation coefficient.

( <i>RankX</i>	8	7	6	3	2	1	5	4)
<i>Y</i>	7	5	4	1	3	2	6	8)

- 1770 35 . For the data given below, calculate the rank correlation coefficient.

( <i>X</i>	21	36	42	37	25)
<i>Y</i>	47	40	37	42	43)

- 1771 36 . Find the coefficient of correlation.

$$N = 9, \sum X = 225, \sum Y = 314, \sum X^2 = 5685, \sum Y^2 = 11080, \sum XY = 7767$$

- 1772 37 . Can you write the formula for Karl pearson coefficient of correlation  
 1773 38 . Can you find the value of  $b_{xy}$  for the regression equations  $6x+10y = 700$   
 1774 39 . Can you write the formula for Spearman rank correlation  
 1775 40 . Write down the formula for 1) Laspeyre's (2) Paasche's index numbers  
 1776 41 . Evaluate the Price Index based on the simple average of price relatives by using arithmetic mean:  

<i>Commodities</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>	<i>F</i>	<i>G</i>	<i>H</i>
Price in 2018(Rs.)	40	120	140	130	60	70	65	75
Price in 2019(Rs.)	60	140	170	135	100	80	75	80

- 1777 42 . Explain about cost of living index numbers

- 1778 43 . From the following data construct an index for 2017 taking 2016 as base:

<i>Commodities</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>
Price in 2016(Rs.)	50	40	80	110	20
Price in 2017(Rs.)	70	60	90	120	20

- 1779 44 . Compute cost of living index number.
- |                     |             |             |                 |             |               |
|---------------------|-------------|-------------|-----------------|-------------|---------------|
| <i>Commodities</i>  | <i>Food</i> | <i>Fuel</i> | <i>Clothing</i> | <i>Rent</i> | <i>others</i> |
| <i>IndexNumbers</i> | 352         | 220         | 230             | 160         | 190           |
| <i>Weights</i>      | 48          | 10          | 8               | 12          | 15            |

<i>Item</i>	<i>Baseyearprice</i>	<i>Currentyearprice</i>	<i>Weight</i>
<i>Food</i>	39	47	4
<i>Fuel</i>	8	12	1
<i>Clothing</i>	14	18	3
<i>House rent</i>	12	15	2
<i>Miscellaneous</i>	25	30	1

- 1781 46 . Write down the formula for i) Paasche's and (ii) Fisher's index numbers  
 1782 47 . Evaluate the Price Index based on the simple average of price relatives by using arithmetic mean:  

<i>Commodities</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>	<i>F</i>	<i>G</i>	<i>H</i>
Price in 2020(Rs.)	50	80	140	130	60	70	60	78
Price in 2019(Rs.)	65	140	160	140	100	80	50	90

<i>Item</i>	<i>Baseyearprice</i>	<i>Currentyearprice</i>	<i>Weight</i>
<i>Food</i>	40	47	12
<i>Fuel</i>	10	12	15
<i>Clothing</i>	16	15	13
<i>House rent</i>	12	15	21
<i>Miscellaneous</i>	22	30	14

**Section -B**

- 1784 1 . Draw a Histogram for the following data:  

<i>Class</i>	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80	80 – 90
<i>Frequency</i>	8	15	30	45	50	35	29	42

 1785 2 . Draw a Histogram for the following data:  

<i>Class</i>	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80	80 – 90
<i>Frequency</i>	10	25	36	46	52	31	28	22

- 1786 3 . List a Frequency table using tally marks for the following values  
 37 47 32 26 21 41 38 41 50 45 52 46 37 45 31 40 44 48 46 16 30 40 36 32 4733 38 39 37 32 40 38  
 1787 4 . List a Frequency table using tally marks for the following values  
 45 36 55 51 22 38 56 41 50 45 52 46 37 45 49 40 44 48 46 36 30 40 36 15 47

1788 5 . Draw a frequency curve for the following:  

Age(inyears) :	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80
No.ofPersons :	5	12	19	21	18	10	4

1789 6 . Draw a Frequency polygon for the following:  

Class	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80	80 – 90
Frequency	4	6	7	14	16	14	8	16	5

1790 7 . Draw a frequency polygon.  

Size	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80
Frequency	3	5	12	8	4

1791 8 . Draw a histogram  

Size	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80
Frequency	3	5	12	8	4

1792 9 . calculate the mean from the following data by using analysis table

Value	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70
Frequency	18	41	90	131	140	54	15

1793 10 . Compute median from the following data:  

Midvalues	115	125	135	145	155	165	175	185	195
frequency	6	25	48	72	116	60	38	22	3

1794 11 . The marks scored by the students of a class are given below. Find the median mark

Marks	3	4	5	6	7	8	9	10	Total
No. of students	1	5	6	7	10	15	10	5	59

1795 12 . Evaluate the Harmonic Mean

Value	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50
Frequency	8	12	20	6	4

1796 13 . Find Arithmetic Mean for the following:

Marks	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80
No. of students	5	8	12	15	6	4

1797 14 . Calculate the median from the following data by using grouping table

Value	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70
Frequency	18	41	90	131	140	54	15

1798 15 . Calculate the mean from the following data by using analysis table

Value	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70
Frequency	18	41	90	131	140	54	15

1799 16 . For the data given here, give the quartile deviation

X	351 – 500	501 – 650	651 – 800	801 – 950	951 – 1100
F	48	189	88	47	28

1800 17 . Find the Harmonic Mean for the following individual data: 6, 15, 35, 40, 900, 520, 300, 400, 1800, 2000.

1801 18 . Find the mean deviation for the data  

X	2	4	6	8	10
F	5	4	8	9	2

1802 19 . Examine the Geometric mean  

X :	1	6	3	2
Price(Rs.) :	5	17	30	42

1803 20 . Find the mean deviation for the data  

X	2	4	6	8	10
F	1	4	6	4	1

1804 21 . Examine the Geometric mean  

X :	5	3	1	4
Price(Rs.) :	6	12	11	10

1805 22 . Weekly wages of a labourer are given below. Calculate Quartile Deviation

Wages :	100	200	400	500	600	Total
Weeks :	5	8	21	12	6	52

1806 23 . Examine the coefficient of correlation between X- Advertisement Expenditure and Y- Sales  

X	10	12	18	8	13	20	22	15	5	17
Y	88	90	94	86	87	92	96	94	88	85

1807 24 . Examine the coefficient of correlation between X- Advertisement Expenditure and Y- Sales  

X	11	12	10	8	13	20	22	15	10	12
Y	80	90	92	86	81	92	93	87	88	86

1808 25 . Calculate Spearman's rank correlation coefficient.

RankX	1	6	3	9	5	2	7	10	8	4
RankY	6	8	3	7	2	1	5	9	4	10

1809 26 . Calculate the coefficient of correlation  

Mon.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug	Sep.	Oct.
X	40	45	47	50	53	60	57	51	48	45
Y	75	69	65	64	70	71	75	83	90	92

1810 27 . You are given the following data:  

Arithmeticmean	X	36	85
Standarddeviation	Y	11	8
CorrelationcoefficientbetweenXandY		0.66	

 (i) Find the two regression equations. (ii) Estimate the value of

**Section -C**

1811 1 . Calculation the two regression equations from the following data:

X	10	12	13	12	16	15
Y	40	38	43	45	37	43

Also estimate Y when X=20.

1812 2 . From the data given below, Find the coefficient of correlation between the marks in Mathematics and Statistics .

Marks in Mathematics(X)	25	28	35	32	31	36	29	28	34	32
Marks in Statistics(Y)	43	46	49	41	36	32	31	30	33	39

1813 3 . Determine Laspeyre's index numbers

Commodity	Base year		Current year	
	Price(Rs.)	Quantity(Kg.)	Price(Rs.)	Quantity(Kg.)
A	6	10	50	50
B	2	2	100	120
C	4	6	60	60
D	10	12	30	25

1814 4 . For the data given below, find the index number by Fishers Ideal method and Laspeyre's

Products	$p_0$	$q_0$	$p_1$	$q_1$
	A	12	100	20
B	4	200	4	240
C	8	120	12	150
D	20	60	24	50

1815 5 . Calculate the index number of prices for 2019 on the basic of 2018 from the data given

Commodity	Weights	Price(2019)	Price(2018)
A	40	16	20
B	25	40	60
C	5	2	3
D	20	5	7
E	10	2	4

1816 6 . Determine Paasche's index numbers

Commodity	Base year		Current year	
	Price(Rs.)	Quantity(Kg.)	Price(Rs.)	Quantity(Kg.)
A	6	10	50	50
B	2	2	100	120
C	4	6	60	60
D	10	12	30	25

1817 7 . Determine Fischers index numbers

Commodity	Base year		Current year	
	Price(Rs.)	Quantity(Kg.)	Price(Rs.)	Quantity(Kg.)
A	6	10	50	50
B	2	2	100	120
C	4	6	60	60
D	10	12	30	25

1818 8 . Calculate the index number of prices for 2021 on the basic of 2020 from the data given

Commodity	Weights	Price(2021)	Price(2020)
A	30	15	20
B	15	40	30
C	5	12	3
D	32	5	7
E	17	2	12

1819 9 . For the data given below, find the index number by Paasche's method and Laspeyre's

Products	$p_0$	$q_0$	$p_1$	$q_1$
	A	12	100	20
B	4	200	4	240
C	8	120	12	150
D	20	60	24	50

1820 10 . Draw a Histogram & Frequency polygon for the following:

Class	0 - 10	10 - 20	20 - 30	30 - 40	40 - 50	50 - 60	60 - 70	70 - 80	80 - 90
Frequency	4	6	7	14	16	14	8	16	5

1821 11 . Draw a Histogram, frequency polygon and frequency curve for the following:

Age(inyears) :	10 - 20	20 - 30	30 - 40	40 - 50	50 - 60	60 - 70	70 - 80
No.ofPersons :	5	12	19	21	18	10	4

1822 12 . Draw a Histogram, frequency polygon and frequency curve for the following:

Age(inyears) :	10 - 20	20 - 30	30 - 40	40 - 50	50 - 60	60 - 70	70 - 80
No.ofPersons :	10	22	26	34	18	10	14

1823 13 . The frequency distribution of marks in mathematics obtained by 100 students in a class is given below.

Marks	20 - 29	30 - 39	40 - 49	50 - 59	60 - 69	70 - 79	80 - 89	90 - 99
No. of Students	7	11	24	32	9	14	2	1

Draw the O-give graph for less than and more than type for the above data.

1824 14 . Calculate the mean from the following data by using analysis table

Value	0 - 10	10 - 20	20 - 30	30 - 40	40 - 50	50 - 60	60 - 70
Frequency	24	41	90	131	140	54	28

1825 15 . Calculate the median height.

Height(cms)	145 - 150	150 - 155	155 - 160	160 - 165	165 - 170	170 - 175
No : of students	2	5	10	8	4	1

1826 16 . Calculate the mode from the following:

Marks	10	11	12	13	14	15	16	17	18
No. of students	10	12	15	19	20	8	4	3	2

1827 17 . Calculate the standard deviation

No. of Goals scored in a match (X)	0	1	2	3	4	5
No. of matches (Y)	1	2	4	3	0	2

1828 18 . Students of B.Com. class of a College have obtained the following marks in Statistics out of 100 marks. Calculate the standard deviation

S.NO	1	2	3	4	5	6	7	8	9	10
Marks	5	10	20	25	40	42	45	48	70	80

1829 19 . Find the first and third quartiles for the data given below:

X	20	21	22	23	24	25	26	27	28
Y	8	10	11	16	20	25	15	9	6

1830 20 . For the data given below, compute regression equation of Y on X.

X	146	152	158	164	170	176	182
Y	75	78	77	79	82	85	86

1831 21 . Marks obtained by 8 students in Accountancy (X) and Statistics (Y) are given below.

X	15	20	28	12	40	60	20	80
Y	40	30	50	30	20	10	30	60

1832 22 . Calculation the regression equation of Y on X from the following data:

X	10	12	13	12	16	15
Y	40	38	43	45	37	43

1833 23 . Compute (1) Laspeyre's (2) Paasche's and (3) Fisher's index numbers.

Items	Price		Quantity	
	Base Year	Current Year	Base Year	Current Year
A	6	10	50	50
B	2	2	100	120
C	4	6	60	60
D	10	12	30	25

1834 24 . Construct cost of living index, for 2000 taking 1999 as the base year from the following data using 'Aggregate Expenditure' method

Article	Quantity in 1999(Kg.)	PriceRs.(PerKg)	
		1999	2000
A	6	5.75	6.00
B	1	5.00	8.00
C	6	6.00	9.00
D	4	8.00	10.00
E	2	2	1.80
F	1	20.00	15.00

1835 25 . Calculate the cost of living index number using Family budget method:

Commodity	A	B	C	D	E	F	G	H
Quantity in base year(units)	200	50	50	20	40	50	60	40
Price in base year(Rs.)	10	30	40	200	25	100	20	150
Price in current year(Rs.)	12	35	50	300	50	150	25	180

1836 26 . Calculate the cost of living index number using Family budget method:

Commodity	A	B	C	D	E	F	G	H
Quantity in base year(units)	350	150	35	20	40	50	70	85
Price in base year(Rs.)	20	30	50	100	25	150	20	35
Price in current year(Rs.)	17	35	55	150	36	160	25	170

1837 27 . Construct cost of living index, for 2018 taking 2017 as the base year from the following data using 'Aggregate Expenditure' method

Article	Quantity in 2018(Kg.)	PriceRs.(PerKg)	
		1999	2000
A	7	5.75	8.00
B	1	5.00	6.00
C	6	7.00	9.00
D	5	8.00	10.00
E	2	4	1.80
F	9	17.00	15.00