



SAINTGITS COLLEGE OF APPLIED SCIENCES

Department of Business Administration
FUNDAMENTALS OF BUSINESS STATISTICS

MODULE 1 (CO) (Blooms Taxonomy Level)

SECTION A

1. What are the characteristics of statistics?
2. Select the scope of statistics?
3. What are the limitations of statistics?
4. What are the functions of statistics?
5. Identify the uses of statistics
6. Application of statistics in industry
7. Define statistics
8. Applications of statistics in banking sector?
9. Identify the uses of statistics in industry
10. Identify the features of statistics

SECTION B

1. Applications of statistics in business and industry
2. Explain Scope of statistics
3. What are the functions and limitations of statistics
4. Explain uses of statistics
5. Explain limitations of statistics
6. Applications of statistics in agricultural field

7. Explain the characteristics of statistics
8. Describe statistics in different in business and industry

SECTION C

1. Describe functions and limitations of statistics
2. Explain the scope of statistics in business and industry
3. Describe statistics in different in different fields
4. Explain uses and limitations of statistics

MODULE 2 (CO) (Blooms Taxonomy Level)

SECTION A

1. Discuss the requisites of an ideal classification
2. Outline statistical unit
3. Define population and sample
3. Mention the theoretical basis of sampling
4. Define simple random sampling
5. define sampling errors
6. List out the criteria for a good questionnaire
7. Illustrate questionnaire
8. What is a pie diagram?
9. Discuss the Importance of graphs?
10. Compose the merits of graphical representations?



SECTION B

1. Discuss the difference between primary data and secondary data?
2. Point out the difference between census method and sample survey method?
3. Construct the criteria for choosing census method and sample survey method?
4. List out the merits of sampling method?
5. Discuss the difference between sampling and non-sampling errors?
6. Explain diagrams? What are the uses and limitations?
7. Distinguish between less than ogive and greater than ogive?
8. What are the objectives of tabulation?

SECTION C

1. Discuss the various types of probability based and non-probability-based techniques.
2. Distinguish between census method and sampling survey methods of collecting data and compare their merits
3. Formulate Ogives

80-

Class : 0-20 20-40 40-60 60-80

f : 10 15 30 35 10

4. Create a frequency polygon.

Class : 0-10 10-20 20-30 30-40 40-50

f : 10 40 80 60 50



MODULE 3 (CO) (Blooms Taxonomy Level)

SECTION A

1. Illustrate Arithmetic mean?
2. What is Median?
3. What is mode?
4. Solve Mode, If mean =30, median=32
5. Determine mean of the values 10, 12, 30, 28, 53,47?
6. Solve median of the values 20, 22, 18, 24, 16, 14, 28
7. Illustrate dispersion?
8. Determine mode of the series 20, 25, 15, 30, 38, 40
9. What is standard deviation?
10. Evaluate coefficient of variation, If Mean = 100 and SD=15.

SECTION B

1. Solve Arithmetic Mean of the following data.

Size	:	75	100	120	150	200
frequency	:	5	12	20	14	9

2. Determine Median

Class	:	0-2	2-4	4-6	6-8	8-10	10-12
f	:	2	4	6	4	2	6

3. Evaluate Mode

x	:	2	4	6	8	10
f	:	5	7	9	8	11

4. Solve SD



x	:	10-15	15-20	20-25	25-30	30-35
f	:	5	20	47	38	10

5. Evaluate SD and variance.

x	:	10-15	15-20	20-25	25-30	30-35
f	:	5	20	47	38	10

6. Which measure of dispersion is considered to be best? Why?

7. Which average is considered to be the best. Why?

8. Solve SD.

Markks	:	0-10	10-20	20-30	30-40	40-50	50-60	60-70
f	:	6	5	8	15	7	6	3

SECTION C

1. Solve Mean, Median & Mode of the following.

Wages	:	10	12	15	18	20	25	30
No. of workers	:	3	5	8	12	13	12	7

2. Evaluate Mean, Median & Mode of the following.

Class	:	0-2	2-4	4-6	6-8	8-10	10-12
f	:	2	4	6	4	2	6

3. Determine SD and variance.

x	:	10-15	15-20	20-25	25-30	30-35
f	:	5	20	47	38	10

4. Estimate missing frequencies of 100 families, given that mean=50



Class	:	0-20	20-40	40-60	60-80	80-100
<i>f</i>	:	14	----	27	----	15

MODULE 4 (CO) (Blooms Taxonomy Level)

SECTION A

1. Define correlation
2. What do you mean by probable error?
3. Examine n , If $r=0.89$, $PE=0.023$,
4. What would be your interpretation if the correlation coefficient r is equal to 1) 0, 2) -1, 3) 1, 4) 0.2
5. Define scatter diagram
6. List out the properties of correlation coefficient
7. Illustrate the uses of correlation?
8. Examine the difference between negative and positive correlation.
9. Define Regression
10. Analyse different types of regression

SECTION B

1. Examine rank correlation coefficient

x	53	98	95	81	75	61	59	55
y	47	25	32	37	30	40	39	45

2. Analyse Karl Pearson's coefficient of correlation from the following data

x	3	4	5	6	7
y	8	7	6	5	4

3. Explain different types of correlation and explain scatter diagram with an example?

4. Simplify regression equation x on y

x	5	6	7	3	2
y	4	5	8	2	1

5. Comment on the following results.

For a bivariate distribution,

Coefficient of regression of y on x is 4.2 and coefficient of regression of x on y is 0.50
 $b_{xy} = 0.82$ and $b_{yx} = 0.25$

6. Find Mean value of x and y

$$8x - 10y = -66$$

$$40x - 18y = 214$$

7. List out the properties of regression analysis?

8. out of the two lines of regression given by $x+2y-5=0$ and $2x+3y-8=0$, which one is the regression line of x on y

SECTION C

1. Evaluate 1) Arithmetic mean 2) Regression equation of y on x and x on y 3) Correlation coefficient

$$2y - x - 50 = 0$$

$$3y - 2x - 10 = 0$$



2. Examine Rank Correlation Coefficient

X	68	64	75	50	64	80	75	40	55	64
y	62	58	68	45	81	60	68	48	50	70

3. In a partially destroyed set of an analysis of correlation the following results are legible, variance of $x=9$, regression equations are $8x-10y+66=0$ and $40x-18y=214$, find 1) the mean value of x and y 2) the coefficient of correlation 3) standard deviation of y

4. You are given the following data

	x	y
Arithmetic mean	985	12.8
Standard deviation	70.1	1.6

correlation coefficient=0.52, Examine two regression equations

MODULE 5 (CO) (Blooms Taxonomy Level)

SECTION A

1. Define time series
2. Evaluate the importance of time series
3. List out the components of time series
4. What is secular trend
4. Illustrate the methods of measuring trend
5. List out uses of Time series
6. What is moving average method
7. Define seasonal variation
8. What is cyclic variation
9. Interpret irregular variation



10. Explain uses of secular trend?

SECTION B

1. Select the importance of Time Series Analysis
- 2.. Explain the components of Time Series Analysis
3. Evaluate Trend by Semi Average Method

Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
value	45	58	62	50	70	72	68	70	78	75

4. Evaluate the trend for the following series using 3 year weighted moving average with weight 1,2,1

year	1	2	3	4	5	6	7
value	2	4	5	7	8	10	13

5. Trend equation obtained is $y=12+0.7x$ with 2008. Estimate the trend equation shifting the origin to 2010

6. Determine the trend value by freehand curve method

Year	2000	2001	2002	2003	2004	2005	2006	2007
value	64	82	97	71	78	112	115	131

7. Evaluate trend by semi average method

Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
value	45	58	62	50	70	72	68	70	78	75

8. Explain the merits and demerits of semi average method?

SECTION C

1. The following are the annual profit in thousands of Rs in a certain business

Year	2002	2003	2004	2005	2006	2007	2008
profit	60	72	75	65	80	85	95

using the method of least squares, fit a straight line to the above data, also make an estimate of profit in 2009. estimate the trend value for all years. Compute short term fluctuations?

2.



Year	2002	2003	2004	2005	2006	2007	2008
production	77	88	94	85	91	98	90

1) fit a straight line trend by the method of least squares and find the trend values.2)
eliminate trend?

3. Fit a straight line trend by the method of least squares

year	2000	2001	2002	2003	2004	2005	2006	2007
value	380	400	650	720	690	600	870	930

4. Using 2004 as the origin, Evaluate trend equation by least squares

year	2001	2002	2003	2004	2005	2006	2007
value	140	144	160	152	168	176	180