PG DEPARTMENT OF COMMERCE (CA)

QUESTION BANK

COURSE : B.COM CA **SEMESTER: II**

SUBJECT CODE: 18UCC2A2 **SUBJECT TITLE:** Business Mathematics and Statistics

K1 LEVEL

1. How many types of matrices are there?
   a) 15 b)5 c) 10 d) 12

2. Zero matrix is also called as
   a) Diagonal Matrix b) Unit Matrix **c) Null Matrix** d) Equivalent Matrix

3. Triangular Matrix are of
   a) 3 types b) 4 types **c) 2 types** d) 5 types

4. The other name of Unit Matrix is
   a) Equivalent Matrix b) Equal Matrix **c) Identity Matrix** d) Null Matrix

5. A diagonal matrix in which all the elements in the diagonal are equal is ___
   a) Diagonal Matrix b) Square Matrix c) Equal Matrix **d) Scalar Matrix**

6. A matrix obtained by deleting one or more rows or one or more columns is _____ matrix
   a) Triangular Matrix **b)Sub matrix** c) Non-singular matrix d)Orthogonal Matrix

7. Inverse of a matrix is denoted by
   a) A-1 b) A1 c) $|A|$ d) $1/|A|$

8. Rank of a matrix is denoted by
   a) R b) r **c)P(A)** d) R1

9. When the number of rows and the columns are equal, the matrix is _____
   a) Equal Matrix b) Column Matrix **c) Square Matrix** d) Zero Matrix

10. Matrix enables compact_____
    a) Picture **b) Presentation** c) Graph d) Elements

11. Matrix is an arrangement of _____ in rows and columns

    a) Numbers b) Symbols c) Values **d) Elements**

12. Matrix occupies an important place from code message to solution of _____

    a) Simultaneous equations b) Elements c) Numbers d) Symbols

13. If there is only one row in a matrix, it is called _____

    a) Column matrix **b) Row matrix** c) Null Matrix d) Zero Matrix

14. If there is only one column in a matrix, it is called _____

    a) Column matrix b) Row matrix c) Null Matrix d) Zero Matrix

15. If all the elements of a matrix are zeros, it is called _____

    a) Column matrix b) Row matrix **c) Null Matrix** d) Equivalent Matrix

16. A'A = AA' = I is a

    a) Column matrix **b) Orthogonal Matrix** c) Null Matrix d) Zero Matrix

17. (A+B)+C = A+(B+C) is a

    a) Commutative Property **b)Associative property** c) Distributive property d) inverse property

18. Additive inverse of A is

    a) +A **b) –A** c) A' d) A-

19. (KA)' = KA' where K is a

    a) Transpose b) Inverse **c) Scalar** d) Equation

20. A system of linear equations is said to be inconsistent if it has _____

    a) Solution **b) no solution** c) 0 d) None

21. Determinant method is also called as

    a) Cramer's Rule b) Matrices c) Associative b) Distributive

22. _____ of an element of a determinant is the value of the lower order determinant obtained by deleting the row and the column which contain the element.

    a) Cofactor **b) Minor** c) Determinant d) Matrix

23. Depending on the position of an element, the minor itself is the ____

a) Cofactor b) Minor c) Determinant d) Matrix

24. C of A is _____

a) Commutative of A b) Constant of A **c) Cofactor of A** d) Adjoint o A

25. A.(adj A) =

a) $|A|\, I$ b) $A\,|I|$ c) $|AI|$ d) AI

26. A system of simultaneous linear equations is

a) X= C **b) AX = C** c) CA = X d) A = X

27. The amount borrowed by the debtor is called _____

a) Principal b) Interest c) Discount d) Gain

28. Annuities are classified into _____

a) 3 **b) 2** c) 4 d) 6

29. When the payments fall due at the beginning of each interval, the annuity is called_____

a) Immediate annuity **b) Annuity due** c)Perpetual annuity d) Contingent annuity

30. Present value of an annuity is denoted by

a) P **b) V** c) M d) A

31. When the payments are to be made at the end of each interval it is _____

a) Annuity due b) Annuity certain **c) Immediate annuity** d) Perpetual annuity

32. Sum of money set aside periodically for the purpose of wiping out a debt on liabilities is

a) Interest b) Principal **c) Sinking fund** d) Payment

33. Amount of an annuity is denoted by

a) M b) A c) V d) P

34. The period between the legally due date and the date of discounting of a bill is

a) True discount b) Date of Maturity **c) Discount period** d) Due date

35. The value due on the due date from a bill of exchange is its _____

a) Face value b) Date of Maturity c) Banker's gain d) Due date

36. The difference between banker's discount and true discount is _____

a) True discount b) Date of Maturity **c) Banker's gain** d) Due date

37. Unit of time is usually ___

a) 2 years **b) 1 year** c) 4years d) 3 years

38. A =

a) P – I **b) P + I** c) I – P d) I + P

39. When compound interest is calculated yearly, then _____

a) r>s b) r-s **c) r=s** d) r<s

40. When compound interest is calculated by considering some other unit of time, then

a) r>s b) r-s c) r=s **d) r<s**

41. Money lent in a bank earns _____ time after time.

a) Interest b) discount c) both d) none

42. The repayment of a debt is presented in an _____ table.

a) Amortization b) Installment c) Interest d) discount

43. _____ is an order signed by the maker directing a certain person to pay after a specified time.

a) Discounting **b) Bill of Exchange** c) Banker's gain d) Banker's discount

44. The difference between the face value and the present value is the _____

a) True discount b) Date of Maturity c) Banker's gain d) Due date

45. _____due date is a common date for several bills of exchange.

a) Actual **b) Equated** c) Both d) None

46. How many methods are there in finding Arithmetic Mean?

a) 4 **b) 3** c) 2 d)5

47. $\sum$ denotes

a) Sum **b) Average** c) Difference d) Multiplication

48. Raw data are difficult to

a) Classify b) Organise **c) Comprehend** d) Evaluate

49. Statistics is derived from the latin word

a) Statista b) Statistik c) statistique **d) status**

50. Statistics is the science of estimates and _____

a) Interpretation b) presentation **c) probabilities** d) analysis

51. The data relevant of the investigation in hand are generally _____

a) Compiled b) presented c) investigated d) analysed

52. Statistics does not consider a _____ item

a) Single b) double c) many d) few

53. AM is calculated on the basis of _____

a) Marks **b) Magnitudes** c) Places d) Position

54. In continuous series the values are _____ distributed in the interval

a) Un even b) single **c) Equally** d) Un equally

55. _____ is the value which has the greatest frequency density.

a) Mean **b) Mode** c) Median d) Average

56. The set of which has only one mode is said to be_____

a) Bimodal b) Multimodal **c) Unimodal** d) none

57. Sets which have more than two modes are called

a) Bimodal **b) Multimodal** c) Unimodal d) none

58. _____ of N values is the Nth root of the product of the N values.

a) Mean b) Median **c) Geometric mean** d) Harmonic mean

59. _____ is the reciprocal of the mean of the reciprocals of the values.

a) Mean b) Median c) Geometric mean **d) Harmonic mean**

60. _____ is undoubtedly the appropriate average in the study of qualities and consumer preferences.

a) Mean b) Median **c) Mode** d) Geometric mean

61. Geometric mean is suitable to compute _____

a) Index numbers b) values c) speed d) rates

62. Harmonic Mean is used to analyse_____

a)Speed b) Rates **c) Both** d) None

63. Measures of _____ provide a basis for the control of variability.

a) Dispersion b) Central tendency c) Both d) None

64. There are _____ kinds of dispersion.

a) 5 **b)2** c)6 d)3

65. _____ is the difference between the greatest and the smallest of the values

a) Mean b) Median c) Mode **d) Range**

66. Range =

a) L+S b) L/S c) S/L **d) L-S**

67. SD stands for

a) Step Deviation b) Standard Deviation c) Both **d) None**

68. CV stands for

a) Cummulative **b) Coefficient of Variation** c) Both d) None

69. S.D/AM X 100 =

a) CV b)HM c) GM d) None

70. The term correlation refers to the relationship between_____

a) Values b) Median **c) Variables** d) Symbols

71. When the values of two variables change in the same direction, there is_____

a) Positive correlation b) Simple or Partial correlation c) Linear d) Non linear

72. In negative correlation the values of two variables change in _____ direction

a) Same **b) Opposite** c) Parallel d) Symmetrical

73. When only two variables are considered as positive or negative correlation it is _____

a) Simple b) Partial c) Multiple d) Positive

74. When the correlation between two variables are constant it is _____

a) Simple b) Partial c) Multiple **d) Positive**

75. Rc is denoted for _____ method.

a) Concurrent deviation b) Spearman's c) Regression d) Karl Pearson's

76. Standard Error and probable error are denoted by _____

a) S(E®) b) SER c) SRE d) S(E)R

77. Karl pearson's co-efficient of correlation is also called as_____

a) Scatter Diagram **b) Product moment correlation** c) Concurrent deviation d) Spearman's

78. Spearman's rank correlation coefficient is useful in _____ analysis

a) Quantitative **b) Qualitative** c) Both d) None

79. If N is _____, it is very difficult to rank the items

a) Large b) Small c) Even d) Uneven

80. R = 0 represents _____ of linear correlation

a) Presence b) High **c) Absence** d) Low

81. _____ indicate perfect positive correlation.

a) R+1=0 **b) r= +1** c) r=-1 d)r-1=0

82. _____ indicate perfect negative correlation.

a) R+1=0 b) r= +1 **c) r=-1** d)r-1=0

83. The regression is also called as_____ equation.

a) Correlation **b) Estimating** c) Fine d) Identified

84. The meaning of regression is _____

a) Forwarding b) Propounding **c) Returning** d) None

85. In regression one variable is considered as _____ variable.

a) Dependent b) Independent **c) Both** d) None

86. _____ is not in any unit of measurement.

a) Correlation b) Regression c) Both d) None

87. Correlation coefficient is a number between_____

a) -2 and +2 **b)-1 and +1** c) -5 and 0 d) none

88. The precision of the estimate is given by standard error of_____

a) Probabilities **b) Estimate** c) Convention d) Consolidation

K2 Questions

1. Define matrix

Matrix is an arrangement of elements (numbers) in rows and columns. The number are enclosed by parentheses or brackets or double bars.

2. Explain about the important of matrix

Matrix enables compact presentation and facilitates smooth manipulations, it is used in many fields of study.

3. Describe square matrix.

When the number of rows and the number of columns of a matrix are equal , the matrix is called a square matrix.

4. Illustrate the row matrix.

If there is only one row in a matrix, it is called a row matrix or row vector.

5. Write the meaning of null matrix with example.

If all the elements of a matrix are zeros, it is called a zero or null matrix and is denoted by 0.Example: $\begin{bmatrix} 0 & 0 \\ 0 & 0 \end{bmatrix}$

6. Clarify the concept of Transpose.

Let A be a matrix of order m×n. The transpose of A is denoted by A' .

7. Explain about determinants.

With each square matrix A we can associate a determinants which is denoted by the symbol |A| or det. A or Δ.

8. Define Columns matrix.

If there is only one column in a matrix, it is called a column matrix or a column vectors.

9. Differentiate between matrix and determinants.

Matrix	Determinants
Number of rows and number of columns can be equal or unequal	Number of rows and n.umber of columns are equal

10. Portray the unit matrix.

A square matrix whose diagonal elements are 1 (unit) each and non diagonal elements are zero is called a unit matrix or an identity matrix.

11. Explain the simple interest.

The interest for one unit of time is multiplied by the number of units of time to determine the internet due

12. Write the meaning of principal.

The amount borrowed by the debtor is called the principal.

13. Distinguish between simple and compound interest.

Simple interest	Compound interest
The interest for one unit of time is multiplied by the number of units of time to determine the internet due	The interest for the first unit of time is equal to the simple interest per unit of time. The interest for the second unit of time is to be calculated on the original principal and the interest of the first unit of time.

14. Explain about annuities.

There is a series of payments in a annuity while there is only one payment (P) in compound interest.

15. Differentiate between annuity contingent and annuity due

Annuity contingent	Annuity due
Annuity contingent, payments depend on the happening of certain contingencies	When the payments fall due at the beginning of each interval, the annuity is called annuity due.

16. Explain about annuity due.

When the payments fall due at the beginning of each interval, the annuity is called annuity due.

17. Write the meaning of immediate annuity.

When the payments are to be made at the end of each interval, the annuity is called immediate annuity.

18. Write the meaning of present value.

Present value of an annuity is the sum of the present values of all the instalment payments and is denoted by **V.**

19. Identify the formula to calculate compound interest.

C.I=A-P.

20. Explain about discounting.

Instead of waiting till the legally due date, the drawer of a bill of exchange may give it to a banker and get a sum of money which is less than its face value

21. Identify the concept of true discount

The difference between the face value and the present value is the true discount

22. Explain about discount period

The period of time between the legally due date and the date of discounting of bill is the discount period

23. Illustrate legally due date

For a bill of exchange a grace time of 3 days from the due date it is allowed while discounting

24. Explain banker gain

Difference between banker's discount and true discount is the banker's gain

25. Meaning of face value

The value Due of the due date from a bill of exchange is its face value who are the amount due

26. Explain about bill of exchange

The bill of exchange is an order signed by the maker directing ascertained person to pay after a specified time a certain sum of money to him I'm hard to his order or to the bearer of the instrument for the value of goods received by drawee on credits.

27. Explain about sinking fund

Sums of money set aside periodically for the purpose of wiping out Dept or meeting certain liabilities in future is called sinking fund

28. Define statistics

"Statistics are numerical statement of facts in any department of enquiry, placed in relation to each other"

29. Describe any two functions statistics

Collection of data relevant for the investigation in hand are generally collected

Numerical presentation-In a number of of instance numerical data are more effective than qualitative statements

30. Write any two important it characteristics of statistics

1. Statistics is a qualitative science

2. It never considers a single item

31. List the scope of statistics

1.Industry

2.Commerce and business

32. Describe any limitations of statistics

Statistics does not consider a single item: A single item is considered in statistics only aggregate of times is considered. This is different from the

situation where a doctor treats only one patient

33. Define mean

An average is a value which is typical are representative of a set of data

34. Write the various measures of central tendency.

1. Arithmetic mean

2. Median

3. Mode

4.Geometric mean

5. Harmonic mean

35. Write the formula to calculate median

$$\text{Median-} \frac{N+1}{2}$$

36. Define median

Median is the value of the middle most item when and all the items are in the order of magnitude

37. Define mode.

Mode is the value which has the Greatest frequency density.

38. Explain about harmonic mean.

Harmonic mean is the reciprocal of the Mean of the reciprocal of the values.

39. Explain about geometric mean.

Geometric mean of N values is the Nth root of the product of the N values.

40. Explain the concept of correlation.

The term correlation refers to the relationship between the variables.

41. Describe about simple linear correlation.

When only two variables are considered As under positive ornegative, the correlation between them is called simple correlation.

42. Explain about positive correlation?

When the values of two variables Change in the same direction, it is called Positive correlation.

43. Portray negative correlation?

When the values of two variables Change in the opposite direction, it

is called negative correlation.

44. Explain about partial correlation?

When the linear effects of all other Variables on them are removed, is called Partial correlation.

45. Distinguish between partial and multi Correlation.

Partial correlation	Multi correlation
When the linear effects of all other variables are on them are removed, is called partial correlation.	When more than two variables are considered the correlation between one of the other variables is called multi correlation.

46. What is scatter diagram?

A point is plotted on a graph sheet corresponding to each pair of the values. The resulting diagram N points is called scatter diagram.

47. Explain about regression?

The meaning of the word regression is Returning or going back.

48. Distinguish between correlation and regression.

Correlation	Regression
Correlation is the relationship between variables. It is expressed express numerically.	Regression means going back. The average relation between the Variables is given as an Equation.

49.Write any two uses of regression?

1. Regression analysis is used in statistics and other Disciplines.
2. The tools to find the relation and to use it for Prediction are provided by regression analysis.

50.Write any two characteristics of mean

1. Mean should be rigidly defined
2. It is simple to understand and easy to calculate.

K3 LEVEL

1. Explain any five types of matrices.
2. If $A=\begin{pmatrix} 4 & 6 & 9 \\ 3 & 5 & 10 \end{pmatrix}$ and $B=\begin{pmatrix} 5 & 0 & 1 \\ 4 & -7 & -3 \end{pmatrix}$ Find A+B

$\begin{pmatrix} & \\ & \end{pmatrix}$ $\begin{pmatrix} & \\ & \end{pmatrix}$

3. If A= $\begin{matrix} 4 & 6 & 9 \\ 3 & 5 & 10 \end{matrix}$ and B = $\begin{matrix} 5 & 0 & 1 \\ 4 & -7 & -3 \end{matrix}$ Find A-B

4. If A = (3 5 6) and B= $\begin{pmatrix} 4 \\ 1 \\ 2 \end{pmatrix}$ Find AB

5. Examine whether AB=B and BA=A, given A= $\begin{matrix} 4 & -2 \\ 3 & -1 \end{matrix}$ and B = $\begin{matrix} 2 & 4 \\ 3 & 6 \end{matrix}$

6. Differentiate Matrices and Determinants.

7. Solve the following equations by Cramer's rule.

   3x+2y = 8 ; 5x-3y = 7

8. Evaluate $\begin{vmatrix} 2 & 3 \\ 1 & 4 \end{vmatrix}$ X $\begin{vmatrix} 2 & 4 \\ 3 & 1 \end{vmatrix}$

9. If A=10A-50I=0 and A = $\begin{matrix} 5 & 0 & 0 \\ 0 & 5 & 0 \\ 0 & 0 & 5 \end{matrix}$ find A-1

10. Examine minor and cofactor.

11. Find the simple interest and the sum of Rs.6,000 @ 10% P.A for three years?
12. Calculate the total amount that will be received from the debtors when the principle amount Rs.10,000 is lent to him on interest for 4 years @ 9% P.A?
13. Rs.6,000 amounts to Rs.8,940 @ 14% P.A interest. Find the number of years for which the amount was lent?
14. If a term deposit of Rs.4,000 earns an interest of Rs.2,500 in 50 months. Find the rate of interest?
15. A certain sum amounts to Rs.4,000 at the end of 5 years @ 12% P.A interest. Find the sum?
16. Mr.Ramesh deposited Rs.25000 on 1.1.94. At the end of 5 months, he withdrew 5,000. Find the interest due to him on 31.12.94 rate of interest=12%?

17. A sum of money amounted to Rs.1071 in 6 months and Rs.1106 for 16 months. Calculate the rate of interest?
18. Mr.X has two daughters A and B aged 10 ½ years, he has Rupees 1,80,000 with him now, but wants that both of them should get an equal amount when they are 18 years old. How should he divide the money if it has deposited with his friend who gives only 5% Simple Interest P.A?
19. Mr.S deposited A total Rs.4 5,000 into 2 different banks which given 10% and 15% Interest respectively, the amount repayable by the two banks at the end of 10 years are to be equal determine the individual amounts of deposit.
20. Mr.A borrows Rs.1,00,000 at 24% compounded monthly. Find the amount he has to repay at the end of 3 years?
21. The expenditure of 10 families in rupees are given below.

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

Calculate the arithmetic mean by short cut method.

22. Find the harmonic mean for the following individual data.

6,15,35,40,900,520,300,400,1800,2000

23. Calculate the mode.

Central value	70	90	110	130	150
Frequency	43	78	83	125	87

24. Calculate the harmonic mean from the following data.

X:	10	12	14	16	18	20
F:	5	18	20	10	6	1

25. Calculate the mode of the following frequency distribution.

Wages above Rs.	10	20	40	60	80	100
Number of workers	50	45	34	16	6	0

26.Calculate the median from the following data.

Marks	10-25	25-40	40-55	55-70	70-85	85-100
Frequency	6	20	44	26	3	1

27. Calculate the geometric mean and harmonic mean.

Marks	20	21	22	23	24	25
No.of students	4	2	7	1	3	1

28.Find median.

67 68 61 42 38 65 72 66

29. Calculate weighed harmonic mean.

Value	1	2	5	10	20
Weight	2	5	10	5	2

30. Find median for the following.

6 9 21 5 7 -2 0 32 9

31. Calculate the arithmetic mean.

Marks	40	50	54	60	68	80	Total
No.of students	10	18	20	39	15	8	110

32. From the following data, compute arithmetic mean by short cut method.

Marks obtained	0-10	10-20	20-30	30-40	40-50	50-60
No. Of marks	5	10	25	30	20	10

33. The monthly income of 12 families are given below.

S. No.	1	2	3	4	5	6	7	8	9	10	11	12

Income (Rs) 280 180 96 98 104 85 80 94 100 75 600 200

34. Calculate the mean number of persons per house.given

No. Of persons per house 2 3 4 5 6

No. Of house 10 25 30 25 10

35. The monthly income of 12 families in a town is given below.

S.No - 1 2 3 4 5 6 7 8 9 10 11 12

Income (Rs)- 280 180 96 98 104 85 80 94 100 75 600 200

Calculate the arithmetic mean by taking 150 as the assumed mean.

36. Find the arithmetic mean by step deviation method.

Marks: 20 30 40 50 60 70 80 90 90

37. Calculate the mean number of persons per house. Given

No. Of persons per house: 2 3 4 5 6 Total

No. Of houses: 10 25 30 25 10 100

38. .Calculate the arithmetic mean.

Marks: 40 50 54 60 68 80 Total

No. Of students: 10 18 20 39 15 8 110

39. Calculate the arithmetic mean from the following discrete series.

Daily wages (Rs): 75 100 120 150 200 Total

No. Of labourers : 5 12 20 14 9 60

40.Calculate 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

41.From the following data, compute arithmetic mean by short cut method.

Marks obtained: 0-10 10-20 20-30 30-40 40-50 50-60

No. Of students: 5 10 25 30 20 10

42. The annual profits of 90 companies are given below. Find the arithmetic mean.

Annual profits (Rs.lakhs): 0-19 20-39 40-59 60-79 80-99

No. Of companies: 5 17 32 24 12

43. Examine different types of correlation.

44. Examine any two methods of calculating coefficient of correlation.

45. The following table gives aptitude test scores and productivity indices of 8 randomly selected workers.

Aptitude score	57	58	59	59	60	61	62	64
Productivity index	67	68	65	68	72	72	69	71

Calculate the correlation coefficient between aptitude score and productivity index.

46. Compute 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

47. Examine Karl pearson's coefficient of correlation.

48. Examine Spearman's Correlation coefficient.

49. Explain the uses of Regression.

50. Differentiate correlation and regression.

K4/K5 LEVEL

1. Solve the following system of simultaneous equations by cramer's rule

2x+3y-3z=22; x-y+z=4; 4x+2y-z=9;

2. If A= $\begin{pmatrix} 4 & -1 & 0 \\ -3 & 5 & -6 \\ 5 & -7 & 8 \end{pmatrix}$ and B= $\begin{pmatrix} -1 & 0 & 1 \\ 5 & -2 & 2 \\ 3 & 4 & 3 \end{pmatrix}$

Find A+B and A-B

3. What are the differences between the matrices and Determinants?

4. Find the minors and cofactors of all the elements of $\begin{pmatrix} 5 & 6 & 7 \\ 0 & 1 & -3 \\ -2 & 4 & 9 \end{pmatrix}$

5. If A = $\begin{pmatrix} 2 & 3 & -4 \\ 6 & 7 & 8 \end{pmatrix}$ B = $\begin{pmatrix} 6 & -3 & 2 \\ 5 & 0 & 8 \end{pmatrix}$ C = $\begin{pmatrix} 1 & 2 & -3 \\ 5 & -4 & 3 \end{pmatrix}$ find A+B-C;

A-B+C; B-C+A; A-B-C;

6. Mr. A borrow Rs.1, 00,000 at 24% compounded monthly. Find the amount he has to repay at the end of 3 years.

7. Find the present value of an immediate annuity of Rs.1000 for 14 years following C.I at 5%.

8. Explain about the Characteristics of statistics.

9.Find the compound interest on Rs.20,000 for 5 years at 20% per annum. What will be the simple interest in the above case?

10.Siva lend Rs.1,200 to Vinayaga and a certain some of money to Muruga @ the same time at 12% P.A on simple interest of in 3 years. Siva receives all together Rs.648 of Interest from the two. Find the sum borrowed the Muruga?

11.Calculate the Compound Interest for Rs.2500 for 4 years @ 8% P.A. (a) Half yearly

(b) Quarterly.

12.Balu borrowed 2,25,000 from Rathinam but could not repay the amount in the period of 5 accordingly Rathinam demand Rs.35,880 repay at what percentage Compound Interest lent his Amount?

13.Mr.B deposits Rs.12,000 in Pandumurugan association and get Rs.27.566.93 at the end of 3 ½ years. Find the rate of Compound Interest which the Company pays from Months?

14.What amount lent 10% P.A Compound Interest will fetch 630 as Interest in 2 years?

15.A certain sum deposited in a bank at 15% P.A Compounded Monthly amount to Rs.42.143.63 at end of 5 years. Find the principle?

16.If a term deposit Rs.12,500 yields and interest of Rs.5088.75 at 10% Compound Interest Compounded half yearly. Find the period of the term deposit?

17. .Mr.X borrows Rs.20,000 at 4% Compound Interest and agrees to pay both the principle and the interest in 10 Equal Installments at the end of the year. Find the amount of these Installments?

18.The bankers gain on a sum due 10 months hence at 6% p.a is Rs.25. Find the Sum due?

19.A Sum of Rs.1000 is to be paid at the end of every year for a period of 5 years at the rate of 10% per annum compound interest. If the first Installment is paid at the end of first year. How much amount will be accrued to the credit of the deposited? What is its present worth?

20.A person deposits Rs.5000 every year with company which pays him interest at 12% p.a he allows his deposits to accumulated with company at Compound interest. What would be the amount standing to his credit one year after he has made his deposit for 15th time?

23.The annual membership fee of an association is Rs.3000. Dr.Pandian is eager to become a life member by paying a lump sum. Assuming the expectation of life of a man of his age is 20 years and rate of Compound Interest 15%. How much should the association charge now?

24.A bill for Rs.1325 was drawn on 22nd January at 6 months date and discounted on 10th April at the rate 10% per annum. Find the sum for which the bill was discounted and the bankers gain?

25.Find the true discount and the bankers discount on a bill whose present value is Rs.10000 and which is legally due 4 months, hence at 10% p.a. What are its Face value and Cash value? How much is the bankers gain?

26. The expenditure of 10 families in Rupees are given below.

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

Calculate the arithmetic mean.

27. The expenditure of 10 families in Rupees are given below.

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

Calculate the arithmetic mean by short cut method.

28. The monthly income of 12 families in a town is given below.

S.No -	1	2	3	4	5	6	7	8	9	10	11	12
Income (Rs)-	280	180	96	98	104	85	80	94	100	75	600	200

Calculate the arithmetic mean by taking 150 as the assumed mean.

29. Find the arithmetic mean by step deviation method.

Marks:	20	30	40	50	60	70	80	90	90

30. Calculate the mean number of persons per house. Given

No. Of persons per house:	2	3	4	5	6	Total
No. Of houses:	10	25	30	25	10	100

31. Calculate the arithmetic mean.

Marks:	40	50	54	60	68	80	Total
No. Of students:	10	18	20	39	15	8	110

32. Calculate the arithmetic mean from the following discrete series.

Daily wages (Rs):	75	100	120	150	200	Total
No. Of labourers :	5	12	20	14	9	60

33. Calculate 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

34. From the following data, compute arithmetic mean by short cut method.

Marks obtained:	0-10	10-20	20-30	30-40	40-50	50-60
No. Of students:	5	10	25	30	20	10

35. The annual profits of 90 companies are given below. Find the arithmetic mean.

Annual profits (Rs.lakhs):	0-19	20-39	40-59	60-79	80-99
No. Of companies:	5	17	32	24	12

36. Calculate the mean height.

Height below (cms):	150	155	160	165	170	175	180	185
No. Of soldiers:	0	23	77	152	266	419	472	500

37. Calculate the arithmetic mean from the Following data.

Weight above(kgs):	20	25	30	35	40
No. Of Boys:	160	145	100	50	9

38. Find Median for the following:

6 9 21 5 7 -2 0 32 9

39. Find Median:

57 58 61 42 38 65 72 66

40. Find the Median

No. Of cars sold in a days:	10	15	17	18	21	Total
No. Of days:	4	16	12	5	3	40

41. 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

42. Calculate the median for the following:

Value:	0-9	10-19	20-29	30-39	40-49	50-59	60-69
Frequency:	328	720	664	598	524	378	244

43.Determine the mode:

(i)320, 395, 342, 444, 551, 395, 425, 417, 395, 401, 390, 400.

(ii)3, 6, 7, 5, 8, 4, 9.

(iii)25, 32, 24, 27, 32, 27, 25, 32, 24, 27, 25, 24.

(iv)0, 2, 5, 6, 9, 5, 6, 14, 6, 15, 5, 6, 5.

44. Find out mode for the following data using grouping and analysis table.

CI	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40
Frequency	9	12	15	16	17	15	10	13

45. The following table gives aptitude test scores and productivity indices of 8 randomly selected worker

Aptitude Score	57	58	59	59	60	61	62	64
Productivity Index	67	68	65	68	72	72	69	71

Calculate the correlation coefficient between aptitude score and productivity index.

46. Calculate the correlation coefficient

	X	Y
Arithmetic mean	36	85
Standard Deviation	11	8
Correlation coefficient between X and Y		0.66

47. For the data given belowcalculate the rank correlation co-efficient.

X	21	36	42	37	25
Y	47	40	37	42	43

48. From the following data, obtain the two regression equations:

X	6	2	10	4	8
Y	9	11	5	8	7

49. Explain about the difference between correlation and regression.

50. Explain in briefly about the scope of Statistics.

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