Economics

Collection Of Data

Q1. The correlation between sale of woolen garments and day temperature is: **1 Mark**

A Positive. **B** Negative. **C** Zero. **D** None of these.

Ans: B Negative.

2. Negative.

Q2. If bxy = 0.25 and byx = 0.64, correlation coefficient is _____. **1 Mark**

A 0.16 **B** 0.40 **C** 0.89 **D** 0.30

Ans: B 0.40

2. 0.40

Q3. When two variables change in a constant proportion, it is called: **1 Mark**

A Linear correlation. **B** Non-linear correlation. **C** Partial correlation.
D None of these.

Ans: A Linear correlation.

1. Linear correlation.

Q4. When r = 1, all the points in a scatter diagram would lie: **1 Mark**

A On a straight line directed from lower left to upper right. **B** On a straight line.
C On a straight line directed from upper left to lower right. **D** Both (a) and (b).

Ans: B On a straight line.

2. On a straight line.

Q5. The coefficient of correlation is independent of: **1 Mark**

A Origin but not scale. **B** Scale but not origin. **C** Both origin and scale.
D Neither origin nor scale.

Ans: C Both origin and scale.

3. Both origin and scale.

Q6. Regression is_____. **1 Mark**

A Independent of origin and scale **B** Independent of origin and not of scale
C Independent of origin **D** Independent of scale

Ans: B Independent of origin and not of scale

Explanation:
Regression is the statistical analysis that measure the degree of relationship between two variables i.e. dependent and independent variables. Regression is independent of origin and not of scale.

Q7. The coefficient of correlation is independent of: **1 Mark**

A Change of scale only. **B** Change of origin only. **C** Both change of scale and origin.
D None of the above.

Ans: C Both change of scale and origin.

3. Both change of scale and origin.

Q8. When coefficient of correlation lies between +0.25 and +0.75, it is called: **1 Mark**

A Perfect degree of correlation. **B** High degree of correlation.
C Moderate degree of correlation. **D** Low degree of correlation.

Ans: **C** Moderate degree of correlation.

3. Moderate degree of correlation.

Q9. Correlation measures _____. **1 Mark**

A The degree of variability between the two variables.
B The nature of the relationship between the two variables.
C Functional relationship between two variables. **D** All of the above.

Ans: **A** The degree of variability between the two variables.

Explanation:
Correlation is the statistical measure that indicates the degree tow which two or more variables fluctuate or how strongly they are connected to each other. Value of coefficient ranges between -1 to +1.

Q10. _____ gives a precise numerical value of the degree of linear relationship between two variables X and Y. **1 Mark**

A Scatter diagram **B** Spearmans coefficient of correlation
C Karl Pearsons Coefficient of Correlation **D** None

Ans: **C** Karl Pearsons Coefficient of Correlation

3. Karl Pearsons Coefficient of Correlation

Q11. For finding the degree of agreement about beauty between two judges in a beauty contest, we use: **1 Mark**

A Coefficient of correlation. **B** Coefficient of concurrent deviation. **C** Scatter diagram.
D Coefficient of rank correlation.

Ans: **D** Coefficient of rank correlation.

4. Coefficient of rank correlation.

Q12. Coefficient of correlation lies always between: **1 Mark**

A 0 and +1 **B** -1 and 0 **C** -1 and +1 **D** None of these.

Ans: **C** -1 and +1

3. -1 and +1

Q13. Rank correlation method was developed by: **1 Mark**

A Charles Edward Spearman. **B** Karl Pearson's. **C** JB Say.
D None of the above.

Ans: **A** Charles Edward Spearman.

1. Charles Edward Spearman.

Q14. Karl Pearson's coefficient of correlation ranges from: **1 Mark**

A + 1 to -1 **B** -1 to 0 **C** 0 to 1 **D** -2 to + 2.

Ans: **A** + 1 to -1

1. + 1 to -1.

Q15. Rank correlation depends on _____. **1 Mark**

A A specific distribution **B** The ranks of observations **C** The ranks of unknown value
D The ranks of known value

Ans: **B** The ranks of observations

Explanation:
Rank correlation is the measure of association or strength between the ranked variables.
For example: the rank of this numerical data 65, 25, 75, 69 would be 3, 4, 1, 2 respectively.

Q16. The correlation coefficient will be -1 if the slope of the straight line in a scatter diagram is: **1 Mark**

A Positive. **B** Negative. **C** Zero. **D** None of these.

Ans: **B** Negative.

2. Negative.

Q17. If all the plotted points in a scatter diagram lie on a single line, then the correlation is: **1 Mark**

A Perfect positive. **B** Perfect negative. **C** Both (a) and (b). **D** Either (a) or (b).

Ans: D Either (a) or (b).

4. Either (a) or (b).

Q18. Which of the following is an example of spurious correlation? **1 Mark**

A Positive correlation between height and weight.
B Positive correlation between time spent on computer and number of spectacles used.
C Positive correlation between rainfall and birth rate.
D Negative correlation between price and quantity demanded.

Ans: C Positive correlation between rainfall and birth rate.

3. Positive correlation between rainfall and birth rate.

Q19. In a 'negative relationship: **1 Mark**

A As x increases, y increases. **B** As x decreases, y decreases.
C As x increases, y decreases. **D** Both (a) and (b).

Ans: C As x increases, y decreases.

3. As x increases, y decreases.

Q20. Which of the following techniques deals with the association between two or more variables? **1 Mark**

A Index number. **B** Correlation. **C** Dispersion. **D** None of the above.

Ans: B Correlation.

2. Correlation.

Q21. If decrease in value of one variable is accompanied by the proportional increase in second variable, then correlation between two variables is: **1 Mark**

A Perfect positive **B** Perfect negative **C** Imperfect positive **D** Imperfect negative

Ans: B Perfect negative

Explanation:
If increase in value of one variable is accompanied by the proportional decrease in second variable, then corrrelation between two variables is perfect negative.

Q22. The angle between the two lines will be wider when the correlation between two variable is_____. **1 Mark**

A Less **B** More **C** Equal **D** Very high

Ans: A Less

Explanation:
The larger the angle between the two regression lines, less the degree of correlation between the two variables and similarly, the small the angle between two lines, the larger would be the degree of correlation between them.

Q23. If r is positive, then the two variables move in the _____ direction: **1 Mark**

A Opposite. **B** Same. **C** Upward. **D** None of these.

Ans: B Same.

2. Same.

Q24. Which of the following pair is correctly matched? Method Direct Method: **1 Mark**

S. No.	Method	Formula
(i)	Direct Method	$r = \frac{\Sigma dxdy.n - (\Sigma dx)(\Sigma dy)}{\sqrt{\Sigma dx^2 . n(\Sigma dx)^2}(\sqrt{\Sigma dy^2 - (\Sigma dy)^2}}$
(ii)	Short-Cut Method	$r = \frac{\Sigma xy}{n . \sigma_x . \sigma_y}$

(iii)	Step Deviation Method	$r = \frac{dx'dy'.n - (\Sigma dx')(\Sigma dy')}{\sqrt{\Sigma dx'.n(\Sigma dx')^2}(\sqrt{\Sigma dy' - (\Sigma dy')^2}}$

A Only (i) **B** Only (ii) **C** Only (iii) **D** Both (ii) and (iii).

Ans: C Only (iii)

3. Only (iii).

Q25. The formula to calculate Rank correlation coefficient is: **1 Mark**

A $1 - \frac{\Sigma D^2}{N^2 - 1}$ **B** $1 - \frac{6\Sigma D^2}{N^2 - 1}$ **C** $1 - \frac{\Sigma d^2}{N(N^2 - 1)}$ **D** $1 - \frac{6\Sigma D^2}{N^3 - N}$

Ans: D $1 - \frac{6\Sigma D^2}{N^3 - N}$

4. $1 - \frac{6\Sigma D^2}{N^3 - N}$

Q26. When area of rectangle is constant the correlation between its length and breadth is: **1 Mark**

A Perfect positive **B** Perfect negative **C** Imperfect positive **D** Imperfect negative

Ans: B Perfect negative

Explanation:

We know area of a rectangle = l × b
Given, A = constant, then l × b = constant
Hence, l and b are inversly proportional and they are perfect negative.

Q27. There is high direct association between measures of 'poor diet' and 'occurence of TB'. **1 Mark**
The correlation coefficient consistent with the above statement is:

A 0.30 **B** 0.80 **C** -0.80 **D** - 0.30

Ans: B 0.80

2. 0.80

Q28. The range of simple correlation coefficient is: **1 Mark**

A 0 to infinity. **B** Minus one to plus one. **C** Minus infinity to infinity.
D 0 to plus one.

Ans: B Minus one to plus one.

2. Minus one to plus one.

Q29. Which one of the following is false statement? **1 Mark**

A The sign of the regression coefficients are always the same.
B Correlation coefficient is the geometric mean of the regression coefficients.
C
The co-variance between two variables divided by the product of their standard deviations produces the value of coefficient of correlation.
D Coefficient of correlation is independent of origin but not of sale.

Ans: D Coefficient of correlation is independent of origin but not of sale.

4. Coefficient of correlation is independent of origin but not of sale.

Q30. If the two variables X and Y are independent then the value of r is: **1 Mark**

A 0 **B** 1 **C** -1 **D** None of the above.

Ans: A 0

1. 0.

Q31. The relationship among three or more than three variables is studied under; **1 Mark**

A Linear correlation **B** Simple correlation **C** Nonlinear correlation
D Multiple correlations.

Ans: D Multiple correlations.

4. Multiple correlations.

Q32. The correlation between shoe-size and intelligence is: **1 Mark**

A Zero. **B** Negative. **C** Positive. **D** None of these.

Ans: A Zero.

1. Zero.

Q33. If all the points lie on the same downward sloping line, the correlation is said to be: **1 Mark**

A Perfect correlation. **B** Perfect positive correlation. **C** Perfect negative correlation.
D Negative correlation.

Ans: C Perfect negative correlation.

3. Perfect negative correlation.

Q34. Mr. Sharma has ranked the students in his class on the basis of their science scores. He wants to compare the ranks of the same students in Ms. Oberoi's English class. Which measure of correlation is appropriate for Mr. Sharma to use? **1 Mark**

A Karl Pearson's method of correlation coefficient. **B** Spearman's method.
C Scatter diagram. **D** None of the above.

Ans: B Spearman's method.

2. Spearman's method.

Q35. _____ is the situation when two variables change in different directions. **1 Mark**

A Positive correlation **B** Negative correlation **C** Correlation
D Dispersion

Ans: B Negative correlation

2. Negative correlation

Q36. Correlation coefficient is dependent on the choice of both origin and the scale of observations. **1 Mark**

A True. **B** False. **C** Both (a) and (b). **D** None of these.

Ans: B False.

2. False.

Q37. When the mean of series is a decimal number, then which method should be used for computing Karl Pearson's coefficient of correlation? **1 Mark**

A Direct Method. **B** Short-cut Method. **C** Step Deviation Method.
D None of the above.

Ans: B Short-cut Method.

2. Short-cut Method.

Q38. Maximum value of rank correlation coefficient is: **1 Mark**

A 0 **B** +1 **C** -1 **D** None of these.

Ans: B +1

2. +1

Q39. Rank correlation is a superior method of analysis in case of _____ distribution. **1 Mark**

A Qualitative. **B** Quantitative. **C** Frequency. **D** None of these.

Ans: A Qualitative.

1. Qualitative.

Q40. To construct a scatter diagram, independent variable is taken on _____. **1 Mark**

A X-axis. **B** Y-axis. **C** Either X-axis or Y-axis.
D None of the above.

Ans: A X-axis.

1. X-axis.

Q41. Correlation is said to be simple when _____. **1 Mark**

A More than two variables are studied. **B** Only two variables are studied.
C Only one variable is studied.
D The value of two variables move in the opposite direction.

Ans: B Only two variables are studied.

Explanation:
Simple linear correlation is a measure of the degree of strength of association between two variables i.e. how strongly they are connected with each other.

Q42. When X increases, Y decreases but their ratio is not constant. What kind of correlation exist between X and Y? **1 Mark**

A Positive. **B** Negative. **C** Positive Linear. **D** Negative Linear.

Ans: A Positive.

2. Negative.

Q43. Which of the following would not allow you to calculate correlation? **1 Mark**

A A negative relationship between X and Y. **B** A positive relationship between X and Y.
C A curvilinear relationship between X and Y. **D** A linear relationship between X and Y.

Ans: C A curvilinear relationship between X and Y.

3. A curvilinear relationship between X and Y.

Q44. Which out of the following is not confined to linear relations? **1 Mark**

A Spearman's rank correlation. **B** Karl Pearson's Co-efficient of correlation.
C Scatter Diagram. **D** None of the above.

Ans: C Scatter Diagram.

3. Scatter Diagram.

Q45. The correlation between supply and price is: **1 Mark**

A Perfect positive **B** Perfect negative **C** Imperfect positive **D** Imperfect negative

Ans: B Perfect negative

Explanation:
Supply and price are both linked to the demand of a product. The higher the demand the higher the consumer(s) are willing to pay a price for a specific good and or service.
If supply is low but demand high then the price will be high because the opportunity cost of buying the product/ service has also increased.
But if supply is high but demand low then the price will be low because the opportunity cost has now decreased.
Hence, both supply and price are opposite to each other.
Hence, the correlation is perfect negative.

Q46. Karl Pearson's method is popularly known as _____. **1 Mark**

A Concurrent deviation method **B** Correlation co-efficient **C** Technical co-efficient
D Rank correlation

Ans: B Correlation co-efficient

Explanation:
Karl Pearson's method is known as correlation coefficient as it measures the degree of relationship between two variables and its value ranges between +1 to -1.

Q47. Karl Pearson's co-efficient of correlation between two variables is _____. **1 Mark**

A The product of their standard deviations
B The square root of the product of their regression co-efficient
C The co-variance between the variables **D** None of the above

Ans: B The square root of the product of their regression co-efficient

2. The square root of the product of their regression co-efficient

Q48. Read the following statement given below and choose the correct alternative: **1 Mark**

1. Statement - Scatter diagram does not measure the precise extent of correlation.
2. Statement - Scatter diagram is only an approximate idea of the relationship.

A Both are correct **B** Both are incorrect
C Statement 1 is correct and statement 2 is incorrect.
D Statement 1 is incorrect and statement 2 is correct.

Ans: A Both are correct

1. Both are correct

Q49. Correlation is _____. **1 Mark**

A Independent of change of origin **B** Independent of change of scale
C Independent of origin and not of scale **D** Both (A) and (B)

Ans: D Both (A) and (B)

Explanation:
Correlation is independent of change in both of scale and origin.
Correlation simply measures the strength of association between two or more variables i.e. how strongly they are connected.

Q50. The lowest strength of association is reflected by which of the following correlation coefficients? **1 Mark**

A 0.95 **B** -0.60 **C** -0.35 **D** 0.29

Ans: D 0.29

4. 0.29

Q51. Read the following statement given below and choose the correct alternative **1 Mark**

1. Statement- when the correlation of two series is close to 1 it is called moderate degree of correlation.
2. Statement - when the correlation of two series is close to one it is called a high degree of correlation.

A Both are correct. **B** Both are incorrect.
C Statement 1 is correct and statement 2 is incorrect.
D Statement 1 is incorrect and statement 2 is correct.

Ans: D Statement 1 is incorrect and statement 2 is correct.

4. Statement 1 is incorrect and statement 2 is correct.

Q52. When the variable cannot be measured precisely: **1 Mark**

A Rank Correlation can be used. **B** Karl Pearson's Co-efficient of correlation can be used.
C Scatter diagram can be used. **D** None of the above.

Ans: A Rank Correlation can be used.

1. Rank Correlation can be used.

Q53. What are the limits of the correlation coefficient? **1 Mark**

A -1 and 1 **B** No limit **C** 0 and 1, including the limits.
D -1 and 1, including the limits.

Ans: D -1 and 1, including the limits.

4. -1 and 1, including the limits.

Q54. _____ is the situation when two variables move in the same direction. **1 Mark**

A Positive correlation **B** Negative correlation **C** Correlation
D Dispersion

Ans: A Positive correlation

1. Positive correlation

Q55. The coefficient of rank correlation of marks obtained by 10 students in English and Economics was to be fount 0.5. It was later discovered that the difference in ranks in the two subjects obtained by one of the students was wrongly taken as 3 instead of 7. **1 Mark**

Find correct coefficient of rank correlation.

A 122.5 **B** 132.7 **C** 142.3 **D** 145.6

Ans: **A** 122.5

1. 122.5

Q56. The correlation between number of shoe a person uses and day temperature is: **1 Mark**

A Positive. **B** Zero. **C** Negative. **D** None of these.

Ans: **B** Zero.

2. Zero.

Q57. If increase in value of one variable is not accompnied by the proportional increase in second variable, then corrrelation between two variables is **1 Mark**

A Perfect positive **B** Perfect negative **C** Imperfect positive **D** Imperfect negative

Ans: **C** Imperfect positive

Explanation:
If increase in value of one variable is not accompnied by the proportional increase in second variable, then corrrelation between two variables is imperfect positive.
Hence, there is no relation between marks of History and Maths.

Q58. Which of the following measures of correlation is a useful technique for visually examining the form of relationship between two variables, without calculating any numeric value? **1 Mark**

A Scatter diagram. **B** Karl Pearson's coefficient. **C** Spearman's rank coefficient.
D Both (a) and (c).

Ans: **A** Scatter diagram.

1. Scatter diagram.

Q59. Scatter diagram helps us to: **1 Mark**

A Find the nature of correlation between two variables.
B Obtain the mathematical relationship between two variables.
C Compute the extent of correlation between two variables. **D** Both (a) and (c).

Ans: **A** Find the nature of correlation between two variables.

1. Find the nature of correlation between two variables.

Q60. When r = 1, all the points in a scatter diagram would lie: **1 Mark**

A On a straight line directed from lower left to upper right. **B** On a straight line.
C On a straight line directed from upper left to lower right. **D** Both (a) and (b).

Ans: **A** On a straight line directed from lower left to upper right.

1. On a straight line directed from lower left to upper right.

Q61. Scatter diagram helps us to: **1 Mark**

A Find the nature of correlation between two variables.
B Obtain the mathematical relationship between two variables.
C Compute the extent of correlation between two variables. **D** Both (a) and (b).

Ans: **A** Find the nature of correlation between two variables.

1. Find the nature of correlation between two variables.

Q62. Read the following statement given below and choose the correct alternative **1 Mark**

1. Statement - The graphic expression of the direction and the degree of correlation is offered by Karl Pearson method.
2. Statement - Scatter diagram method is simple and indicates whether the relation is positive or negative.

A Both are correct. **B** Both are incorrect.

C Statement 1 is correct and statement 2 is incorrect.

D Statement 1 is incorrect and statement 2 is correct.

Ans: A Both are correct.

1. Both are correct.

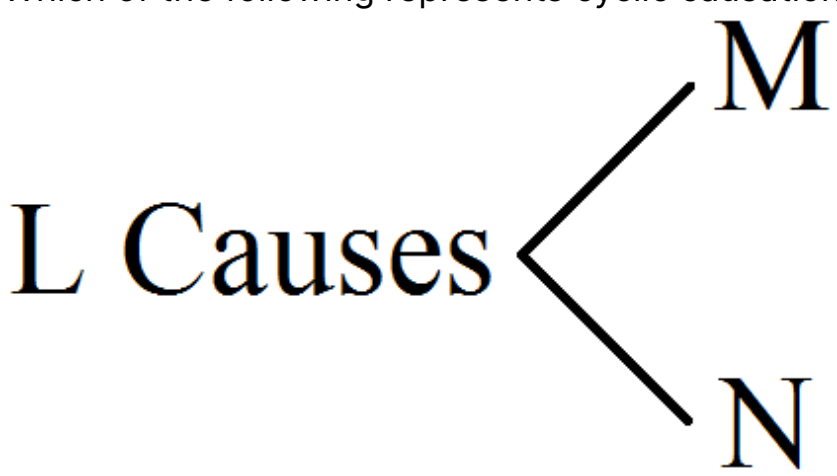
Q63. If r is the correlation coefficients between the two variables, then: **1 Mark**

A -1 ≤ r ≤ 0 **B** 1≤ r ≤ 2 **C** -1 ≤ r ≤ 1 **D** 0 ≤ r ≤ 1

Ans: C -1 ≤ r ≤ 1

3. -1 ≤ r ≤ 1

Q64. Which of the following represents cyclic causation? **1 Mark**



1. $M \xrightarrow{\text{causes}} L \xrightarrow{\text{causes}} N$

2. $M \xrightarrow{\text{causes}} N \xrightarrow{\text{causes}} M$

A Only (i) **B** Only (ii) **C** Only (iii) **D** None of these.

Ans: C Only (iii)

3. Only (iii).

Q65. According to _____, when the relationship is of a quantitative nature the appropriate statistical tool for discovering and measuring the relationship and expressing it in a brief formula is known as correlation. **1 Mark**

A Boddington **B** Croxton and Cowden **C** Bowley

D Spiegel

Ans: B Croxton and Cowden

2. Croxton and Cowden

Q66. If there is a perfect disagreement between the marks in geography and hair statistics, then what would be the value of rank correlation coefficient? **1 Mark**

A 1 **B** Any value. **C** -1 **D** (a) or (c).

Ans: C -1

3. -1.

Q67. Correlation coefficient is dependent on the: **1 Mark**

1. Choice of origin and
2. The scale of observations.

A Both are true. **B** (i) is true and (ii) is false. **C** Both are false.

D (i) is false and (ii) is true.

Ans: A Both are true.

1. Both are true.

Q68. Maximum value of rank correlation coefficient is: **1 Mark**

A 0 **B** +1 **C** -1 **D** None of these.

Ans: B +1

2. +1

Q69. Rank correlation is useful where _____. **1 Mark**

A We place things in an order of merit. **B** The number of variables is more than 30.
C There is a need to calculate the co-efficient of frequency distribution.
D None of the above.

Ans: A We place things in an order of merit.

Explanation:
Rank correlation technique measures the strength and direction between two variables by providing suitable ranks to the concerned variables, e.g. marks of students in a class can be easily ranked.

Q70. The correlation between sale of cold drinks and day temperature is: **1 Mark**

A Positive. **B** Negative. **C** Zero. **D** None of these.

Ans: A Positive.

1. Positive.

Q71. Francis Galton used the regression analysis to study the relationship between the heights of about _____. **1 Mark**

A 100 fathers and sons **B** 500 fathers and sons **C** 200 fathers and sons
D 1000 fathers and sons

Ans: D 1000 fathers and sons

Explanation:
Francis Galton used the regression analysis to show that the heights of descendants of tall ancestors tend to regress down towards a normal average and for this, he took 1000 fathers and sons in consideration.

Q72. Karl Pearsons Coefficient of Correlation is also known as _____. **1 Mark**

A Simple correlation coefficient **B** Product moment correlation **C** Both A and B
D None of the above

Ans: C Both A and B

3. Both A and B

Q73. Degree of correlation is also known as; **1 Mark**

A Linear correlation **B** Simple correlation **C** Nonlinear correlation
D Coefficient of correlation

Ans: D Coefficient of correlation

4. Coefficient of correlation

Q74. Relation between price and demand is: **1 Mark**

A Positive. **B** Negative. **C** One to one. **D** No relationship.

Ans: B Negative.

2. Negative.

Q75. A scatter diagram: **1 Mark**

A Is a statistical test. **B** Must be linear. **C** Must be curvilinear.
D Is a graph of x and y values.

Ans: A Is a statistical test.

1. Is a graph of x and y values.

Q76. Correlation between different variables is_____. **1 Mark**

A Positive **B** Negative **C** Both (a) & (b) **D** Neutral

Ans: C Both (a) & (b)

3. Both (a) & (b)

Q77. The highest strength of association is reflected by which of the following correlation coefficients? **1 Mark**

A -1.0 **B** -0.95 **C** 0.1 **D** 0.85

Ans: A -1.0

1. -1.0

Q78. When the two variables do not change in a constant proportion it is known as; **1 Mark**

A Positive correlation **B** Negative correlation **C** Linear correlation
D Nonlinear correlation

Ans: D Nonlinear correlation

4. Nonlinear correlation

Q79. Correlation coefficient is _____ of the units of measurement. **1 Mark**

A Independent. **B** Dependent. **C** Both (a) and (b). **D** None of these.

Ans: A Independent.

1. Independent.

Q80. There is a high direct association between measures of 'cigarette smoking' and 'lung damage'. The correlation coefficient consistent with the above statement is: **1 Mark**

A 1 **B** Any value **C** -1 **D** (b) or (c)

Ans: A 1

1. 1

Q81. The correlation between standard of living and income is: **1 Mark**

A Perfect positive **B** Perfect negative **C** Imperfect positive **D** Imperfect negative

Ans: A Perfect positive

1. Perfect positive

Explanation:

A standard of living is the level of wealth, comfort, material goods and necessities available to a certain socioeconomic class or a certain geographic area.

Standard of living depends upon the earning or income you get. Based on that you can set your standard of living.

So, there is a correlation between standard of living and income.

Hence, the answer is perfect positive.

Q82. In a 'negative' relationship: **1 Mark**

A As x increases, y increases. **B** As x decreases, y decreases.
C As x increases, y decreases. **D** Both (a) and (b).

Ans: C As x increases, y decreases.

3. As x increases, y decreases.

Q83. Correlation coefficient is _____ of the units of measurement. **1 Mark**

A Independent. **B** Dependent. **C** Both (a) and (b). **D** None of these.

Ans: D None of these.

4. None of these.

Q84. If all the plotted points in a scatter diagram lie on a single line, then the correlation is: **1 Mark**

A Perfect positive. **B** Perfect negative. **C** Either (a) or (b). **D** Both (a) and (b).

Ans: C Either (a) or (b).

3. Either (a) or (b).

Q85. Read the following statement given below and choose the correct alternative: **1 Mark**

1. Statement- perfect correlation happens when two variables change in the same proportion.
2. Statement- when there is no relationship between two series or variables then it is known as the absence of correlation.

A Both are correct **B** Both are incorrect
C Statement 1 is correct and statement 2 is incorrect
D Statement 1 is incorrect and statement 2 is correct

Ans: **A** Both are correct

1. Both are correct

Q86. Choose the example of negative correlation. **1 Mark**

A Increase in traffic correlation leads to increase in air pollution.
B As sound pollution is growing, problems related to brain is also increasing.
C As Sedentary lifestyle is increasing, home delivering business are growing.
D None of the above.

Ans: **D** None of the above.

4. None of the above.
Explanation:
Since A,B and C shows positive corelations.

Q87. When X increases, Y increases and their ratio is 1 : 2 throughout. What kind of correlation exist between X and Y? **1 Mark**

A Positive. **B** Negative. **C** Positive Linear. **D** Negative Linear.

Ans: **C** Positive Linear.

3. Positive Linear.

Q88. The correlation between ages of husbands and wives is expected to be: **1 Mark**

A Positive. **B** Negative. **C** Zero. **D** None of these.

Ans: **A** Positive.

1. Positive.

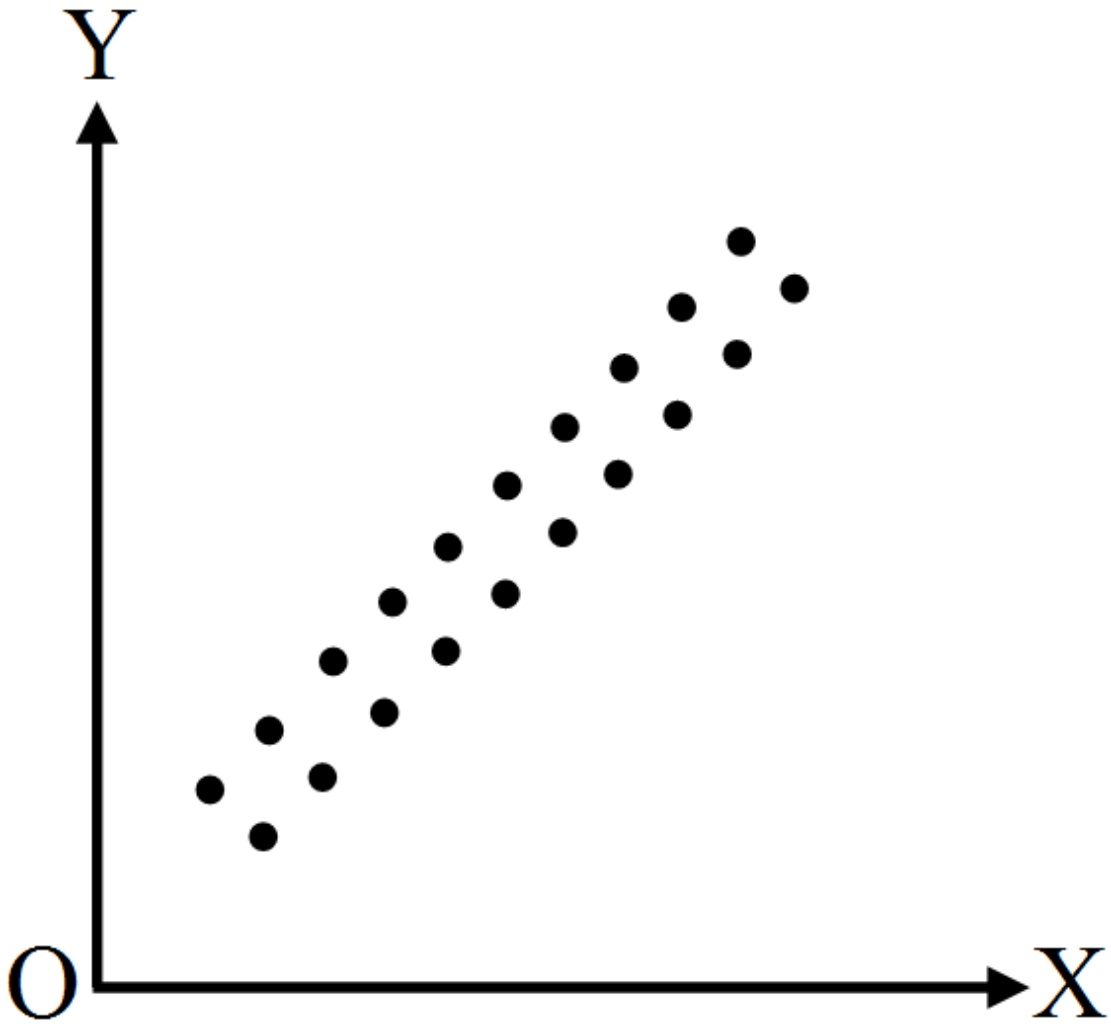
Q89. If the relationship between x and y is positive, as variable y decreases, variable x: **1 Mark**

A Increases. **B** Decreases. **C** Remains same. **D** Changes linearly.

Ans: **B** Decreases.

2. Decreases.

Q90. The given diagram represents: **1 Mark**



A Perfect positive correlation. **B** High degree of positive correlation.
C Moderate degree of positive correlation. **D** Low degree of positive correlation.

Ans: **B** High degree of positive correlation.

2. High degree of positive correlation.

Q91. The correlation implies the study of the relationship between two variables is called; **1 Mark**

A Linear correlation **B** Simple correlation **C** Nonlinear correlation
D Multiple correlations.

Ans: B Simple correlation

2. Simple correlation

Q92. _____ is the statistical tool that studies the degree of all the relationships. **1 Mark**

A Index numbers **B** Dispersion **C** Correlation **D** Range

Ans: C Correlation

3. Correlation

Q93. Simple correlation is called: **1 Mark**

A Linear correlation. **B** Non linear correlation. **C** Both (a) and (b).
D None of these.

Ans: A Linear correlation.

1. Linear correlation.

Q94. There is a high degree of negative correlation between 'overweight' and 'life expectancy'. A correlation coefficient consistent with the above statement is: **1 Mark**

A r = 0.80 **B** r = 0.20 **C** r = -0.20 **D** r = -0.80

Ans: A r = 0.80

1. r = 0.80

Q95. When the number of items is small, the correlation co-efficient can be found out by _____. **1 Mark**

A Karl pearson's method **B** Spearman's method **C** Product moment correlation
D Concurrent deviation method

Ans: C Product moment correlation

3. Product moment correlation

Explanation:

The product moment correlation coefficient is a measure of the strength of linear relationship between two variables. It is referred to as Pearson's correlation or simply as the correlation coefficient.

Q96. If the relationship between x and y is positive, as variable y decreases, variable x: **1 Mark**

A Increases. **B** Decreases. **C** Remains same. **D** Changes linearly.

Ans: B Decreases.

2. Decreases.

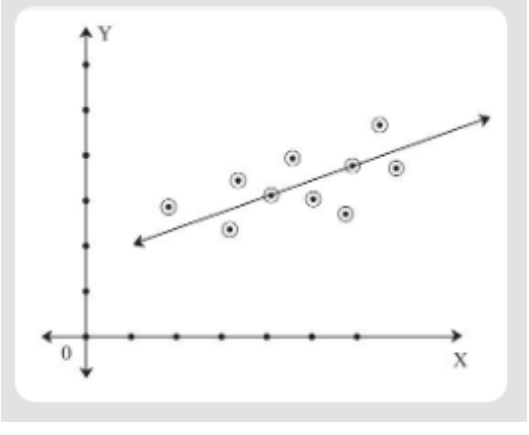
Q97. Simple correlation is called: **1 Mark**

A Linear correlation. **B** Nonlinear correlation. **C** Both (a) and (b).
D None of these.

Ans: A Linear correlation.

1. Linear correlation.

Q98. What is the correlation of this scatter diagram: **1 Mark**



A Perfect positive correlation **B** Positive correlation with high degree
C Positive correlation with low degree **D** Zero correlation

Ans: **C** Positive correlation with low degree

3. Positive correlation with low degree

Explanation:

If the band is rising from left to right then it indicates positive correlation.

If the width of the band is bigger, then the correlation is of low degree.

Q99. Karl Pearson's method helps to_____. **1 Mark**

A Give direction and degree of relationship between the two variables.

B Calculate the unknown value from a known value. **C** Both (A) and (B).

D Calculate the known value from an unknown value.

Ans: **C** Both (A) and (B).

3. Both (A) and (B).

Explanation:

Karl pearson's coefficient of correlation helps in measuring the degree of relationship between two variable i.e. how strongly they are connected and it also calculate the unknown value from the known values.

Q100. When the relation of three or more variables is studied simultaneously, it is called: **1 Mark**

A Simple correlation. **B** Partial correlation. **C** Multiple correlation.

D None of these.

Ans: **C** Multiple correlation.

3. Multiple correlation.

Q101. The correlation coefficient will be -1 if the slope of the straight line in a scatter diagram is: **1 Mark**

A Zero. **B** Negative. **C** Positive. **D** None of these.

Ans: **B** Negative.

2. Negative.

Q102. What does correlation measure? **1 Mark**

A Direction and intensity of relationship among variables.

B It measures covariation, not causation. **C** Both A and B **D** None of the above

Ans: **C** Both A and B

3. Both A and B

Q103. When two variables change in the same direction, then such a correlation is called: **1 Mark**

A Negative. **B** Positive. **C** No correlation. **D** All of these.

Ans: **B** Positive.

2. Positive.

Q104. Which of the following is NOT true with respect to Correlation? **1 Mark**

A Correlation can be expressed graphically.

B Correlation cannot be obtained using all type of series.

C Correlation can be obtained through ranks.

D Correlation can be positive, negative and zero, but never be less than one.

Ans: **D** Correlation can be positive, negative and zero, but never be less than one.

4. Correlation can be positive, negative and zero, but never be less than one.

Explanation:

In statistics, correlation (r) or dependence is any statistical relationship, whether causal or not, between two random variables or bivariate data. In the broadest sense correlation is any statistical association, though it commonly refers to the degree to which a pair of variables are linearly related.

Correlation ranges: $-1 \leq r \leq +1$.

Q105. Choose the negative correlation between two variables. **1 Mark**

A Increase in temperature leads to increase in sales of air conditioners.

B As chicken gets older, they lay fewer eggs.

C As sedentary lifestyle is growing , home delivery business is making huge business.

D None of the above.

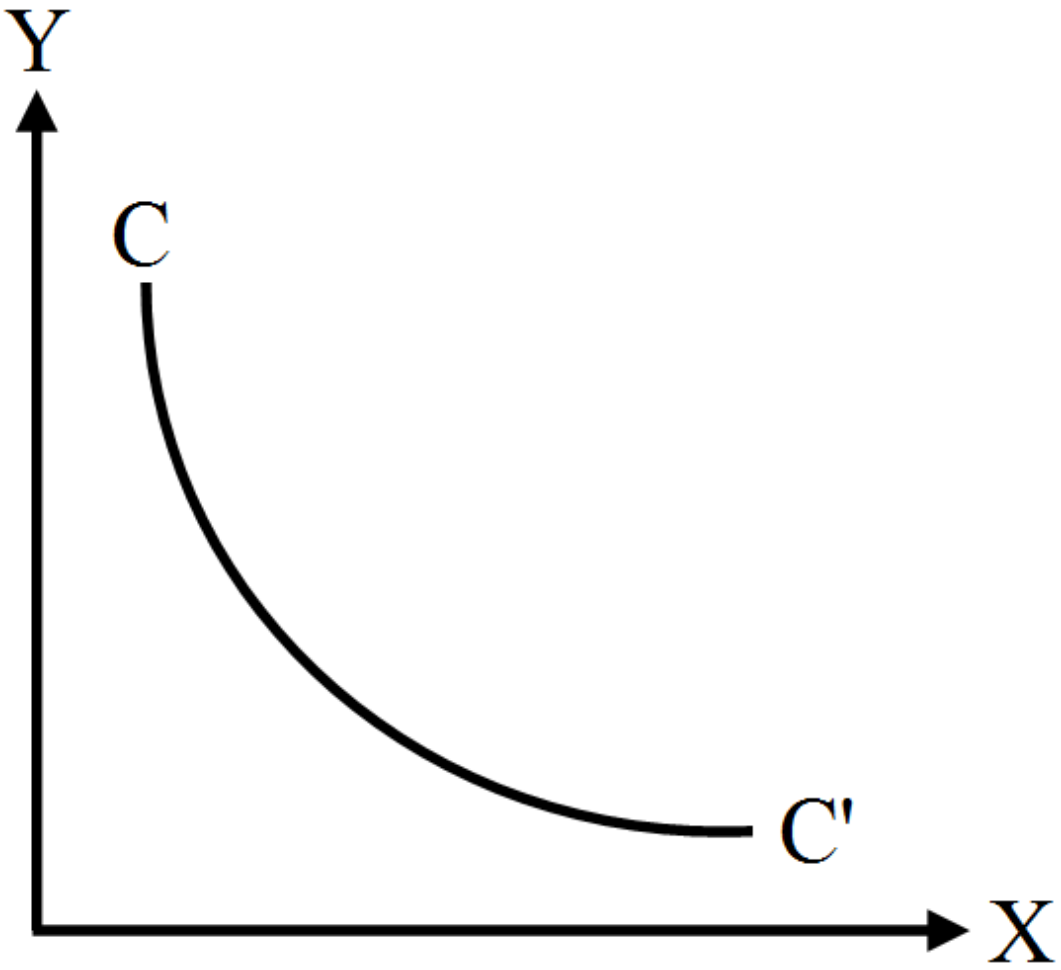
Ans: B As chicken gets older, they lay fewer eggs.

2. As chicken gets older, they lay fewer eggs.

Explanation:

Since as a chicken gets order, they lay fewer eggs shows negative correlation.

Q106. The curve cc' depicts: **1 Mark**



A Linear positive correlation. **B** Non-linear positive correlation.

C Linear negative positive correlation. **D** Non-linear negative correlation.

Ans: D Non-linear negative correlation.

4. Non-linear negative correlation.

Q107. If the two regression coefficients are 0.8 and 0.2, then the value of coefficient of correlation is _____. **1 Mark**

A -0.16 **B** -0.50 **C** +0.40 **D** -0.40

Ans: C +0.40

3. +0.40

Q108. Choose the positively correlated variables. **1 Mark**

A Increase in temperature leads to increase in sales of air conditioners.

B As people get older , they become more stronger.

C Increase in alcohol consumption leads to increase in savings **D** None of these

Ans: A Increase in temperature leads to increase in sales of air conditioners.

1. Increase in temperature leads to increase in sales of air conditioners.

Explanation:

As the temperature increases the scale of air conditioner also increases.

Q109. If the scatter points are widely dispersed around the line, the correlation is: **1 Mark**

A High. **B** Low. **C** Moderate. **D** None of the above.

Ans: B Low.

2. Low.

Q110. Kari Pearson’s coefficient is defined from: **1 Mark**

A Ungrouped data. **B** Grouped data. **C** Both (a) and (b). **D** None of these.

Ans: D None of these.

4. None of these.

Q111. Of the following measures, which can measure Qualitative variable? **1 Mark**

A Karl Pearson's coefficient of correlation. **B** Scatter diagram.
C Spearman's rank correlation. **D** All of the above.

Ans: C Spearman's rank correlation.

3. Spearman's rank correlation.

Q112. The correlation between marks of history and maths has: **1 Mark**

A Positive relation **B** Negative **C** Imperfect **D** No relation

Ans: D No relation

4. No relation

Explanation:

The contents of History and Maths are totally different.
Maths and History are different subjects.
So, there is no relation between History and Maths.
Hence, there is no relation between marks of History and Maths.

Q113. If increase in value of one variable is accompanied by the proprtional increase in second variable, then corrrelation between two variables is: **1 Mark**

A Perfect positive **B** Perfect negative **C** Imperfect positive **D** Imperfect negative

Ans: A Perfect positive

1. Perfect positive

Explanation:

If increase in value of one variable is accompanied by the proprtional increase in second variable, then corrrelation between two variables is perfect positive.

Q114. For finding the degree of agreement about beauty between two judges in a beauty contest, we use: **1 Mark**

A Coefficient of correlation. **B** Coefficient of rank correlation. **C** Scatter diagram.
D Coefficient of concurrent deviation.

Ans: B Coefficient of rank correlation.

2. Coefficient of rank correlation.

Q115. The value of correlation coefficient of two variables 'alpha' and 'beta' has been computed as 0.39. What does this value convey? **1 Mark**

A High degree of positive correlation. **B** Moderate degree of positive correlation.
C Low degree of positive correlation. **D** Very low degree of positive correlation Answer.

Ans: C Low degree of positive correlation.

3. Low degree of positive correlation.

Q116. Coefficient of Correlation is: **1 Mark**

A Always positive **B** Always negative **C** Positive as well as negative
D Always Zero

Ans: C Positive as well as negative

3. Positive as well as negative

Explanation:

Correlation coefficients are expressed as values between 1 and +1.
A coefficient of +1 indicates a perfect positive correlation: A change in the value of one variable will predict a change in the same direction in the second variable.
A coefficient of 1 indicates a perfect negative correlation: A change in the value of one variable predicts a change in the opposite direction in the second variable.

Q117. Calculate the coefficient of correlation from following data: **1 Mark**

Summation of products of deviation from their respective means of X and Y = 4880,
SDX = 28.70, SDy = 18.02, N = 10.

A 0.74 **B** 0.84 **C** 0.94 **D** None of the above

Ans: C 0.94

3. 0.94

Explanation:

Given that, Summation of products of deviation from their respective means of X and Y = 4880, SDX = 28.70, SDy = 18.02, N = 10.

Q118. The unit of correlation co-efficient between height in feet and weight in kgs is: **1 Mark**

A kg/ feet. **B** Percentage. **C** Non-existent. **D** Feet/ kg.

Ans: B Percentage.

2. Percentage.

Q119. _____ is a graphical method of studying correlation: **1 Mark**

A Histogram. **B** Bar diagram. **C** Scatter diagram. **D** Circle diagram.

Ans: C Scatter diagram.

3. Scatter diagram.

Q120. Karl Pearson's coefficient is defined from: **1 Mark**

A Ungrouped data. **B** Grouped data. **C** Both (a) and (b). **D** None of these.

Ans: A Ungrouped data.

1. Ungrouped data.

Q121. Rank correlation is a superior method of analysis in case of _____ distributions such as those relating to virtue, wisdom or ignorance: **1 Mark**

A Quantitative. **B** Qualitative. **C** Data. **D** None of the above.

Ans: B Qualitative.

2. Qualitative.

Q122. Correlation is an analysis of _____ between two or more variables: **1 Mark**

A Relationship. **B** Covariation. **C** Determination. **D** Calculation.

Ans: B Covariation.

2. Covariation.

Q123. Which correlation coefficient indicates strongest relationship? **1 Mark**

A r = 0.4 **B** r = 0.8 **C** r = 0.09 **D** r = 0.2

Ans: B r = 0.8

2. r = 0.8

Q124. The lowest strength of association is reflected by which of the following correlation coefficients? **1 Mark**

A 0.95 **B** -0.60 **C** -0.35 **D** 0.29

Ans: A 0.95

1. 0.95

Q125. The original formula that Pearson developed is commonly known as_____. **1 Mark**

A Probable error **B** The product moment method **C** Concurrent deviation method
D Short-cut method

Ans: B The product moment method

2. The product moment method

Q126. The slope of the regression line of Y on X is also called the: **1 Mark**

A Correlation coefficient of X on Y
B Correlation coefficient of Y on X
C Regression coefficient of X on Y
D Regression coefficient of Y on X

Ans: D Regression coefficient of Y on X

4. Regression coefficient of Y on X

Explanation:

From correlation & regression theory

Q127. A scatter diagram: **1 Mark**

A Is a statistical test. **B** Must be linear. **C** Must be curvilinear.
D Is a graph of x and y values.

Ans: D Is a graph of x and y values.

4. Is a graph of x and y values.

Q128. When two variables move together in the same direction, it is said to be: **1 Mark**

A No correlation. **B** Negative correlation. **C** Positive correlation.
D Zero correlation.

Ans: C Positive correlation.

3. Positive correlation.

Q129. A modified version of Karl Pearson's formula is: **1 Mark**

A $r = \frac{\Sigma xy}{\Sigma x^2 . \Sigma y^2}$ **B** $r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \times \Sigma y^2}}$ **C** $r = \frac{\Sigma xy}{n\Sigma x^2 . \Sigma y^2}$ **D** $r = \frac{\Sigma xy}{n\delta x . \delta y}$

Ans: B $r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \times \Sigma y^2}}$

2. $r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \times \Sigma y^2}}$

Q130. The total expenditure of the company over these items during the year 2000 is? **1 Mark**

A Rs.544.44 lakhs **B** Rs.501.11 lakhs **C** Rs.446.46 lakhs **D** Rs.478.87 lakhs

Ans: A Rs.544.44 lakhs

1. Rs.544.44 lakhs

Explanation:

Total expenditure of the Company during 2000
= Rs.(324 + 101 + 3.84 + 41.6 + 74) lakhs
= Rs.544.44 lakhs.

Q131. Movement of points from left to right, in an upward direction indicates: **1 Mark**

A Negative correlation. **B** Positive correlation. **C** No correlation.
D None of the above.

Ans: B Positive correlation.

2. Positive correlation.

Q132. The defects of rank correlation is/ are_____. **1 Mark**

A The original values are taken. **B** The original values are not taken.
C It becomes tedious to calculate if number exceeds 30. **D** Both (B) and (C).

Ans: D Both (B) and (C).

4. Both (B) and (C).

Explanation:

Rank correlation is the technique in which ranks are provided to the data after sorting it so sometimes, it becomes very difficult to assign ranks if the variables are large in numbers and also in this, ranks are taken inspite of original values.

Q133. Defects of Karl Pearson's method is/ are_____. **1 Mark**

A It consumes more time. **B** The value of correlation is affected by extreme values.

C If the data are not homogeneous, the co-efficient of correlation will give a wrong picture.
D All of the above.

Ans: D All of the above.

4. All of the above.

Explanation:

Disadvantages of using karl pearson's method is that it is avery time consuming and lengthy process and it gets affected by extreme values and it may give a wrong image if the variables are not of same nature or homogeneous.

Q134. _____ is the situation when two variables move in the same direction. **1 Mark**

A Positive correlation **B** Negative correlation **C** Correlation
D Dispersion

Ans: A Positive correlation

1. Positive correlation

Q135. The highest strength of association is reflected by which of the following correlation coefficient? **1 Mark**

A -1.0 **B** -0.95 **C** 0.1 **D** 0.85

Ans: A -1.0

1. -1.0

Q136. Rank correlation co-efficient was developed by _____. **1 Mark**

A Karl Pearson **B** C. Spearman **C** Francis Cotton **D** Carly

Ans: B C. Spearman

2. C. Spearman

Explanation:

Rank correlation coefficient is developed by Charles Spearman, a renowned statistician that measures the strength between the ranked variables.

Q137. The correlation between ages of husbands and wives is: **1 Mark**

A Positive. **B** Negative. **C** Zero. **D** None of these.

Ans: B Negative.

2. Negative.