

18UIT1A1 – STATISTICAL METHODS

UNIT I

1. What is the mean for the following number?
1,2,7,8,9,14
a) **6** b) 13 c) 2 d) 5
2. Median of 7, 6, 4, 8, 25, 11
a) **6** b) 12 c) 11 d) 4
3. Number in which occur most frequently in a set of numbers
a) Mean b) Median c) **Mode** d) None
4. If mean of a 6 numbers is 17 then sum of number is
a) **102** b) 103 c) 150 d) 120
5. Difference of mode and mean equal to
a) **3(mean-median)**
b) 2(mean-median)
c) 3(mean-mode)
d) 2(mode-mean)
6. The value of mode is 14 and values of arithmetic mean is 5 then value of median is
a) 12 b) 18 c) **8** d) 14
7. The _____ is the most frequently occurring data value
a) Mean b) Median c) **Mode** d) SD
8. The least value in a collection of data is 28, greatest value is 72. Then collection of range is
a) 44 b) 0.72 c) **0.44** d) 0.28
9. Mean and SD of a data are 48 and 12. The collection of variation is
a) 42 b) **25** c) 28 d) 48
10. _____ is the square of SD

- a) value b) mean c) **variance** d) median

UNIT II

1. Tell another name for dispersion_____

- a) variability b) **scatter** c) spread d) all the above

2. Find common measures of statistical dispersion_____

- a) **variance** b) scatter c) spread d) none of the above

3. Recall other measures of dispersion_____

- a) random b) dimensionless c) absolute value d) none

4. _____ is the set of data is the difference between the largest and smallest values

- a) dispersion b) **range** c) both a and b d) none of these

5. Recall how standard deviation is represented_____

- a) minus b) @ c) **sigma** d) &

6. _____ introduced the concept of standard deviation

- a) **karl pearson** b) ramanujam c) spearman d) none of these

7. Recall the year in which the standard deviation was came

- a) 1990 b) 1997 c) **1893** d) 1839

8. Find another name for standard deviation

- a) mean error b) **root mean square deviation** c) mean square d) all the above

9. Tell how the standard deviation is denoted_____

- a) french b) english c) **greek** d) latin

10. Recall how the standard deviation is called_____

- a) variables b) constants c) range d) all the above

1. _____ is two series of group of data there exit some casual connection
a) **correlation** b)range c)standard deviation d)mean
2. _____ is the statistical technique used for analysing and behaviour of two or more variables
a) **correlation** b)range c)standard deviation d)mean
3. _____ is the great bio metrician
a) **karl pearson** b)ramanujam c)spearman d)none of these
4. Coefficient of corellation is denoted by _____
a) **r** b)a c)n d)e
5. sigma is _____
a) **standard deviation** b)mean c)correlation d)range
6. Recall $\Sigma x =$
a) **$\Sigma x - A$** b) $\Sigma x + A$ c) $\Sigma A + B$ d) $\Sigma A - B$
7. Recall N is _____
a) **number of items** b)presented materials c)given data d)none of these
8. _____ founds the rank corellation
a)karl pearson b)ramanujam c)**spearman** d)none of these
9. Recall the year in which the rank corellation is founded
a)1903 b)**1904** c)1909 d)1905
10. Find how the rank corellation is denoted
a)s b)**p** c)u d)e

UNIT IV

1. Two dice are thrown simultaneously. what Is the probability of getting two numbers whose products is even _____
A. $\frac{1}{2}$ b. $\frac{3}{4}$ c. $\frac{4}{8}$ d. $\frac{5}{16}$
2. In a lottery there are 10 prizes and 25 blanks. a lottery is drawn at random what is the probability of getting a prize?
A. $\frac{1}{10}$ b. $\frac{2}{3}$ c. **$\frac{2}{7}$** d. $\frac{5}{7}$

3. What is the probability of getting a queen of club or a king of heart is__

A.1/6 b.5/12 c.**1/26** d.7/9

Ans:c

4.What is the probability 2 dice are tossed and the total score prime number__

A.1/6 b.**5/12** c.2/2 d.8/9

5. What is the probability of getting a sum 9 from throws of a dice?

A.1/6 b.2/8 c.1/9 d.1/12

6. Three unbiased coins are tossed.what is the probability of getting at most two heads__

A.3/4 b.2/4 c.3/8 d.**7/8**

7. In a class there are 15 boys and 20 girls. Three students are selected at random. The probability that 1 girl and 2 boys selected is __

A.**21/46** b.25/46 C.2/50 d.3/65

8. Two cards together from a pack of 52 cards. The probability that one is a spade and one is a heart is__

A .3/20 b.20/45 c.47/100 d.**13/202**

9.A bag contains 2 red 3 green 2 blue balls two balls are drawn at drawn what is the probability that none of the balls drawn is blue?

A.**10/21** b.11/21 c.2/7 d.5/7

10. In a box there are 8 red 7 blue 6 green balls one ball is picked up randomly. what is the probability that is neither red or green?

A.**1/3** b.3/4 c.7/9 d.8/21

UNIT V

1. Non sampling error is reduced by

- a) increasing sample size
- b) decreasing sample size
- c) reducing the amount of data

d) none of these

2. Any numerical value calculated from sample data is called

- a) error b) **statistics** c) bias d) standard deviation

3. Sample is subset of

- a) data b) group c) population d) **itself**

4. Non probability form of sampling is

- a) random sampling b) non random sampling c) probability sampling d) **quota sampling**

5. In sampling with replacement a sampling unit can be selected

- a) only once b) **more than one time** c) less than one time
- d) none of above

6. Sampling in which a sampling unit can be repeated more than once is called

- a) sampling without replacement
- b) **simple sampling**

c)**sampling with replacement**

d) none of the above

7. Standard deviation of sampling distribution of any statistic is called

a) statistic b) bias c) sampling error d)**parameter**

9. The list of all units in a population is called

a) random sampling b) sampling **frame** c) bias d) parameter e) statistics

10. The difference between statistics and parameter is called

a) random error b) sampling error c) standard error d)**error**

18UIT1A1 – STATISTICAL METHODS

UNIT I

1. Define mean
2. Write formula for arithmetic mean direct method
3. Define type of mean
4. State combined arithmetic mean?
5. Define Range
6. Write formula for mean deviation
7. Write median formula
8. Define standard deviation
9. Write SD formula
10. Define geometric mean

UNIT II

1. What is the formula for inter quartile range
2. What is the formula for quartile deviation
3. Recall formula for mean deviation from median
4. Compare mean deviation and standard deviation
5. Write the methods for calculating standard deviation
6. Define mean deviation
7. Define range
8. What are the other names of standard deviation
9. Define actual mean method
10. Define coefficient of variation

UNIT III

1. Define correlation
2. Recall the formula for assumed mean method in correlation
3. What is rank correlation
4. What are the problems in rank correlation
5. Recall formula when rank is equal or repeated rank
6. Define regression
7. Write regression equation of y on x
9. Recall Karl Pearson's coefficient of correlation
10. Write down the three formulas of correlation

UNIT IV

1. Two coins are tossed. What is the probability of getting at least 1 heads?
2. What is the probability of getting an odd number when a die is thrown?
3. A card is drawn from a pack of 52 cards. The probability of getting a queen of club or a king of heart is:
4. Two dice are rolled once. What is the probability of getting a number on the two dice whose product is 6.
5. What is the probability of getting an even number in the throw of a die?
6. Find the probability of selecting an even number from 1, 2, 3 21.
7. Cards bearing numbers 3, 4, 5, 19 are kept in a bag. What is the probability of drawing a card of prime number?
8. Two dice are thrown together. What is the probability of getting a sum of 9 on both dice.
9. The probability of winning a game is 0.4. What is the probability of losing it ?
10. Two coins are tossed simultaneously. Find the probability of getting two heads.

UNIT V

- 1) What is sampling?
- 2) What are the sampling methods?
- 3) Give an example of inferential statistics?
- 4) Write the short note on critical value

- 5) Define test of significance
- 6) What are the error in sampling?
- 7) State Standard error
- 8) What are the level of significance?
- 9) Why profiteering done before sampling?
- 10) Define testing of hypothesis

18UIT1A1 – STATISTICAL METHODS

UNIT I

1. Find mean for

Mark 2 5 7 8 9 10

Frequency 2 3 4 2 3 3

2. Calculate the Geometric mean for the following: 2574, 475, 5, 0.8, 0.005, 0.0009
3. Calculate the geometric and Harmonic mean of the following series of monthly expenditure of each of series:

Rs.125, 130, 75, 10, 45, 0.5, 0.40, 500, 150, 5.

4. Calculate median from the following data

Wages Rs. 60-70 50-60 40-50 30-40 20-30

No. of laborers' 5 10 20 5 3

5. From the data given below, find the mode:

Ages 20-25 25-30 30-35 35-40 40-45 45-50 50-55 55-60

No. of Persons 50 70 80 180 150 120 70 50

UNIT II

1. Discover mean deviation from the mean and its coefficient from following given data

size of item	3-4	4-5	5-6	6-7	7-8	8-9	9-10
Frequency	3	7	22	60	85	32	8

2. Examine mean deviation about median for following data

X	7	9	5	8	11	13	10
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3. Find mean and standard deviation

Time	11-20	21-25	26-30	31-35	36-45
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Time	11-20	21-25	26-30	31-35	36-45
no. of students	62	88	16	13	11

4. Calculate quartile deviation and coefficient of quartile deviation

height	153	155	157	159	161	163
no.of students	25	21	28	20	18	20

5.Find coefficient of range and inter quartile range

mark	5-9	10-14	15-19	20-24	25-29	30-34	35-39
Student	1	3	8	5	4	2	2

UNIT III

1.Find rank correlation for following

english	56	75	45	71	62	64	58	80	76	61
Maths	66	70	40	60	65	56	59	77	67	63

2. Find rank corellation for following

x	78	89	97	69	59	79	68
y	125	137	156	112	107	136	124

3.. Compare and contrast about correlation and regression

4. Find correlation coefficient

x	68	72	65	70	62	75	78	64	68
y	90	85	88	100	105	98	70	65	72

5. Find regression for following data

X(yr)	2005	2006	2007	2008	2009
Y()sales	12	19	29	37	45

UNIT IV

1. What is the probability of the occurrence of a number that is odd or less than 5 when a fair die is rolled.
2. Two dice are rolled, find the probability that the sum is a) equal to 1
b) equal to 4
c) less than 13
3. A card is drawn at random from a deck of cards. Find the probability of getting the 3 of diamond.
4. Two coins are tossed, find the probability that one head only is obtained.
5. A card is drawn at random from a deck of cards. Find the probability of getting the King of heart.

UNIT V

- 1) In 600 throws of a six faced dies odd points appeared 360 times would you say that the dice is fair at 5% level of significant.
- 2) A person throws 10 dies 500 times and uptains 2560 times we get 4,5 or 6 to flexation of sampling.
- 3) A coin is tossed 400 times and it turns up 260 times discuss wheater the coin may be unbiased one and eplain the theoritical principle you would for this purpose?
- 4) A random sample of 500 pineapple were taken from a large consignment and 65 were found to be bab so that the standared error of bab ones in a sample of a size is 0.015 and deduce that the percentage of bad piplies lines in the consignment almost certainly lies between 8.5and 17.5.
- 5)A whole seller in applet claims that only 4% of applets is applied by him are defective a random sample are 600 apples contains 36 defective apples test the claim of the whole seller.

18UIT1A1 – STATISTICAL METHODS

K4 & K5 level

UNIT I

1.The monthly income of given below:10 families in a certain locality are

Family	A	B	C	D	E	F	G	H	I	J
Income(Rs)	85	70	10	75	500	8	42	250	40	36

Calculate the Geometric mean and Harmonic mean

2. Calculate the Arithmetic mean and Standard deviation from the following series.

Class-interval 5-15 15-25 25-35 35-45 45-55

Frequency 8 12 15 9 6

3, Calculate mean, median and mode for the following data.

Profits are shop 0-10 10-20 20-30 30-40 40-50 50-60

No of shops 12 18 27 20 17 6

4. Calculate the Mean deviation from Mean for the following data using shortcut method.

Flight 158 159 160 161 162 163 164 165 166

No.Of.Persons 15 20 32 35 33 22 20 10 8

5. The following data related to the distance travelled by 520 villagers to buy their weekly requirements.

Miles travelled: 2 4 6 8 10 12 14 16 18 20

No.Of.Villagers 38 104 140 78 48 42 28 24 16 2

Calculate Mean.

UNIT II

1.Calculate the range and semi-inter quartile range of wages. Also calculate quartile coefficient.

Wages 30-32 32-34 34-36 36-38 38-40 40-42 42-44

Labours 14 15 12 6 19 20 8

2. Compute semi-inter quartile range and quartile deviation from the following data.

Height (in inches) 57 58 59 60 61 62 63 64 65 66

No of students 15 20 32 35 37 22 25 10 16 9

3. Assess mean deviation from mean and median for the given data and also calculate the coefficient of mean deviation.

100,150,200,250,270,340,480,530,620,700

4. Calculate mean deviation from mean and median and also find the coefficient of mean deviation from the following data.

Marks 10 20 30 40 50 60 70 80 90

Frequency 5 8 19 15 10 24 17 23 26

5. Find the standard deviation and mean deviation from the following data.

Class 0-10 10-20 20-30 30-40 40-50 50-60 60-70

Frequency 8 12 15 18 25 36 45

UNIT III

1. Calculate the coefficient of correlation from the following data.

X 12 9 8 10 13 15 18 20

Y 14 7 6 11 14 17 19 22

2. Calculate the Karl Pearson's correlation coefficient between the weight of brother and sister from the given data.

Weight of brother 50 53 62 65 69 70 74 78 80

Weight of sister 48 50 39 48 54 58 61 64 72

3. Calculate the two regression equations of X on Y and Y on X from the data given below, taking deviations from actual means of X on Y.

Prices (in Rs) 10 12 14 15 17 18 20

Amount demanded 40 35 42 45 37 48 50

4. Find out the Pearson's coefficient in the following series relating in prices and supply of a commodity.

Rice (in Rs) 11 12 13 14 15 16 17 18 19 20

Supply (in Rs) 30 27 27 25 25 22 20 19 15 10

5. Price indices of cotton and wool are given below for the 12 months of a year. Obtain the equations of lines of regression between the indices.

Price index of cotton 78 74 85 88 89 63 69 72

Price index of wool 84 82 65 87 78 73 62 86

UNIT IV

1.i) In how many different ways can the letters of the word SUNDAY will be arranged ii) How many of these arrangements begin with S iii) How many of these arrangements begin with A iv) How many of these arrangements begin with S and do not end with A.

2. Tickets are numbered from 1 to 100. They are well shuffled and a ticket is drawn at random. What is the probability that the drawn ticket has:

a) An even number

b) A number 5 or a multiple of 5

- c) A number which is greater than 75
 - d) A number which is a square
3. Two dice are thrown. Find the probability that.
- a) The total of the numbers on the dices is 8
 - b) The first die shows 6
 - c) The total of the numbers on the dice is greater than 8
 - d) The total of the number on the dice is 13
 - e) Both the dice show the same number
 - f) The sum of the numbers shown by the dice is less than 5
 - g) The sum of the numbers shown by the dice is exactly 6
4. Explain Measurement of Probability in detail.
5. Explain Relative Frequency Theory of Probability in detail.

UNIT V

1. Calculate the standard error of mean from the following data, showing the amount paid by 100 firms in Calcutta on the occasion of Durga Pooja.

Mid value (in Rs)	35	45	55	65	75	85	95
No of firms	3	2	11	20	32	27	5

2. Explain in detail about the Estimation Theory.
3. In a random sample of 1000 persons from town A 400 are found to be consumers of wheat. In a sample of 800 persons from town B 400 are found to be consumers of wheat. Do this data reveal a significance difference between town A and town B. So far as the proportion of wheat consumer is concerned.

4. In a certain sample of 2000 families, 1400 families are consumers of tea. Out of 1800 Hindu families, 1236 families consume tea. Use χ^2 test and state whether there is any significant difference between consumption of tea among Hindu and non-Hindu families.

5. A certain drug was administered to 456 males out of a total of 720 in a total locality to test its efficiency against typhoid. Find out the effectiveness of drug against the disease (the table value of Chi square of 1 degree freedom at 5% level of significance is 3.841).