Roll No. | | | | | | | | | | |

Total No. of Questions : 18

Total No. of Pages : 02

BBA/BBA(RD/SIM/Business Economics) (2018 Batch) (Sem.–2)

BUSINESS STATISTICS

Subject Code : BBA-201-18

M.Code : 75916

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B consists of FOUR Sub-sections : Units-I, II, III & IV.
3. Each Sub-section contains TWO questions each, carrying TEN marks each.
4. Students have to attempt any ONE question from each Sub-section.

SECTION-A

Write briefly :

Q1 Define Statistics and its limitations in brief.

Q2 What do you mean by probability sampling? Discuss Stratified and convenience sampling.

Q3 What do you mean by standard deviation? Write any two properties of S.D.?

Q4 Discuss the difference between linear and non linear correlation.

Q5 What do you mean by regression analysis? Discuss its utility.

Q6 Discuss the difference between correlation and causation.

Q7 Define Variance and how it is different from standard deviation?

Q8 Define Median and Mode.

Q9 What do you mean by mutually exclusive units in probability?

Q10 Explain binomial distribution and write its formula.

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SECTION-B

UNIT-I

Q11 What do you mean by data collection? Discuss the various sources of data collection.

Q12 What do you mean by statistics? Discuss its importance and functions.

UNIT-II

Q13 What do you mean by Standard deviation? Discuss the properties of standard deviation and variance.

Q14 Calculate the mean from following data assume mean = 165.

Cost of living index	No. of Workers	Cost of living Index	No. of Workers
140-150	5	170-180	9
150-160	10	180-190	6
160-170	20	190-200	2

UNIT-III

Q15 What do you mean by regression analysis? Discuss in detail the relationship between regression and correlation in detail.

Q16 Calculate the rank correlation coefficient :

Marks in Paper I	X	20	30	40	50	60	70	80
Marks in Paper II	Y	14	5	30	32	40	45	65

UNIT-IV

Q17 What do you mean by normal curve? Discuss its properties in detail.

Q18 A box contains 8 red, 3 white and 9 blue balls if three balls are drawn at random determine the probability that a) all three are red, b) 2 are red, c) all three are white.

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Roll No. ☐☐☐☐☐☐☐☐☐☐

Total No. of Questions : 09

Total No. of Pages : 02

BBA/BBA (SIM) (2018 Batch) (Sem.–2)

BUSINESS STATISTICS

Subject Code : BBA-201-18

M.Code : 75916

Date of Examination : 06-07-22

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B consists of FOUR Sub-sections : Units-I, II, III & IV.
3. Each Sub-section contains TWO questions each, carrying TEN marks each.
4. Student has to attempt any ONE question from each Sub-section.

SECTION-A

1. **Write briefly :**

   a) Statistics

   b) Primary Data

   c) Parameter

   d) Geometric Mean

   e) Range

   f) Sampling error

   g) Linear Correlation

   h) Regression Coefficient

   i) Probability

   j) Binomial Distribution.

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SECTION-B

UNIT-I

2. *"Statistics is a method of decision making in the face of uncertainty on the basis of numerical data and calculated risks"*. Explain with suitable illustrations.

3. What are the main objects of sampling? Compare and contrast the merits and drawbacks of sample and census studies.

UNIT-II

4. What are the features of a good average? Compare the mean, median and the mode as a statistical technique. Why averages are called measures of central tendency?

5. Calculate the mean and standard deviation of the following data :

Value	90-99	80-89	70-79	60-69	50-59	40-49	30-39
Frequency	2	12	22	20	14	4	1

UNIT-III

6. Explain what is meant by coefficient of correlation between two variables. What are the different methods of finding correlation? Distinguish between positive and negative correlation?

7. The heights of a sample of 10 fathers and their elder sons are given below (to the nearest cms):

Height of Father (X)	170	167	162	163	167	166	169	171	164	165
Height of Son (Y)	168	167	166	166	168	165	168	170	165	168

Find the regression equation of Y on X.

UNIT-IV

8. The Federal Match Company has forty female employees and sixty male employees. If two employees are selected at random, what is the probability that

   a) Both will be males

   b) Both will be females

   c) There will be none of each sex

   Since the three events are collectively exhaustive and mutually exclusive, what is the sum of three probabilities?

9. What do you understand by probability distributions? Discuss their utility in statistics.

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Total No. of Questions : 09

Total No. of Pages : 02

BBA/BBA (Business Economics/RD/SIM) (2018 Batch) (Sem.–2)

BUSINESS STATISTICS

Subject Code : BBA-201-18

Paper ID : [75916]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTIONS-B consists of FOUR Sub-sections : Units-I, II, III & IV.
3. Each Sub-section contains TWO questions each, carrying TEN marks each.
4. Student has to attempt any ONE question from each Sub-section.

1. Write briefly :

a) What is frequency distribution?

b) What is the difference between population and sample?

c) What is the difference between parameter and statistics?

d) What is the difference between descriptive statistics and inferential statistics?

e) What are the applications of harmonic and geometric mean?

f) What is a non-linear correlation?

g) What is the significance of coefficient of determination?

h) What is the non-probability sampling?

i) What is the meaning of mutually exclusive and collectively exhaustive events?

j) What is the difference between correlation and causation?

SECTION-B

UNIT-I

2. What are the different sources of data? What are the advantages and disadvantages of it?

3. Discuss the probability sampling techniques.

UNIT-II

4. What are the different measures of variability? Discuss with the help of suitable example.

5. What is the sampling distribution? What is the significance of it? What is the use of standard error of mean and standard error of standard deviation and how these are calculated?

UNIT-III

6. What is the partial correlation? Find the partial correlation between X and Z from the following data :

X	21	43	56	19	29	34	40	32	16	18	27	31
Y	6	25	42	27	20	45	33	14	4	31	12	3
Z	5	8	25	9	12	21	14	11	7	16	10	8

7. From the data given in above table, find the effect of X on Y using principle of least square method of regression. Also, interpret the results of it.

UNIT-IV

8. The below given table exhibits the interviews conducted in the different regions and for different industries. From the data find (a) $P(C \cup D)$, and (b) $P(E \cup A)$

		Geographic region			
		North East (D)	South East (E)	Midwest (F)	West (G)
Industry type	Finance (A)	24	10	8	14
	Manufacturing (B)	30	6	22	12
	Communication (C)	28	18	12	16

9. Solve the following problems by using binomial formula :

(a) If n=7 and p=0.20, find $P(x$=0 to x=7)

(b) Also find the mean and standard deviation of it.

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Roll No. ☐☐☐☐☐☐☐☐☐☐☐ Total No. of Pages : 02

Total No. of Questions : 09

BBA/BBA/RD/SIM) (2018 Batch) (Sem.–2)

BUSINESS STATISTICS

Subject Code : BBA-201-18

M.Code : 75916

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B consists of FOUR Sub-sections : Units-I, II, III & IV.
3. Each Sub-section contains TWO questions each, carrying TEN marks each.
4. Student has to attempt any ONE question from each Sub-section.

SECTION-A

1. **Write briefly :**

a) Primary Data

b) Inferential Statistics

c) Geometric Mean

d) Standard Deviation

e) Probability Sampling

f) Harmonic Mean

g) Bayes' Theorem

h) Poission Distribution

i) Correlation

j) Regression

SECTION-B

UNIT-I

2. What is statistics? Discuss its functions and scope.

3. Classify and explain various sampling techniques.

UNIT-II

4. In a moderately asymmetric distribution, the mode and mean are 32.1 and 35.4 respectively. Find the value of Median.

5. The following table shows the monthly expenditure of 80 students of a university on breakfast :

Expenditure (Rs.)	No. of students	Expenditure (Rs.)	No. of Students
780-820	2	530-570	13
730-770	6	480-520	9
680-720	7	430-470	7
630-670	12	380-420	4
580-620	18	330-370	2

Calculate mean, standard deviation, and coefficient of variation of above data.

UNIT-III

6. Two ladies were asked to rank 7 different types of lipsticks. The ranks given by them are as follow :

Lipsticks	A	B	C	D	E	F	G
Neetu	2	1	3	4	5	7	6
Shalini	1	3	4	2	5	6	7

Calculate Spearman's rank correlation coefficient.

7. In a correlation study the following values are obtained :

	X	Y
Mean	65	67
Standard Deviation	2.5	3.5
Coefficient of Correlation	0.8	

Find the two regression equations that are associated with the above values.

UNIT-IV

8. What is probability? Explain laws of probability.

9. What is Binomial distribution? Compare Normal and Poission distribution.

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Roll No. Total No. of Pages : 03

Total No. of Questions : 09

BBA (SIM) (Sem.–2)

BUSINESS STATISTICS

Subject Code : BBA-201-18

M.Code : 75916

Date of Examination : 17-11-2023

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B consists of FOUR Sub-sections : Units-I, II, III & IV.
3. Each Sub-section contains TWO questions each, carrying TEN marks each.
4. Student has to attempt any ONE question from each Sub-section.

SECTION-A

1. Write briefly :

   a. Statistics in plural sense

   b. Secondary Data

   c. Parameter vs statistics

   d. Harmonic Mean

   e. Variance

   f. Non-Sampling error

   g. Non-Linear Correlation

   h. Dependent Variable

   i. Probability of Success

   j. Poission Distribution

SECTION - B

UNIT-I

2. Define the term statistics and discuss its use in business and trade. Also, point out its limitations.

3. What is sampling? What are essentials of a good sample? Name the various methods of sampling and explain them in brief.

UNIT-II

4. How would you account for the predominant choice of arithmetic mean of statistical data as a measure of central tendency? Under what circumstances it would be appropriate to use median or mode?

5. The arithmetic mean and the standard deviation of a set of 9 items are 43 and 5 respectively. If an item of value 63 is added to the set, find the mean and standard deviation of 10 items.

UNIT-III

6. Explain the meaning and significance of the concept of correlation. How will you calculate it from statistical point of view?

7. The two lines of regression are given by:

   $3x+2y = 6$ and $7x+5y = 12$

   a. Identify the lines of Regression.

   b. Estimate Y when X= 10.

   c. Calculate the value of correlation coefficient between x and y.

   d. What percentage of total variation remains unexplained by the regression equation of y on x?

UNIT-IV

8. A bag contains 8 black, 3 red and 9 white balls. If 3 balls are drawn at random, find the probability that:

   a. All are black

   b. 2 are black and 1 is white

   c. 1 of each colour

   d. The balls are drawn in the order black, red and white.

9. What are the conditions under which Binomial Distribution can be used as an approximation to an observed frequency distribution? Discuss different features of Binomial Distribution.

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Total No. of Pages : 02

Total No. of Questions : 09

BBA/BBA (SIM) (Sem.–2)

BUSINESS STATISTICS

Subject Code : BBA-201-18

M.Code : 75916

Date of Examination : 09-05-2024

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B consists of FOUR Sub-sections : Units-I, II, III & IV.**
3. **Each Sub-section contains TWO questions each, carrying TEN marks each.**
4. **Student has to attempt any ONE question from each Sub-section.**

SECTION-A

1. **Write briefly :**

a) Explain the features of statistics.

b) What do you mean by presentation of data?

c) Explain inferential statistics.

d) What is the difference between mathematical and positional averages?

e) Explain the absolute measure of dispersion.

f) What are the various conditions in which harmonic mean is used?

g) What do you understand by rank correlation?

h) Explain the properties of regression coefficient.

i) Explain the term probability.

j) Elaborate the probability distribution function.

SECTION-B

UNIT-I

2. What do you mean by statistics? Explain its functions, scope and limitations also.

3. Explain the various sources of data collection used in statistics.

UNIT-II

4. Explain the properties and applications of arithmetic, harmonic and geometric mean.

5. Calculate mean deviation from mean and median and its coefficient from the following data :

Size	100-120	120-140	140-160	160-180	180-200
Frequency	4	6	10	8	5

UNIT-III

6. Find the coefficient of correlation using assumed mean method from the following data :

X:	10	12	18	16	15	19	18	17
Y:	30	35	45	44	42	48	47	46

7. What do you mean by regression analysis? Explain the relationship between correlation and regression coefficient.

UNIT-IV

8. The incidence of an occupational disease in an industry is such that the workers have a 20% chance of suffering from it. What is the probability that out of six workers chosen at random, four or more will suffer from disease?

9. Explain the derivation of Bayes' theorem in detail.

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Total No. of Pages : 02

Total No. of Questions : 09

BBA (SIM) (Sem.–2)

BUSINESS STATISTICS

Subject Code : BBA201-18

M.Code : 75916

Date of Examination: 11-12-2024

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B consists of FOUR Sub-sections : Units-I, II, III & IV.
3. Each Sub-section contains TWO questions each, carrying TEN marks each.
4. Student has to attempt any ONE question from each Sub-section.

SECTION-A

1. **Write briefly:**

   a. Define Statistics.

   b. Primary Data

   c. Inferential Statistics

   d. Positional Averages

   e. Variance

   f. Partial Correlation

   g. Dependent Variable

   h. Event

   i. Normal Curve

   j. Poission Distribution.

SECTION-B

UNIT-I

2. *"Statistics in these days is indispensable for dealing with Socio-Economic Problems"* How far is this statement correct?

3. What do you mean by Sampling Designs? Elaborate different Probability Sampling Designs.

UNIT-II

4. **Calculate Mean Deviation and Standard Deviation from the following Distribution :**

Class Interval	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Frequency	4	8	8	16	12	6	4

5. What do you mean by Sampling Distribution? Formulate the sampling distribution of Mean and Standard Deviation with some imaginary figures.

UNIT-III

6. What is Coefficient of Correlation? Discuss different properties of Coefficient of correlation.

7. The percentage marks obtained in graduation and Entrance Test of 10 Students were as follows:

Graduation	50	52	55	60	62	65	66	70	75
Entrance Test	52	50	57	65	62	65	65	71	78

From these Data : Find the two regression equations.

UNIT-IV

8. A Class consists of 10 boys and 20 girls of which half the boys and half the girls have blue eyes, find the probability that the student chosen at random is a boy or has blue eyes.

9. What is probability Distribution? Explain different types of probability distributing. How to fit a Binomial distribution?

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Roll No. [ ] Total No. of Pages : 03

Total No. of Questions : 09

BBA/BBA(SIM) (Sem.–2)

BUSINESS STATISTICS

Subject Code : BBA-201-18

M.Code : 75916

Date of Examination : 19-05-2025

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B consists of FOUR Sub-sections : Units-I, II, III & IV.
3. Each Sub-section contains TWO questions each, carrying TEN marks each.
4. Student has to attempt any ONE question from each Sub-section.

SECTION - A

1. **Write briefly :**

   a) Statistics in Plural Sense

   b) Frequency

   c) Stratified Sampling

   d) Percentile

   e) Standard Deviation

   f) Linear Correlation

   g) Meaning of Probability

   h) Probability Distribution

   i) Constants

   j) Binomial Distribution

SECTION - B

UNIT - I

2. Describe the main functions of statistics. Give the utility of statistics in Economic Planning.

3. Differentiate between Probability and Non Probability Sampling Techniques. Elaborate different non probability sampling techniques.

UNIT - II

4. You are given the following incomplete frequency distribution. It is known that the total frequency is 100 and that the Median is 44. Estimate by calculation the missing frequencies and find the value of Mode :

Value	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Frequency	5	12		20		10	4

5. Differentiate between absolute and Relative Measures of Variation. Discuss various methods of Measures of Variation.

UNIT - III

6. Differentiate between Correlation and Causation. Discuss different methods of Calculation of Correlation.

7. The following are the Marks obtained by 8 Students in Mathematics and Statistics. Find the Regression Line of Marks in Statistics and Marks in Mathematics :

Marks in Mathematics	50	40	60	46	50	48	59	47
Marks in Statistics	30	37	42	32	35	45	40	35