

Started on	Wednesday, 13 October 2021, 3:04 PM
State	Finished
Completed on	Wednesday, 13 October 2021, 3:49 PM
Time taken	45 mins 1 sec
Grade	24.00 out of 35.00 (69%)

Question 1

Correct

Mark 1.00 out of 1.00

Along with being unbiased, which of the following is another desired quality of a good point estimator?

- Select one:
- ☐ a. large expected value
 - ☐ b. small average
 - ☐ c. large mean square error
 - ☒ d. minimum variance ✓

The correct answer is: minimum variance

Question 2

Correct

Mark 1.00 out of 1.00

Which of these is NOT a correct null hypothesis?

- Select one:
- ☐ a. $H_0: \mu_1 < \mu_2$
 - ☒ b. $H_0: \mu_1 - \mu_2 = 0$ ✓
 - ☐ c. $H_0: \mu_1 = \mu_2$

The correct answers are: $H_0: \mu_1 - \mu_2 = 0$, $H_0: \mu_1 < \mu_2$

Question 3

Correct

Mark 1.00 out of 1.00

whaich of the follwing is not true about normal distrubtion

- Select one:
- ☒ a. the normal curve is skewed ✓
 - ☐ b. the normal curve is bell shaped
 - ☐ c. the normal curve is unimodal
 - ☐ d. mean , median and mode of a normal distribution are equal

The correct answer is: the normal curve is skewed

Question **4**
Correct
Mark 1.00 out of 1.00

Type 1 Error means

Select one:

- ☐ a. The probability of rejecting a false null hypothesis
- ☒ b. The probability of rejecting a true null hypothesis ✓
- ☐ c. The beta error
- ☐ d. The probability of not rejecting a false null hypothesis

The correct answer is: The probability of rejecting a true null hypothesis

Question **5**
Correct
Mark 1.00 out of 1.00

The sum of the the deviations about mean is

Select one:

- ☐ a. None of thses
- ☒ b. zero ✓
- ☐ c. Minimum
- ☐ d. Maximum

The correct answer is: zero

Question **6**
Correct
Mark 1.00 out of 1.00

The extent or the degree to which data tend to spread around _____ is called the dispersion or variation of data.

Select one:

- ☒ a. Average ✓
- ☐ b. Percentiles
- ☐ c. Range
- ☐ d. Quartiles

The correct answer is: Average

Question **7**
Correct
Mark 1.00 out of 1.00

Correlation studies cicrcular realtionship between two variables

Select one:

- ☐ True
- ☒ False ✓

The correct answer is 'False'.

Question **8**
Correct
Mark 1.00 out of 1.00

The value of R squared ranges from

Select one:

- ☐ a. not necessarily always be positive i.e. it can be negative also
- ☒ b. Zero to 1 ✓
- ☐ c. Zero to Infinity
- ☐ d. <0 but can never be >1

The correct answer is: Zero to 1

Question **9**

Incorrect

Mark **0.00** out of 1.00

What are panel data?

Select one:

- ☐ a. data measured at one point in time
- ☒ b. data containing units measured at different time points ✖
- ☐ c. data containing skewed variable distributions
- ☐ d. data where each unit is measured at more than one time point

The correct answer is: data where each unit is measured at more than one time point

Question **10**

Incorrect

Mark **0.00** out of 1.00

Which of the following statements is correct?

Select one:

- ☐ a. an interval estimate is an estimate of the range of possible values for a population parameter
- ☐ b. an interval estimate describes a range of values that is likely not to include the actual population parameter
- ☐ c. none of the statements a are correct
- ☒ d. an interval estimate is an estimate of the range for a sample statistic ✖

The correct answer is: an interval estimate is an estimate of the range of possible values for a population parameter

Question **11**

Correct

Mark 1.00 out of 1.00

You are interested in whether women who participated in a company-based mentor program were satisfied with their experience. You find a short questionnaire that asks women to rate their satisfaction (on a 4-point Likert scale) with eight different areas of mentoring (e.g., giving advice, networking, and providing emotional support). The scoring system averages responses across all eight areas. This questionnaire uses which scale of measurement?

Select one:

- ☒ a. Ordinal ✔
- ☐ b. Ratio
- ☐ c. Nominal
- ☐ d. Interval

The correct answer is: Ordinal

Question **12**

Incorrect

Mark **0.00** out of 1.00

Imagine a researcher is probing the inflation in Indian Economy from 2019-20 to 2020-21 (Two Observations) considering the following variables

1. Inflation - Dependent Variable
2. Money Supply (M3) - Independent Variable
3. Gross Domestic Product (GDP) - Independent Variable
4. Imports (Independent Variable)
5. Price of Petrol (Independent Variable)

Here which assumption of Classical Linear Regression Model is violated

Select one:

- ☐ a. The number of observations - n must be greater than the number of parameters to be estimated
- ☐ b. No Auto Correlation
- ☒ c. No Perfect Multicollinearity ✖
- ☐ d. Homoscedasticity

The correct answer is: The number of observations - n must be greater than the number of parameters to be estimated

Question **13**

Incorrect

Mark **0.00** out of 1.00

The following Regression result is obtained after evaluating the employment potential of Engineering students in Nirma. Find out this is a case of what type of regression?

$$Y = B_1 + B_2 X_1 + B_3 X_2 + B_4 X_3 + u$$

Y = Employability Skill of Nirma Engineering Students

X1 = Technical Skill of Domain Specialisation

X2 = Communication Skill

X3 = Managerial Capabilities

u = Stochastic Random Variable

Select one:

- ☐ a. Simple Regression
- ☐ b. Polynomial Regression
- ☐ c. Multiple Regression
- ☒ d. Population Regression Function ✖

The correct answer is: Multiple Regression

Question **14**

Correct

Mark **1.00** out of 1.00

What is the difference between data measured on an interval scale and data measured on a ratio scale?

Select one:

- ☒ a. A ratio scale has a true zero point, so zero on the scale corresponds to zero of the concept being measured. ✔
- ☐ b. An interval scale has a true zero point, so zero on the scale corresponds to zero of the concept being measured.
- ☐ c. A ratio scale puts scores into categories, while an interval scale measures on a continuous scale.
- ☐ d. A ratio scale has equal intervals between the points on the scale, whereas an interval scale does not.

The correct answer is: A ratio scale has a true zero point, so zero on the scale corresponds to zero of the concept being measured.

Question **15**

Correct

Mark 1.00 out of 1.00

What is Gauss-Markov Theorem?

Select one:

- ☐ a. Gauss Markov Theorem supports the Keneyisian Consumption Function
- ☐ b. Gauss Markov Theorem supports the Type I Error but do not support Type II Error
- ☒ c. Given the assumptions of Classical Linear Regression Model (CLRM),, the least square estimators,in the class of unbiased linear estimators, have minimum variance, i.e. they are BLUE - Best Linear Unbiased Estimators ✓
- ☐ d. Gauss is a strong supporter of Kenysian Consumption Function but Markov is a strong supporter of Classical Linear Regression Function

The correct answer is: Given the assumptions of Classical Linear Regression Model (CLRM),, the least square estimators,in the class of unbiased linear estimators, have minimum variance, i.e. they are BLUE - Best Linear Unbiased Estimators

Question **16**

Correct

Mark 1.00 out of 1.00

School administrators sponsor a study of bullying on elementary school playgrounds. Trained observers record the number of incidents of aggression that occur during consecutive 10-minute periods. Aggression is measured on which of the following scales of measurement

Select one:

- ☐ a. Ordinal
- ☐ b. Nominal
- ☒ c. Ratio ✓
- ☐ d. Interval

The correct answer is: Ratio

Question **17**

Correct

Mark 1.00 out of 1.00

Which of these is an example of a test statistic?

Select one:

- ☐ a. the population mean
- ☒ b. a z-score ✓
- ☐ c. the sample mean

The correct answer is: a z-score

Question **18**

Correct

Mark 1.00 out of 1.00

Which of the following does NOT contributes to the Error Term

Select one:

- ☐ a. Poor Proxy Variables and the Principle of Parsimony
- ☒ b. Linear in the variable but not in the parameter ✓
- ☐ c. Intrinsic Randomness in Human Behavior
- ☐ d. Vagueness of Theory and unavailability of data
- ☐ e. Improper Functional Form and Measurement Error

The correct answer is: Linear in the variable but not in the parameter

Question **19**

Correct

Mark 1.00 out of 1.00

What is Skewness of Data refers to?

Select one:

- ☐ a. Sample mean distributed over the population mean in a given series
- ☐ b. How far the population mean is distributed compared to that of sample mean
- ☒ c. The term 'skewness' is used to mean the absence of symmetry from the mean of the dataset. It is characteristic of the deviation from the mean, to be greater on one side than the other, i.e. attribute of the distribution having one tail heavier than the other. Skewness is used to indicate the shape of the distribution of data. ✓
- ☐ d. Skewness refers to the standard error in the distribution of data

The correct answer is: The term 'skewness' is used to mean the absence of symmetry from the mean of the dataset. It is characteristic of the deviation from the mean, to be greater on one side than the other, i.e. attribute of the distribution having one tail heavier than the other. Skewness is used to indicate the shape of the distribution of data.

Question **20**

Incorrect

Mark 0.00 out of 1.00

What does the following symbols shows?

$\text{cov}(u_i, u_j | X_i, X_j) = E\{[u_i - E(u_i)] | X_i\} \{[u_j - E(u_j)] | X_j\} = E(u_i | X_i)(u_j | X_j) \text{ (why?)} = 0$

Select one:

- ☐ a. There is no covariance in the successive independent variables in the case of Multiple Regression
- ☐ b. No Autocorrelation in time series data with successive disturbances
- ☐ c. Autocorrelation is must for the validity of any regression function
- ☒ d. No autocorrelation in the multiple dependent variable models but not in single dependent variable case ✗

The correct answer is: No Autocorrelation in time series data with successive disturbances

Question **21**

Correct

Mark 1.00 out of 1.00

What is the difference between Mean, Median and Mode

Select one:

- ☐ a. All are one and same
- ☐ b. Mode is the middle value Median is the average of an observation and Mean is the most repeated value in the group
- ☒ c. Mean is the average of the observations, Median is the middle value when arranged in ascending order and mode is the more repeated value in the group ✓
- ☐ d. While Mean is the middle one mode is the average and median is the mostly repeated value

The correct answer is: Mean is the average of the observations, Median is the middle value when arranged in ascending order and mode is the more repeated value in the group

Question **22**

Incorrect

Mark 0.00 out of 1.00

What does the following equation shows?

$$\text{var}(u_i | X_i) = E[u_i - E(u_i | X_i)]^2$$

Select one:

- ☒ a. There is a constant variance in the independent variables, regardless of the dependent variables but not in the error terms ✖
- ☐ b. Data is inadequate
- ☐ c. The variance of the error or disturbance term is the same regardless of the value of X - there exist Homoscedasticity or constant variance which is one of the assumptions of CLRM
- ☐ d. The constant variance arises only if the data is time series data but not in cross sectional data

The correct answer is: The variance of the error or disturbance term is the same regardless of the value of X - there exist Homoscedasticity or constant variance which is one of the assumptions of CLRM

Question **23**

Incorrect

Mark 0.00 out of 1.00

In a simple consumption and income model given below which variables are stochastic in nature

$$Y = B_1 + B_2 X + u$$

Where in Y is the dependent variable of Consumption and X is the income, B_1 and B_2 are coefficients and u is the error term

Select one:

- ☐ a. Income(X) and Consumption (Y)
- ☐ b. X (Income)
- ☐ c. Consumption (Y) and the Error Term (u)
- ☐ d. Y (Consumption)
- ☒ e. Error Term - u ✖

The correct answer is: Consumption (Y) and the Error Term (u)

Question **24**

Correct

Mark 1.00 out of 1.00

What does the following shows

$$E(u_i | X_i) = 0$$

Select one:

- ☐ a. Zero Variance in the estimated errors
- ☐ b. Zero Variance in the Dependent Variable Y with reference to Independent Variable X
- ☐ c. Zero Tolerance level in the case of Multicollinearity
- ☒ d. The Zero Mean Value of Disturbance - one of the TEN assumptions of Classical Linear Regression Models ✔

The correct answer is: The Zero Mean Value of Disturbance - one of the TEN assumptions of Classical Linear Regression Models

Question **25**

Correct

Mark 1.00 out of 1.00

$\mu \pm 1\sigma$ covers _____ of the items in a data set.

Select one:

- ☐ a. 86%
- ☐ b. 99.73%
- ☐ c. 95%
- ☒ d. 68% ✔

The correct answer is: 68%

Question **26**

Incorrect

Mark **0.00** out of 1.00

The sample mean is called:

Select one:

- ☐ a. Continuous variable
- ☐ b. Statistic
- ☒ c. Parameter ✖
- ☐ d. Discrete variable

The correct answer is: Statistic

Question **27**

Correct

Mark 1.00 out of 1.00

The null and alternative hypotheses are written about

Select one:

- ☒ a. a population parameter ✔
- ☐ b. sample statistic
- ☐ c. sample data

The correct answer is: a population parameter

Question **28**

Correct

Mark 1.00 out of 1.00

What is the major difference between Correlation and Regression

Select one:

- ☒ a. While Correlation explains the direction and strength of relationship between two variables Regression explains the amount of changes in dependent variable based on the changes of one or more independent variables ✔
- ☐ b. While the term stochastic variable plays no role in correlation it is very important in regression
- ☐ c. Regression cannot predict future trends but correlation can predict future trends
- ☐ d. Both are more or less the same

The correct answer is: While Correlation explains the direction and strength of relationship between two variables Regression explains the amount of changes in dependent variable based on the changes of one or more independent variables

Question **29**

Incorrect

Mark **0.00** out of 1.00

Difference between R square value and F statistic probabilistic value in regression output is

Select one:

- ☐ a. R square detect mistakes in selection of variable but F statistic prob value trace mistakes in the estimator
- ☐ b. While R square explains g\Goodness of Fit of the Model within sample F statistics probability value shows Goodness of Fit of the Model in population
- ☒ c. While F statistics probability value shows the significance of individual variable R squared value shows the significance of all the variable taken together ✖
- ☐ d. R square relates to Cross sectional data but F statistic prob value relate to time series data

The correct answer is: While R square explains g\Goodness of Fit of the Model within sample F statistics probability value shows Goodness of Fit of the Model in population

Question **30**

Incorrect

Mark **0.00** out of 1.00

X is a random normal variable, with mean μ and variance σ^2 . The "standardised form" of X is $Z = (X - \mu) / \sigma$.

What are the mean and variance, respectively, of Z ?

Select one:

- ☐ a. 0, 1
- ☒ b. 1, 0 ✖
- ☐ c. 1, 1
- ☐ d. 0, 2

The correct answer is: 0, 1

Question **31**

Correct

Mark **1.00** out of 1.00

What is Hypothesis

Select one:

- ☒ a. Hypothesis is a statement to be proved or disproved with statistical inference ✔
- ☐ b. Hypothesis is not necessary at all for validity purpose
- ☐ c. Hypothesis is the last step in Econometric Model
- ☐ d. It is a wonderful term in Econometrics which deals with descriptive statistics

The correct answer is: Hypothesis is a statement to be proved or disproved with statistical inference

Question **32**

Incorrect

Mark **0.00** out of 1.00

What do you mean by the assumption of CLRM that the X values are FIXED

Select one:

- ☐ a. The X values are stochastic random in nature while the Y is a non stochastic variable
- ☐ b. Values taken by X are fixed in repeated samples or X values are independent of Error Term
- ☒ c. It refers to fixed quantity of X values with reference to the fixed quantity of Y value in a situation where the error term is stochastic random value ✖
- ☐ d. The X and U are non stochastic but Y is Stochastic

The correct answer is: Values taken by X are fixed in repeated samples or X values are independent of Error Term

Question **33**

Correct

Mark **1.00** out of 1.00

The shape of the normal curve depends on its _____

Select one:

- ☐ a. Mean deviation
- ☐ b. Correlation
- ☐ c. Quartile deviation
- ☒ d. Standard deviation ✔

The correct answer is: Standard deviation

Question **34**
Correct
Mark 1.00 out of 1.00

p value test

Select one:

- ☐ a. the significance of B coefficient
- ☐ b. the null hypothesis that B coefficient is always equal to zero
- ☐ c. The tolerance level of multicollinearity
- ☒ d. the null hypothesis that B Coefficient is equal to zero ✓

The correct answer is: the null hypothesis that B Coefficient is equal to zero

Question **35**
Correct
Mark 1.00 out of 1.00

The Marginal Cost Function can be represented in the following regression function.

$$Y = B_1 + B_2 X + B_3 X^2$$

Here Y is Marginal Cost and X is output. This is the case of which regression function

Select one:

- ☒ a. Polynomial Regression Function ✓
- ☐ b. Multiple Regression Function
- ☐ c. Population Regression Function
- ☐ d. Simple Regression Function

The correct answer is: Polynomial Regression Function