

SSC CGL Tier 2 Oct 27, 2023 Shift 1 Question Paper with Answers

Exam Date	27/10/2023
Exam Time	9:00 AM - 11:00 AM
Subject	CGLE 2023 Tier II Paper II Statistics

Section : Statistics

Q.1 For any two events A and B, if $P(A|B) = 0.6$ and $P(B|A) = 0.4$, then what is the value of $\frac{P(A)}{P(B)}$?

- Ans
- 1. 1.5
 - 2. 0.5
 - 3. 2.5
 - 4. 0.2

Question ID : 264330183631
Option 1 ID : 264330720245
Option 2 ID : 264330720246
Option 3 ID : 264330720244
Option 4 ID : 264330720247
Status : Answered
Chosen Option : 1

Q.2 The weighted aggregate price index with base year quantities taken as weights is known as:

- Ans
- 1. Walsch index
 - 2. Laspeyre's price index
 - 3. Dorbish_Bowley index
 - 4. Paasches' price index

Question ID : 264330183658
Option 1 ID : 264330720355
Option 2 ID : 264330720353
Option 3 ID : 264330720354
Option 4 ID : 264330720352
Status : Answered
Chosen Option : 2

Q.3 If, for a group of 20 items, $\sum x = 1452$, $\sum x^2 = 144280$ and mode = 63.7, then Pearsonian coefficient of skewness is equal to:

- Ans
- 1. 0.202
 - 2. 0.708
 - 3. 0.902
 - 4. 0.504

Question ID : 264330183615
Option 1 ID : 264330720183
Option 2 ID : 264330720181
Option 3 ID : 264330720180
Option 4 ID : 264330720182
Status : Answered
Chosen Option : 1

Q.4 For a group of 50 male workers, the mean and the standard deviation of their daily wages are ₹63 and ₹9, respectively. For a group of 40 female workers, these values are ₹54 and ₹6, respectively. What is the standard deviation of the combined group of these 90 workers?

- Ans**
- 1. 8
 - 2. 9
 - 3. 11
 - 4. 10

Question ID : 264330183601
Option 1 ID : 264330720124
Option 2 ID : 264330720125
Option 3 ID : 264330720127
Option 4 ID : 264330720126
Status : Answered
Chosen Option : 2

Q.5 Let the joint probability density function of (X,Y) be

$$f(x,y) = \begin{cases} 6xy^2 & \text{if } 0 < x < 1, 0 < y < 1. \\ 0 & \text{otherwise} \end{cases}$$

Then $P(1/2 < X < 3/4)$ is:

- Ans**
- 1. $\frac{7}{16}$
 - 2. $\frac{5}{16}$
 - 3. $\frac{1}{8}$
 - 4. $\frac{1}{16}$

Question ID : 264330183681
Option 1 ID : 264330720446
Option 2 ID : 264330720445
Option 3 ID : 264330720447
Option 4 ID : 264330720444
Status : Answered
Chosen Option : 2

Q.6 The limits of a multiple correlation coefficient $R_{1,23}$ are:

- Ans**
- 1. $0 \leq R_{1,23} \leq 2$
 - 2. $-2 \leq R_{1,23} \leq 2$
 - 3. $-1 \leq R_{1,23} \leq 1$
 - 4. $0 \leq R_{1,23} \leq 1$

Question ID : 264330183647
Option 1 ID : 264330720309
Option 2 ID : 264330720310
Option 3 ID : 264330720308
Option 4 ID : 264330720311
Status : Answered
Chosen Option : 3

Q.7 If α is the level of significance and if $(1 - \alpha)$ is increased, then the width of the confidence interval of mean:

- Ans**
- 1. increases
 - 2. remains constant
 - 3. is reduced by half
 - 4. decreases

Question ID : 264330183673
Option 1 ID : 264330720412
Option 2 ID : 264330720414
Option 3 ID : 264330720415
Option 4 ID : 264330720413
Status : Answered
Chosen Option : 1

Q.8 The two regression lines $y = c + mx$ and $x = a + dy$ always pass through:

- Ans**
- 1. (\bar{x}, \bar{y})
 - 2. $(\min(x), \min(y))$
 - 3. $(0, 0)$
 - 4. $(\max(x), \max(y))$

Question ID : 264330183652
Option 1 ID : 264330720330
Option 2 ID : 264330720328
Option 3 ID : 264330720329
Option 4 ID : 264330720331
Status : Not Answered
Chosen Option : --

Q.9 Suppose in a certain large group, the height is approximately normal distributed with a mean of 160 cm and the standard deviation is 10. For a sample of size 16, the sampling distribution of sample mean has standard error equal to:

- Ans**
- 1. 2.01
 - 2. 2.5
 - 3. 3.2
 - 4. 3.3

Q.10 Suppose a die is thrown four times and 5, 3, 5, 3 are obtained, respectively. Then the empirical probability of getting 5 is:

- Ans
- 1. 0.5
 - 2. 0.7
 - 3. 0.6
 - 4. 0.8

Question ID : 264330183728
Option 1 ID : 264330720632
Option 2 ID : 264330720634
Option 3 ID : 264330720633
Option 4 ID : 264330720635
Status : Answered
Chosen Option : 1

Q.11 Using usual notations, the logistic curve that is known as Pearl-Reed curve and used as a measurement of the secular trend is given by:

- Ans
- 1. $y_t = \frac{a \cdot k}{1 + \exp(a + bt)}, b < 0$
 - 2. $y_t = \frac{b \cdot k}{1 + \exp(a + bt)}, b < 0$
 - 3. $y_t = \frac{1 + \exp(a + bt)}{k}, b < 0$
 - 4. $y_t = \frac{k}{1 + \exp(a + bt)}, b < 0$

Question ID : 264330183665
Option 1 ID : 264330720381
Option 2 ID : 264330720382
Option 3 ID : 264330720383
Option 4 ID : 264330720380
Status : Answered
Chosen Option : 3

Q.12 Let X and Y have the joint p.m.f. $f(x, y) = \frac{x+y}{21}$, where $x = 1, 2, 3$ and $y = 1, 2$. The marginal p.m.f. of X is:

- Ans
- 1. $\frac{2x + 3}{21}, x = 1, 2, 3$
 - 2. $\frac{6 + 3y}{21}, y = 1, 2$
 - 3. $\frac{x + 18}{21}, x = 1, 2, 3$
 - 4. $\frac{6x + 3}{21}, x = 1, 2, 3$

Question ID : 264330183578
Option 1 ID : 264330720032
Option 2 ID : 264330720034
Option 3 ID : 264330720033
Option 4 ID : 264330720035
Status : Answered
Chosen Option : 2

Q.13 For the series of the following observations, the coefficient of range leads to which of the following conclusions?

FIRST: 2, 2, 3, 3, 4, 5, 5, 6, 7

SECOND: 2, 3, 4, 6, 8, 9, 10, 14, 16, 18

THIRD: 1, 3, 4, 4, 5, 7, 8, 8, 9, 10, 12, 12

- Ans
- 1. Third series has greatest dispersion
 - 2. Can't make a comparison among dispersion of three series
 - 3. Second series has greatest dispersion
 - 4. First series has greatest dispersion

Question ID : 264330183702
Option 1 ID : 264330720530
Option 2 ID : 264330720531
Option 3 ID : 264330720529
Option 4 ID : 264330720528
Status : Answered
Chosen Option : 1

Q.14 For three variables X_1 , X_2 and X_3 , the following information is available.

$$s_1=10, r_{12} = 0.90$$

$$s_2= 5, r_{13} = 0.75$$

$$s_3= 3, r_{23} = 0.70$$

Then partial regression coefficient ($b_{13.2}$) of X_2 on X_1 and X_3 is:

- Ans
- 1. 2.34
 - 2. 0.784
 - 3. 3.61
 - 4. 1.54

Question ID : 264330183754
Option 1 ID : 264330720737
Option 2 ID : 264330720739
Option 3 ID : 264330720736
Option 4 ID : 264330720738
Status : Not Answered
Chosen Option : --

Q.15 The analysis of variance technique was introduced by:

- Ans
- 1. Kolmogorov
 - 2. CR Rao
 - 3. PC Mahalanobis
 - 4. RA Fisher

Question ID : 264330183737
Option 1 ID : 264330720668
Option 2 ID : 264330720671
Option 3 ID : 264330720670
Option 4 ID : 264330720669
Status : Answered
Chosen Option : 4

Q.16 If the correlation coefficient is the geometric mean of regression coefficients, then:

Ans ✗ 1. $r_{12.3}^2 = b_{12.3} + b_{21.3}$

✓ 2. $r_{12.3}^2 = b_{12.3} \times b_{21.3}$

✗ 3. $r_{12.3}^2 = \frac{b_{12.3}}{b_{21.3}}$

✗ 4. $r_{12.3}^2 = (b_{12.3} \times b_{21.3})^2$

Question ID : 264330183654

Option 1 ID : 264330720338

Option 2 ID : 264330720336

Option 3 ID : 264330720337

Option 4 ID : 264330720339

Status : Answered

Chosen Option : 2

Q.17 If $X \sim N(5,16)$, then the first quartile of X is equal to:

Ans ✓ 1. 2.3

✗ 2. 5.3

✗ 3. 4.3

✗ 4. 3.3

Question ID : 264330183635

Option 1 ID : 264330720261

Option 2 ID : 264330720263

Option 3 ID : 264330720262

Option 4 ID : 264330720260

Status : Answered

Chosen Option : 2

Q.18 The mean of the first 15 natural numbers is:

Ans ✗ 1. 7.5

✗ 2. 9.5

✓ 3. 8

✗ 4. 9

Question ID : 264330183588

Option 1 ID : 264330720072

Option 2 ID : 264330720075

Option 3 ID : 264330720073

Option 4 ID : 264330720074

Status : Answered

Chosen Option : 3

Q.19 For a random variable X following Poisson distribution with parameter 5, the variance of X is:

- Ans**
- 1. 3
 - 2. 1
 - 3. 2
 - 4. 5

Question ID : 264330183684
Option 1 ID : 264330720459
Option 2 ID : 264330720458
Option 3 ID : 264330720456
Option 4 ID : 264330720457
Status : Answered
Chosen Option : 4

Q.20 For a moderately skewed distribution, let mode = 15, median = 17.4. The value of mean is:

- Ans**
- 1. 18.6
 - 2. 13.6
 - 3. 18.45
 - 4. 15.4

Question ID : 264330183716
Option 1 ID : 264330720586
Option 2 ID : 264330720585
Option 3 ID : 264330720584
Option 4 ID : 264330720587
Status : Answered
Chosen Option : 1

Q.21 The power of a test is:

- Ans**
- 1. P(Type I error)
 - 2. $1 - P(\text{Type II error})$
 - 3. P(Type II error)
 - 4. $1 - P(\text{Type I error})$

Question ID : 264330183774
Option 1 ID : 264330720817
Option 2 ID : 264330720819
Option 3 ID : 264330720818
Option 4 ID : 264330720816
Status : Not Answered
Chosen Option : --

Q.22 In a frequency curve, what is plotted on vertical axis?

- Ans
- 1. Class frequencies
 - 2. Class limits
 - 3. Cumulative frequencies
 - 4. Class boundaries

Question ID : 264330183723
Option 1 ID : 264330720613
Option 2 ID : 264330720614
Option 3 ID : 264330720612
Option 4 ID : 264330720615
Status : Answered
Chosen Option : 1

Q.23 Which of the following is NOT an example of the probability sampling technique?

- Ans
- 1. Stratified random sampling
 - 2. Simple random sampling
 - 3. Systematic sampling
 - 4. Purposive sampling

Question ID : 264330183667
Option 1 ID : 264330720389
Option 2 ID : 264330720388
Option 3 ID : 264330720391
Option 4 ID : 264330720390
Status : Answered
Chosen Option : 3

Q.24 When performing a one way analysis of variance, which statistical test is used?

- Ans
- 1. z test
 - 2. χ^2 test
 - 3. F test
 - 4. t test

Question ID : 264330183741
Option 1 ID : 264330720687
Option 2 ID : 264330720686
Option 3 ID : 264330720685
Option 4 ID : 264330720684
Status : Answered
Chosen Option : 3

Q.25 If the correlation coefficient between two variables is zero, then the two lines of regression will be:

- Ans
- 1. parallel to each other
 - 2. coincide with each other
 - 3. perpendicular to each other
 - 4. overlap with each other

Question ID : 264330183653
Option 1 ID : 264330720332
Option 2 ID : 264330720333
Option 3 ID : 264330720335
Option 4 ID : 264330720334
Status : Answered
Chosen Option : 1

Q.26 The first four moments of a distribution about the value 2 are 1, 2.5, 5.5 and 16. What is the 4th moment about zero?

- Ans
- 1. 3
 - 2. 168
 - 3. 10.5
 - 4. 40.5

Question ID : 264330183608
Option 1 ID : 264330720152
Option 2 ID : 264330720155
Option 3 ID : 264330720153
Option 4 ID : 264330720154
Status : Not Answered
Chosen Option : --

Q.27 Consider the sample space $\{1,2,3,4,5,6\}$ and events

A: $\{1,6\}$, B : $\{1, 3\}$, C: $\{1,5\}$, D: $\{2,5\}$ and E= $\{4,5\}$, then:

- Ans
- 1. A, B, C, D and E are mutually exclusive and exhaustive
 - 2. A, B, C, D and E are neither mutually exclusive nor exhaustive
 - 3. A, B, C, D and E are mutually exclusive
 - 4. A, B, C, D and E are exhaustive but not mutually exclusive

Question ID : 264330183729
Option 1 ID : 264330720637
Option 2 ID : 264330720639
Option 3 ID : 264330720636
Option 4 ID : 264330720638
Status : Answered
Chosen Option : 4

Q.28 The term 'Analysis of variance' was introduced by:

- Ans
- 1. Karl Pearson
 - 2. Ronald A Fisher
 - 3. John Tukey
 - 4. William Sealy Gosset

Question ID : 264330183637
Option 1 ID : 264330720268
Option 2 ID : 264330720269
Option 3 ID : 264330720270
Option 4 ID : 264330720271
Status : Answered
Chosen Option : 2

Q.29 Positive skewness means that the frequencies in the distribution are spread:

- Ans
- 1. on the left side of the centre of the curve
 - 2. uniformly on both sides of the centre of the curve
 - 3. on the right side of the centre of the curve
 - 4. on neither side of the centre of the curve

Question ID : 264330183599
Option 1 ID : 264330720117
Option 2 ID : 264330720118
Option 3 ID : 264330720116
Option 4 ID : 264330720119
Status : Answered
Chosen Option : 3

Q.30 Which of the following is an absolute measure of skewness?

- Ans
- 1. $(\text{Mean} - \text{Median}) / \text{standard deviation}$
 - 2. $(Q_3 + Q_1 - 2Q_2) / \text{standard deviation}$
 - 3. $(\text{Mean} - \text{Mode}) / \text{standard deviation}$
 - 4. Mean - Median

Question ID : 264330183710
Option 1 ID : 264330720563
Option 2 ID : 264330720562
Option 3 ID : 264330720560
Option 4 ID : 264330720561
Status : Answered
Chosen Option : 3

Q.31 If a man travels 200 km. each at three speeds of 60, 50 and 40 km/h. respectively, then his average speed is:

- Ans
- 1. 47.65 km/h
 - 2. 49.45 km/h
 - 3. 48 km/h
 - 4. 48.65 km/h

Question ID : 264330183592
Option 1 ID : 264330720088
Option 2 ID : 264330720091
Option 3 ID : 264330720089
Option 4 ID : 264330720090
Status : Answered
Chosen Option : 4

Q.32 Using usual notations, the cost of living index in terms of weights is calculated by:

- Ans
- 1. $\frac{\sum_j w_j}{\sum_j w_j p_j}$
 - 2. $\sum_j w_j p_j \times \sum_j w_j$
 - 3. $\frac{\sum_j w_j p_j}{\sum_j w_j}$
 - 4. $\sum_j w_j p_j + \sum_j w_j$

Question ID : 264330183660
Option 1 ID : 264330720360
Option 2 ID : 264330720363
Option 3 ID : 264330720362
Option 4 ID : 264330720361
Status : Answered
Chosen Option : 3

Q.33 Which of the following can be applied as a goodness-of-fit test?

- Ans
- 1. χ^2 test
 - 2. t-test
 - 3. F-test
 - 4. Z-test

Question ID : 264330183671
Option 1 ID : 264330720406
Option 2 ID : 264330720405
Option 3 ID : 264330720407
Option 4 ID : 264330720404
Status : Answered
Chosen Option : 1

Q.34 For a negatively skewed and platykurtic distribution:

- Ans**
- 1. Skewness < 0 , Kurtosis < 3
 - 2. Skewness < 0 , Kurtosis $= 3$
 - 3. Skewness $= 0$, Kurtosis $= 1$
 - 4. Skewness > 0 , Kurtosis < 3

Question ID : 264330183705
Option 1 ID : 264330720541
Option 2 ID : 264330720540
Option 3 ID : 264330720542
Option 4 ID : 264330720543
Status : Answered
Chosen Option : 1

Q.35 For two-way classification, let number of treatments and blocks be 5 and 5, respectively. It is given that SS_{TR} (sum of squares due to treatments) = 18.5335, SS_E (sum of squares due to error) = 3.545 and SS_T (total sum of squares) = 46.9335. The value of F-statistic for testing equality of effectiveness of five treatments is:

- Ans**
- 1. 20.9
 - 2. 15.7
 - 3. 10.9
 - 4. 12.6

Question ID : 264330183743
Option 1 ID : 264330720695
Option 2 ID : 264330720692
Option 3 ID : 264330720694
Option 4 ID : 264330720693
Status : Not Answered
Chosen Option : --

Q.36 In a survey, it is found that out of 301 women, 24 women had impaired fasting glucose (IFG). If null hypothesis to be tested is that 6.3% have IFG and alternative hypothesis is that percentage is more than 6.3, then the value of test statistic is:

- Ans**
- 1. 0.87
 - 2. 1.86
 - 3. 1.2
 - 4. 1.56

Question ID : 264330183775
Option 1 ID : 264330720821
Option 2 ID : 264330720822
Option 3 ID : 264330720820
Option 4 ID : 264330720823
Status : Not Answered
Chosen Option : --

Q.37 Given below are moments about an arbitrary origin 5.

If $\mu'_1 = -4$, $\mu'_2 = 22$, $\mu'_3 = -117$ and $\mu'_4 = 560$, then μ_3 is equal to:

- Ans
- 1. 32
 - 2. 48
 - 3. 19
 - 4. 6

Question ID : 264330183607
Option 1 ID : 264330720150
Option 2 ID : 264330720151
Option 3 ID : 264330720149
Option 4 ID : 264330720148
Status : Answered
Chosen Option : 3

Q.38 Which of the following is NOT a role of tabulation?

- Ans
- 1. It simplifies complex data.
 - 2. It provides descriptive statistics.
 - 3. It gives identity to the data.
 - 4. It facilitates comparison.

Question ID : 264330183622
Option 1 ID : 264330720208
Option 2 ID : 264330720211
Option 3 ID : 264330720210
Option 4 ID : 264330720209
Status : Answered
Chosen Option : 2

Q.39 In case of a certain distribution, the following results were obtained.

Mean = 45, median = 48 and coefficient of skewness = -0.4. What is the standard deviation of the distribution?

- Ans
- 1. 24.5
 - 2. 22.5
 - 3. 23
 - 4. 17.0

Question ID : 264330183610
Option 1 ID : 264330720163
Option 2 ID : 264330720161
Option 3 ID : 264330720162
Option 4 ID : 264330720160
Status : Answered
Chosen Option : 2

Q.40 If Laspeyers' index is 119.4 and Paasche's index number is 118.7, then Fisher's ideal index number is:

- Ans
- 1. 156
 - 2. 125.34
 - 3. 119.05
 - 4. 116.8

Question ID : 264330183758
Option 1 ID : 264330720755
Option 2 ID : 264330720753
Option 3 ID : 264330720754
Option 4 ID : 264330720752
Status : Answered
Chosen Option : 3

Q.41 If the distribution is negatively skewed then

- Ans
- 1. Mean > Median
 - 2. Mean > Mode
 - 3. Mean < Mode
 - 4. Median > Mode

Question ID : 264330183618
Option 1 ID : 264330720195
Option 2 ID : 264330720194
Option 3 ID : 264330720192
Option 4 ID : 264330720193
Status : Answered
Chosen Option : 3

Q.42 If n is a natural number, then, for what value of k is the following function a probability mass function?

$$f(x) = \frac{n!}{x!(n-x)!} k^x (1-k)^{n-x}, x = 0, 1, 2, \dots, n$$

- Ans
- 1. $k = 0.2$
 - 2. $k = 10$
 - 3. $k = 5$
 - 4. $k = 2$

Question ID : 264330183633
Option 1 ID : 264330720255
Option 2 ID : 264330720253
Option 3 ID : 264330720252
Option 4 ID : 264330720254
Status : Not Answered
Chosen Option : --

Q.43 The third order central moment of normal distribution is:

- Ans**
- 1. positive
 - 2. 0
 - 3. 1
 - 4. negative

Question ID : 264330183685
Option 1 ID : 264330720462
Option 2 ID : 264330720461
Option 3 ID : 264330720463
Option 4 ID : 264330720460
Status : Answered
Chosen Option : 1

Q.44 For the data set with the following observations, the first and second quartiles are:

20, 22, 23, 22, 23, 22, 22, 21, 19, 22, 22, 26, 23, 24, 19, 21, 22, 16

- Ans**
- 1. 20 and 22
 - 2. 19 and 22
 - 3. 21 and 22
 - 4. 21 and 23

Question ID : 264330183694
Option 1 ID : 264330720497
Option 2 ID : 264330720499
Option 3 ID : 264330720496
Option 4 ID : 264330720498
Status : Answered
Chosen Option : 3

Q.45 If the correlation coefficient 'r' is 0.6 and the regression coefficient of x on y is 0.18, then the regression coefficient of y on x is:

- Ans**
- 1. 1
 - 2. 0.18
 - 3. 0.24
 - 4. 2

Question ID : 264330183651
Option 1 ID : 264330720326
Option 2 ID : 264330720327
Option 3 ID : 264330720324
Option 4 ID : 264330720325
Status : Answered
Chosen Option : 4

Q.46 If p_0 and p_1 denote the prices for base and current period and q_0 and q_1 denote the quantities for base and current period, then Paasche's index number is given by:

Ans

1. $\frac{\sum p_1 q_1}{\sum p_0 q_0} \cdot 100$

2. $\frac{\sum p_1 q_0}{\sum p_0 q_0} \times 100$

3. $\sqrt{\frac{\sum p_1 q_1}{\sum p_0 q_1}} \times 100$

4. $\frac{\sum p_1 q_1}{\sum p_0 q_1} \cdot 100$

Question ID : 264330183759

Option 1 ID : 264330720757

Option 2 ID : 264330720758

Option 3 ID : 264330720759

Option 4 ID : 264330720756

Status : Answered

Chosen Option : 4

Q.47 Using usual notations, the correlation coefficient between two random variables, X and Y, is given by:

Ans

1. $r(X, Y) = Cov(X, Y) - \sigma_X \sigma_Y$

2. $r(X, Y) = Cov(X, Y) + \sigma_X \sigma_Y$

3. $r(X, Y) = \frac{Cov(X, Y)}{\sigma_X \sigma_Y}$

4. $r(X, Y) = \frac{\sigma_X \sigma_Y}{Cov(X, Y)}$

Question ID : 264330183646

Option 1 ID : 264330720307

Option 2 ID : 264330720304

Option 3 ID : 264330720305

Option 4 ID : 264330720306

Status : Answered

Chosen Option : 3

Q.48 A certain disease is difficult to be diagnosed and the probability of correctly diagnosing the disease is 0.6. If any patient, after the correct diagnosis, has 40% chances of dying. However, an incorrect diagnosis enhances the probability of death to 0.7. If a patient has died after the treatment, what is the probability that the disease was diagnosed correctly?

Ans

1. $7/28$

2. $20/28$

3. $6/13$

4. $8/13$

Question ID : 264330183632

Option 1 ID : 264330720249

Option 2 ID : 264330720248

Option 3 ID : 264330720250

Option 4 ID : 264330720251

Status : Answered

Chosen Option : 3

Q.49 Let X have pdf

$$f(x) = \begin{cases} \frac{3(2x-x^2)}{4} & \text{for } 0 \leq x \leq 2, \\ 0, & \text{otherwise} \end{cases}$$

then the mode is equal to:

- Ans
- 1. 1
 - 2. $\frac{1}{4}$
 - 3. $\frac{3}{4}$
 - 4. $\frac{1}{2}$

Question ID : 264330183691
Option 1 ID : 264330720485
Option 2 ID : 264330720487
Option 3 ID : 264330720484
Option 4 ID : 264330720486

Status : Answered
Chosen Option : 1

Q.50 The nutritional data about a sample of seven breakfast cereals gives the number of calories per serving as follows. The quartile deviation is equal to:

100, 80, 100, 130, 110, 200, 190

- Ans
- 1. 10
 - 2. 45
 - 3. 50
 - 4. 70

Question ID : 264330183697
Option 1 ID : 264330720508
Option 2 ID : 264330720510
Option 3 ID : 264330720509
Option 4 ID : 264330720511

Status : Answered
Chosen Option : 2

Q.51 If median = 45, mean = 39.27, SD = 22.81, then the coefficient of Skewness is:

- Ans
- 1. 0.675
 - 2. 0.876
 - 3. 0.405
 - 4. -0.754

Question ID : 264330183613
Option 1 ID : 264330720172
Option 2 ID : 264330720174
Option 3 ID : 264330720175
Option 4 ID : 264330720173

Status : Answered
Chosen Option : 4

Q.52 For an asymmetric distribution, if the mean and median are 20 and 30, then the value of the mode is:

- Ans**
- 1. 40
 - 2. 50
 - 3. 60
 - 4. 30

Question ID : 264330183695
Option 1 ID : 264330720501
Option 2 ID : 264330720502
Option 3 ID : 264330720503
Option 4 ID : 264330720500
Status : Answered
Chosen Option : 2

Q.53 What is the 8th decile of the following data?

20, 30, 25, 23, 22, 32, 36, 18

- Ans**
- 1. 32
 - 2. 25
 - 3. 23
 - 4. 30

Question ID : 264330183593
Option 1 ID : 264330720095
Option 2 ID : 264330720093
Option 3 ID : 264330720092
Option 4 ID : 264330720094
Status : Answered
Chosen Option : 1

Q.54 For the period 2016-2020, the quarterly averages of prices of a certain commodity are 3.8, 4.25, 3.85 and 4.35. The seasonal index for second quarter is equal to:

- Ans**
- 1. 132.54
 - 2. 104.68
 - 3. 102.56
 - 4. 111.84

Question ID : 264330183764
Option 1 ID : 264330720779
Option 2 ID : 264330720778
Option 3 ID : 264330720776
Option 4 ID : 264330720777
Status : Answered
Chosen Option : 4

Q.55 If Mean > Median > Mode, then distribution is:

- Ans
- 1. platykurtic
 - 2. negatively skewed
 - 3. positively skewed
 - 4. leptokurtic

Question ID : 264330183717
Option 1 ID : 264330720591
Option 2 ID : 264330720589
Option 3 ID : 264330720588
Option 4 ID : 264330720590
Status : Answered
Chosen Option : 3

Q.56 A random variable X is distributed at random between the values 0 and 1 in such a way that the PDF of X is $f(x) = kx^2(1-x^2)$, where k is a constant. The value of k is:

- Ans
- 1. 5
 - 2. 6
 - 3. 0
 - 4. 1

Question ID : 264330183583
Option 1 ID : 264330720053
Option 2 ID : 264330720054
Option 3 ID : 264330720055
Option 4 ID : 264330720052
Status : Not Answered
Chosen Option : --

Q.57 Which of the following is NOT a measurement of seasonal variation?

- Ans
- 1. Ratio-to-trend method
 - 2. Simple averages
 - 3. Graphic method
 - 4. Ratio-to-moving-average method

Question ID : 264330183664
Option 1 ID : 264330720378
Option 2 ID : 264330720376
Option 3 ID : 264330720377
Option 4 ID : 264330720379
Status : Answered
Chosen Option : 3

Q.58 The intelligence quotients (IQs) of 16 students from one area of a city showed a mean of 107 and standard deviation (sd) of 10 while IQs of 14 students from another area of the city showed a mean of 112 and sd of 8. The null hypothesis to be tested is that there is significant difference between IQs of the two groups. The distribution with degrees of freedom and value of test statistic assuming that null hypothesis is true, are:

Ans ✗ 1.

Chi-square distribution with 29 degrees of freedom and 1.89

✓ 2. t distribution with 28 degrees of freedom and 1.45

✗ 3.

Chi-square distribution with 25 degrees of freedom and 2.65

✗ 4. t distribution with 25 degrees of freedom and 4.26

Question ID : 264330183771

Option 1 ID : 264330720804

Option 2 ID : 264330720806

Option 3 ID : 264330720805

Option 4 ID : 264330720807

Status : Not Answered

Chosen Option : --

Q.59 If μ'_r and μ_r , respectively, denote r^{th} order moments about origin and mean, then:

Ans

✗ 1. $\mu_2 = \mu'_2 + (\mu'_1)^2$

✗ 2. $\mu_2 = \mu'_2$

✗ 3. $\mu_2 = (\mu'_1)^2$

✓ 4. $\mu_2 = \mu'_2 - (\mu'_1)^2$

Question ID : 264330183709

Option 1 ID : 264330720558

Option 2 ID : 264330720557

Option 3 ID : 264330720559

Option 4 ID : 264330720556

Status : Answered

Chosen Option : 4

Q.60 Increase in sales of a departmental store during a festival is an example of the _____ component of the time series.

Ans

✗ 1. random movement

✗ 2. irregular movement

✓ 3. seasonal variation

✗ 4. secular trend

Question ID : 264330183663

Option 1 ID : 264330720373

Option 2 ID : 264330720375

Option 3 ID : 264330720374

Option 4 ID : 264330720372

Status : Answered

Chosen Option : 3

Q.61 β_2 of normal distribution is _____.

- Ans
- 1. 2
 - 2. 3
 - 3. 0
 - 4. 1

Question ID : 264330183577
Option 1 ID : 264330720031
Option 2 ID : 264330720029
Option 3 ID : 264330720028
Option 4 ID : 264330720030
Status : Answered
Chosen Option : 2

Q.62 Primary data refers to:

- Ans
- 1. data collected from newspapers
 - 2. information in biographies
 - 3. data collected by someone else
 - 4. the firsthand data gathered by the researcher

Question ID : 264330183687
Option 1 ID : 264330720470
Option 2 ID : 264330720471
Option 3 ID : 264330720469
Option 4 ID : 264330720468
Status : Answered
Chosen Option : 4

Q.63 In the concept of base shifting, by which common factor are old index numbers multiplied in order to obtain new index numbers?

- Ans
- 1. $\frac{100}{\text{index number of new base year}}$
 - 2. $(100 * \text{index number of new base year})$
 - 3. $(100 * \text{index number of new base year})^2$
 - 4. $\frac{\text{index number of new base year}}{100}$

Question ID : 264330183661
Option 1 ID : 264330720365
Option 2 ID : 264330720366
Option 3 ID : 264330720367
Option 4 ID : 264330720364
Status : Answered
Chosen Option : 1

Q.64 For any two events A and B in sample space S, which of the following options is NOT true?

- Ans
- 1. $P(A|S) = P(A)$
 - 2. $P(A|B) = P(B|A)$
 - 3. A and φ are independent.
 - 4. A and S are independent.

Question ID : 264330183630
Option 1 ID : 264330720243
Option 2 ID : 264330720242
Option 3 ID : 264330720240
Option 4 ID : 264330720241
Status : Answered
Chosen Option : 4

Q.65 Which of the following is NOT the example of secondary data?

- Ans
- 1. Websites
 - 2. Books
 - 3. Journal articles
 - 4. Data from conducting experiments

Question ID : 264330183620
Option 1 ID : 264330720201
Option 2 ID : 264330720203
Option 3 ID : 264330720200
Option 4 ID : 264330720202
Status : Answered
Chosen Option : 4

Q.66 Let S be the variance of a data set. If each observation is multiplied by a constant 2 and a constant 3 is added to each observation, then the variance of the new data set is:

- Ans
- 1. 16
 - 2. 32
 - 3. 35
 - 4. 8

Question ID : 264330183696
Option 1 ID : 264330720506
Option 2 ID : 264330720505
Option 3 ID : 264330720507
Option 4 ID : 264330720504
Status : Answered
Chosen Option : 2

Q.67 The _____ is an unbiased estimator of the population mean.

- Ans
- 1. sample mode
 - 2. sample variance
 - 3. sample median
 - 4. sample mean

Question ID : 264330183672
Option 1 ID : 264330720409
Option 2 ID : 264330720408
Option 3 ID : 264330720410
Option 4 ID : 264330720411
Status : Answered
Chosen Option : 2

Q.68 If the first two raw moments of X are equal to zero, then $P(X = 0)$ is equal to:

- Ans
- 1. 1
 - 2. 0.75
 - 3. 0.50
 - 4. 0.25

Question ID : 264330183626
Option 1 ID : 264330720227
Option 2 ID : 264330720224
Option 3 ID : 264330720225
Option 4 ID : 264330720226
Status : Not Answered
Chosen Option : --

Q.69 For a data set, the following information is obtained.

If $Q_1 = 62$, $Q_2 = 142$ and $Q_3 = 195$, then Bowley's coefficient of skewness is:

- Ans
- 1. -0.2
 - 2. 0.6
 - 3. 0.9
 - 4. -0.203

Question ID : 264330183614
Option 1 ID : 264330720179
Option 2 ID : 264330720177
Option 3 ID : 264330720178
Option 4 ID : 264330720176
Status : Answered
Chosen Option : 4

Q.70 In two-way classification, how many factors affect the values of the response variable?

- Ans
- 1. 4
 - 2. 1
 - 3. 2
 - 4. 0

Question ID : 264330183645
Option 1 ID : 264330720303
Option 2 ID : 264330720301
Option 3 ID : 264330720302
Option 4 ID : 264330720300
Status : Not Answered
Chosen Option : --

Q.71 In case of a moderately skewed frequency distribution, the mean is 50 and the median is 53. If the coefficient of variation is 20% . then the coefficient of skewness is:

- Ans
- 1. 0.6
 - 2. 0.8
 - 3. -0.9
 - 4. 0.5

Question ID : 264330183611
Option 1 ID : 264330720166
Option 2 ID : 264330720167
Option 3 ID : 264330720165
Option 4 ID : 264330720164
Status : Answered
Chosen Option : 3

Q.72 Which of the following options represents the component(s) of a time series?

- Ans
- 1. Trend
 - 2. Trend, periodic changes and random or irregular movements
 - 3. Periodic changes
 - 4. Random or irregular movements

Question ID : 264330183662
Option 1 ID : 264330720368
Option 2 ID : 264330720371
Option 3 ID : 264330720369
Option 4 ID : 264330720370
Status : Answered
Chosen Option : 2

Q.73 Which of the following is true?

- Ans
- 1. Mode = 3 Median - 2 Mean
 - 2. Median = Mean + Mode
 - 3. Mode = 2 Median - 3 Mean
 - 4. 3Mode = 2 Median - 3 Mean

Question ID : 264330183704

Option 1 ID : 264330720537

Option 2 ID : 264330720536

Option 3 ID : 264330720538

Option 4 ID : 264330720539

Status : Answered

Chosen Option : 1

Q.74 If $x_i = \frac{i}{5} + 2$, where $i = 1, 2, \dots, 5$, then the mean of x_1, x_2, \dots, x_5 is:

- Ans
- 1. 3.6
 - 2. 1
 - 3. 5
 - 4. 2.6

Question ID : 264330183589

Option 1 ID : 264330720078

Option 2 ID : 264330720076

Option 3 ID : 264330720079

Option 4 ID : 264330720077

Status : Answered

Chosen Option : 4

Q.75 Which of the following is the relative measure of dispersion?

- Ans
- 1. Coefficient of variation
 - 2. Variance
 - 3. Range
 - 4. Mean deviation

Question ID : 264330183625

Option 1 ID : 264330720222

Option 2 ID : 264330720221

Option 3 ID : 264330720220

Option 4 ID : 264330720223

Status : Answered

Chosen Option : 1

Q.76 In spearman's rank correlation coefficient, squared differences of ranks are used to:

- Ans
- 1. find Karl Pearson's correlation coefficient
 - 2. calculate the numerator of the correlation coefficient formula
 - 3. calculate the denominator of the correlation coefficient formula.
 - 4. calculate the standard error of the correlation coefficient

Question ID : 264330183750
Option 1 ID : 264330720723
Option 2 ID : 264330720722
Option 3 ID : 264330720720
Option 4 ID : 264330720721
Status : Answered
Chosen Option : 4

Q.77 If the mean of a random variable X following Poisson distribution is 3, then standard deviation of the distribution is:

- Ans
- 1. 1
 - 2. $\sqrt{3}$
 - 3. 2
 - 4. 3

Question ID : 264330183576
Option 1 ID : 264330720024
Option 2 ID : 264330720027
Option 3 ID : 264330720025
Option 4 ID : 264330720026
Status : Answered
Chosen Option : 2

Q.78 Let $f(x) = \begin{cases} 3(1-x)^2 & \text{for } 0 \leq x \leq 1 \\ 0 & \text{otherwise} \end{cases}$

be the probability density function of X. Then $P\left(\frac{1}{2} < X < \frac{3}{4}\right)$ is equal to:

- Ans
- 1. $\frac{11}{64}$
 - 2. $\frac{1}{64}$
 - 3. $\frac{1}{32}$
 - 4. $\frac{7}{64}$

Question ID : 264330183734
Option 1 ID : 264330720659
Option 2 ID : 264330720656
Option 3 ID : 264330720657
Option 4 ID : 264330720658
Status : Answered
Chosen Option : 4

Q.79 In a one-way classified data analysis with 'v' number of treatments and 'n' number of experimental units, then the number of degrees of freedom for the sum of squares due to error is:

- Ans
- 1. $v - 1$
 - 2. n
 - 3. $n - 1$
 - 4. $n - v$

Question ID : 264330183639
Option 1 ID : 264330720276
Option 2 ID : 264330720278
Option 3 ID : 264330720277
Option 4 ID : 264330720279
Status : Answered
Chosen Option : 4

Q.80 For a symmetrical distribution, we have:

- Ans
- 1. mean > median > mode
 - 2. mean < median < mode
 - 3. mean < median = mode
 - 4. mean = median = mode

Question ID : 264330183586
Option 1 ID : 264330720067
Option 2 ID : 264330720066
Option 3 ID : 264330720065
Option 4 ID : 264330720064
Status : Answered
Chosen Option : 4

Q.81 Let the probability mass function of X be given by

$$p(x) = c \frac{4^x}{x!}, \quad x = 0, 1, 2, 3, \dots,$$

Then c is equal to:

- Ans
- 1. e^4
 - 2. e^{-4}
 - 3. e^2
 - 4. e

Question ID : 264330183682
Option 1 ID : 264330720448
Option 2 ID : 264330720449
Option 3 ID : 264330720450
Option 4 ID : 264330720451
Status : Not Attempted and Marked For Review
Chosen Option : --

Q.82 Analysis of one-way classified data is used to compare:

- Ans
- 1. population standard deviations
 - 2. population variances
 - 3. two population means
 - 4. several population means

Question ID : 264330183636
Option 1 ID : 264330720267
Option 2 ID : 264330720266
Option 3 ID : 264330720265
Option 4 ID : 264330720264
Status : Answered
Chosen Option : 2

Q.83 In an industry, the risk of suffering from occupational disease is 20%. The probability that out of 6 workers, four will suffer from the disease is:

- Ans
- 1. $\frac{44}{5^6}$
 - 2. $\frac{42}{5^6}$
 - 3. $\frac{48}{5^5}$
 - 4. $\frac{48}{5^6}$

Question ID : 264330183680
Option 1 ID : 264330720441
Option 2 ID : 264330720440
Option 3 ID : 264330720443
Option 4 ID : 264330720442
Status : Answered
Chosen Option : 3

Q.84 Any statistical measure calculated from a sample is known as:

- Ans
- 1. Statistic
 - 2. Statistics
 - 3. Parameter
 - 4. error

Question ID : 264330183668
Option 1 ID : 264330720393
Option 2 ID : 264330720394
Option 3 ID : 264330720392
Option 4 ID : 264330720395
Status : Answered
Chosen Option : 3

Q.85 If a biased coin is tossed 10 times, out of which head is obtained 3 times, then what is the probability of getting head on the 11th toss?

- Ans**
- 1. $1/2$
 - 2. $7/10$
 - 3. $3/10$
 - 4. $3/11$

Question ID : 264330183627
Option 1 ID : 264330720230
Option 2 ID : 264330720229
Option 3 ID : 264330720228
Option 4 ID : 264330720231
Status : Answered
Chosen Option : 3

Q.86 If the mean deviation of X from mean is m, then the mean deviation of $Y = aX + b$ is:

- Ans**
- 1. $am + b$
 - 2. M
 - 3. $|a|m$
 - 4. am

Question ID : 264330183698
Option 1 ID : 264330720514
Option 2 ID : 264330720513
Option 3 ID : 264330720515
Option 4 ID : 264330720512
Status : Answered
Chosen Option : 4

Q.87 For one-way classified data, let

x_{ij} : i^{th} observation corresponding to j^{th} treatment,

$i = 1, 2, \dots, n_j, \quad j = 1, 2, \dots, k$

\bar{x}_j : mean of j^{th} treatment,

$\bar{x} = \frac{T}{N}$ where $N = \sum_{j=1}^k n_j$ and T: total of all observations,

Then the sum of squares within groups (SSW) is calculated as:

Ans

✓ 1. $\sum_{j=1}^k \sum_{i=1}^{n_j} (x_{ij} - \bar{x}_j)^2$

✗ 2. $\sum_{j=1}^k n_j (\bar{x}_j - \bar{x})^2$

✗ 3. $\sum_{j=1}^k (\bar{x}_j - \bar{x})$

✗ 4. $\sum_{j=1}^k \sum_{i=1}^{n_j} (x_{ij} - \bar{x})^2$

Question ID : 264330183739

Option 1 ID : 264330720676

Option 2 ID : 264330720678

Option 3 ID : 264330720679

Option 4 ID : 264330720677

Status : Answered

Chosen Option : 1

Q.88 In a randomised block design, if 't' number of treatments are replicated 'r' times, then the number of degrees of freedom for the total sum of squares is:

Ans

✗ 1. $(t - 1)(r - 1)$

✗ 2. $r - 1$

✗ 3. rt

✓ 4. $rt - 1$

Question ID : 264330183642

Option 1 ID : 264330720289

Option 2 ID : 264330720288

Option 3 ID : 264330720291

Option 4 ID : 264330720290

Status : Answered

Chosen Option : 1

Q.89 For observations 1, 2, 3, 4, 5, 6, 7, 8, the harmonic mean is equal to:

- Ans
- 1. 2.27
 - 2. 4.21
 - 3. 2.94
 - 4. 3.14

Question ID : 264330183692
Option 1 ID : 264330720489
Option 2 ID : 264330720491
Option 3 ID : 264330720490
Option 4 ID : 264330720488
Status : Not Answered
Chosen Option : --

Q.90 If X has the probability density function

$$f(x) = \begin{cases} cx & 1 \leq x \leq 5 \\ 0 & \text{otherwise} \end{cases}$$

then median is:

- Ans
- 1. $\sqrt{12}$
 - 2. $\sqrt{13}$
 - 3. $-\sqrt{13}$
 - 4. $\sqrt{11}$

Question ID : 264330183719
Option 1 ID : 264330720597
Option 2 ID : 264330720598
Option 3 ID : 264330720599
Option 4 ID : 264330720596
Status : Answered
Chosen Option : 1

Q.91 Using usual notations for a completely randomised design with 'v' number of treatments and 'n' number of experimental units, the mean sum of squares due to treatments is calculated by:

- Ans
- 1. $\frac{\text{Sum of squares due to treatments}}{n - v}$
 - 2. $\frac{\text{Sum of squares due to treatments}}{v - 1}$
 - 3. $\frac{\text{Sum of squares due to treatments}}{n - 1}$
 - 4. $\frac{\text{Total sum of squares}}{v - 1}$

Question ID : 264330183644
Option 1 ID : 264330720298
Option 2 ID : 264330720296
Option 3 ID : 264330720299
Option 4 ID : 264330720297
Status : Answered
Chosen Option : 2

Q.92 In Spearman's rank correlation coefficient $r_s = 1 - \frac{6 \sum_{i=1}^n d_i^2}{n(n^2-1)}$, the maximum value of $\sum_{i=1}^n d_i^2$ in case of untied ranks is:

- Ans
- 1. n
 - 2. $\frac{1}{2}(n^2 - 1)$
 - 3. $\frac{1}{4}n(n^2 - 1)$
 - 4. $\frac{1}{3}n(n^2 - 1)$

Question ID : 264330183648
Option 1 ID : 264330720315
Option 2 ID : 264330720314
Option 3 ID : 264330720313
Option 4 ID : 264330720312
Status : Answered
Chosen Option : 4

Q.93 Which of the following holds for mean squared deviation (MSD)?

- Ans
- 1. It is different from the mean squared error.
 - 2. It has lesser value with an increase in model error.
 - 3. It is positive if model has no error.
 - 4. It assesses the average squared difference between the observed and predicted values.

Question ID : 264330183700
Option 1 ID : 264330720520
Option 2 ID : 264330720521
Option 3 ID : 264330720523
Option 4 ID : 264330720522
Status : Answered
Chosen Option : 4

Q.94 For a set of observations, the mean is 8 and standard deviation is 3, then the coefficient of dispersion is equal to:

- Ans
- 1. 37.5
 - 2. 20.3
 - 3. 27.2
 - 4. 32.7

Question ID : 264330183703
Option 1 ID : 264330720532
Option 2 ID : 264330720535
Option 3 ID : 264330720534
Option 4 ID : 264330720533
Status : Answered
Chosen Option : 1

Q.95 The class boundaries for the class interval 60-62 in a frequency distribution table are:

- Ans
- 1. 60 and 62.5
 - 2. 59 and 62.5
 - 3. 59.5 and 62.5
 - 4. 59.5 and 62

Question ID : 264330183721
Option 1 ID : 264330720607
Option 2 ID : 264330720605
Option 3 ID : 264330720604
Option 4 ID : 264330720606
Status : Answered
Chosen Option : 3

Q.96 The standard deviation of a symmetrical distribution is 3. What must be the value of the fourth moment about the mean for the distribution to be mesokurtic?

- Ans
- 1. 264
 - 2. 243
 - 3. 206
 - 4. 145

Question ID : 264330183606
Option 1 ID : 264330720147
Option 2 ID : 264330720146
Option 3 ID : 264330720145
Option 4 ID : 264330720144
Status : Not Attempted and Marked For Review
Chosen Option : --

Q.97 For a data set with 24 observations given below, the median is:

10, 11, 13, 13, 18, 20, 22, 22, 24, 24, 25, 29, 30, 31, 35, 37, 37, 37, 46, 51, 54, 55, 61, 64

- Ans
- 1. 35.4
 - 2. 43.1
 - 3. 31.3
 - 4. 29.5

Question ID : 264330183690
Option 1 ID : 264330720482
Option 2 ID : 264330720483
Option 3 ID : 264330720481
Option 4 ID : 264330720480
Status : Answered
Chosen Option : 4

Q.98 Index numbers are used to indicate changes in _____ over a specified time.

Ans 1. measures of central tendency and dispersion

2.

prices, sales, industrial production, imports and exports of different commodities, cost of living, etc.

3. correlation and regression analysis

4. skewness and kurtosis

Question ID : 264330183656

Option 1 ID : 264330720346

Option 2 ID : 264330720345

Option 3 ID : 264330720347

Option 4 ID : 264330720344

Status : Answered

Chosen Option : 2

Q.99 If P_R and P_B denote prices for the reference and base periods, then simple index number is given by:

Ans 1. $(P_R + P_B) \cdot 100$

2. $\frac{P_B}{P_R} \cdot 100$

3. $\frac{P_R}{P_B} \cdot 100$

4. $P_R \cdot P_B \cdot 100$

Question ID : 264330183757

Option 1 ID : 264330720751

Option 2 ID : 264330720749

Option 3 ID : 264330720748

Option 4 ID : 264330720750

Status : Answered

Chosen Option : 3

Q.100 If X is the number of 6s obtained in 10 throws of a die, then the variance of X is:

Ans 1. $25/18$

2. $4/13$

3. $5/3$

4. $25/9$

Question ID : 264330183579

Option 1 ID : 264330720038

Option 2 ID : 264330720039

Option 3 ID : 264330720036

Option 4 ID : 264330720037

Status : Not Answered

Chosen Option : --