MCQ's
Subject:Introductory Econometrics

Answers are highlighted in yellow color

1) Which of the following assumptions are required to show the consistency, unbiasedness and efficiency of the OLS estimator?
i) $E(u_t) = 0$
ii) $Var(u_t) = \sigma^2$
ii) $Cov(u_t, u_{t-j}) = 0$ and j
iv) $u_t \sim N(0, \sigma^2)$
a) ii and iv only
b) i and iii only
c) i, ii, and iii only
d) i, ii, iii and iv

2) Which of the following may be consequences of one or more of the CLRM assumptions being violated?
i) The coefficient estimates are not optimal
ii) The standard error estimates are not optimal
ii) The distributions assumed for the test statistics are inappropriate
įv) Conclusions regarding the strength of relationships between the dependent and independent variables may be invalid.
a)ii and iv only
b) i and iii only
c) i, ii, and iii
d) I,ii,iii and iv.

3)What is the meaning of the term "heteroscedasticity"?
a)The variance of the errors is not constant
b)The variance of the dependent variable is not constant
c) The errors are not linearly independent of one another
d)The errors have non-zero mean

4)What would be then consequences for the OLS estimator if heteroscedasticity is present in a regression model but ignored?
a) It will be ignored
b) It will be inconsistent
c) It will be inefficient
d)All of a),c), b) will be true.

5) Near multicollinearity occurs when
a)Two or more explanatory variables are perfectly correlated with one another
b)The explanatory variables are highly correlated with the error term
c)The explanatory variables are highly correlated with the dependent variable
d)Two or more explanatory variables are highly correlated with one another

6)Which of the following are plausible approaches to dealing with a model that exhibits heteroscedasticity?
a) Take logarithms of each of the variables
b) Add lagged values of the variables to the regression equation
c) Use suitably modified standard error

d)Use a generalized least square procedure
a)i and iv
b)i and iii
ci, ii, and iv only
d) i, ii, iii, and iv.

7)Negative residual autocorrelation is indicated by which one of the following
a)A cyclical pattern in the residual
b)An alternating pattern in the residuals
c)A complete randomness in the residuals
d) Residuals is that are all close to zero

8)If OLS is used in the presence of autocorrelation, which of the following will be like consequences?
i)Coefficient estimate may be misleading
ii) Hypothesis tests could reach the wrong conclusions
iii) Forecasts made from the model could be biased
iv)Standard errors may inappropriate
a)ii and iv
b)i and iii
c)I,ii and iii
d)i ii, iii and iv

9)Which of the following are plausible approaches to dealing with residual autocorrelation?
a)Take logarithms of each of the variables
b)Add lagged values of the variables to the regression equation
c) Use dummy variables to remove outlying observations
d)Try a model in first differenced form rather than in levels
a)ii and iv
b)i and iii
ci, ii, and iii only
d) i, ii, iii, and iv.

10)Which of the following could result in autocorrelated residuals?
i)Slowness of response of the dependent variable to changes in the values of the independent variables
ii)Over-reaction of the dependent variable to changes in the independent variables
iii)Omission of relevant explanatory variables that are autocorrelated
iv)Outliers in the data
a. ii and iv
b. i and iii
c. i ,ii and iii
d. I,ii,iii,iv

11) Including relevant lagged values of the dependent variable on the right hand side of a regression equation could lead to which one of the following?
i)Biased but consistent coefficient estimate
ii)Biased and inconsistent coefficient estimate
iii) Unbiased but inconsistent coefficient estimate
iv) Unbiased and consistent but inefficient coefficient estimate

12 Which one of the following is NOT a plausible remedy for near multicollinearity?
a)Use principal components analysis
b)Drop one of the collinear variables
c)Use a longer run of data
d)Take logarithems of each of the variables

13 What will be the properties of the OLS estimator in the presence of multicollinearity?
a) It will be consistent unbiased and efficient
b) It will be consistent and unbiased but not efficient
c)It will be consistent but not unbiased
d) It will not be consistent

14 Which one of the following is NOT an example of mis- specification of functional form?
a) Using a linear specification when y scales as a function of the squares of x
b) Using a linear specification when a double-logarathimic model would be more appropriate
c) Modelling y as a function of x when in fact it scales as a function of 1/x
d) Excluding a relevant variable from a linear regression model

15) If the residuals from a regression estimated using a small sample of data are not normally distributed, which one of the following consequences may arise?
a)The coefficient estimate will be unbiased inconsistent
b)The coefficient estimate will be biased consistent
c)The coefficient estimate will be biased inconsistent
d)Test statistics concerning the parameter will not follow their assumed distributions.

15 If a relevant variable is omitted from a regression equation, the consequences would be that:
i) The standard errors would be biased
ii) If the excluded variable is uncorrelated with all of the included variables, all of the slope coefficients will be inconsistent.
iii) If the excluded variable is uncorrelated with all of the included variables, all the intercept coefficients will be inconsistent.
iv) If the excluded variable is uncorrelated with all of the included variables, all of the slope and intercept coefficients will be consistent and unbiased but inefficient
i)ii and iv
ii)i and iii
iii)i,ii, and iii
iv)i,ii,iii, and iv

16). Consider the regression model,

$$Y_i = \beta_1 + \beta_2 x_{i2} + \ldots + \beta_k x_i k + e_i$$

where errors may be heteroskedastic.Choose the most incorrect statement.
(a) The OLS estimators are consistent and unbiased.
(b) We should report the OLS estimates with the robust standard errors.
(c) The Gauss-Markov theorem may not apply.
(d) The GLS cannot be used because we do not know the error variances in practice.
(e) We should take care of heteroskedasticity only if homoskedusticity is rejected.

17)The assumption that the error terms in a regression model follow the normal distribution with zero mean and constant variance is required
a)Point estimation of the parameters
b)Hypothesis testing and inference
c)Estimation of the regression model using OLS method
d)Both a and b
18)One of the assumption of CLRM is that the number of observations in the sample must be greater the number of
a)Regressor
b)Regressands
c)Dependent variable
d)Dependent and independent variable

19)If there exist high multicollinearity, then the regression coefficients are,
a) Determinate
b)Indeterminate
c)Infinite values
d)Small negative values

20)If multicollinearity is perfect in a regression model then the regression coefficients of the explanatory variables are
a) Determinate
b)Indeterminate
c)Infinite values
d)Small negative values

21) If multicollinearity is perfect in a regression model the standard errors of the regression coefficients are
a) Determinate
b)Indeterminate
c)Infinite values
d)Small negative values

22)The coefficients of explanatory variables in a regression model with less than perfect multicollinearity cannot be estimated with great precision and accuracy. This statement is
a)Always true
b)Always false
c)Sometimes true
d)Nonsense statement

23)In a regression model with multicollinearity being very high, the estimators
a Are unbiased
b. Are consistent
c. Standard errors are correctly estimated
d All of the above

24) Micronumerosity in a regression model according to Goldberger refers to
a) A type of multicollinearity
b). Sample size n being zero
c) Sample size n being slightly greater than the number of parameters to be estimated
d)Sample size n being just smaller than the number of parameters to be estimated

25) Multicollinearity is essentially a
a. Sample phenomenon
b. Population phenomenon
c. Both a and b
d. Either a or b

26)Which of the following statements is NOT TRUE about a regression model in the presence of multicol-linearity
a. t ratio of coefficients tends to be significantly
b. R^2 is high
c. OLS estimators are not BLUE
d. OLS estimators are sensitive to small changes in the data

27).Which of these is NOT a symptom of multicollinearity in a regression model
a. High R^2 with few significant t ratios for coefficients
b. High pair-wise correlations among regressors
c. High R^2 and all partial correlation among regressors
d. VIF of a variable is below 10

28). A sure way of removing multicollinearity from the model is to
a. Work with panel data
b. Drop variables that cause multicollinearity in the first place
c. Transform the variables by first differencing them
d. Obtaining additional sample data

29) Assumption of 'No multicollinearity' means the correlation between the regresand and regressor is
a. High
b. Low
C. Zero
d. Any of the above

30. An example of a perfect collinear relationship is a quadratic or cubic function. This statement is
a. True
b. False
c. Depends on the functional form
d. Depends on economic theory

31.Multicollinearity is limited to
a Cross-section data
b. Time series data
c. Pooled data
d. All of the above

32. Multicollinearity does not hurt is the objective of the estimation is
a. Forecasting only
b. Prediction only
C. Getting reliable estimation of parameters

d. Prediction or forecasting

33. As a remedy to multicollinearity, doing this may lead to specification bias
a. Transforming the variables
b. Adding new data
C. Dropping one of the collinear variables
d. First differencing the successive valucs of the variable

34. F test in most cases will reject the hypothesis that the partial slope coefifcients are simultaneously equal
to zero. This happens when
a. Multicollinearity is present
b. Multicollinearity is absent
c. Multicollinearity may be present OR may not be present
d. Depends on the F-value

35.Heteroscedasticity is more likely a problem of
a)Cross-section data
b)Time series data
c)Pooled data
d)All of the above

36)The coefficient estimated in the presence of heteroscedasticity are NOT
a)Unbiased estimators
b) Consistent estimators
c)Efficient estimators
d)Linear estimators

37)Even if heteroscedasticity is suspected and detected, it is not easy to correct the problem. This statement is
a)True
b)False
c)Sometimes true
d)Depends on test statistics

38).Which of the following is NOT considered the assumption about the pattern of heteroscedasticity
a. The error variance is proportional to X_i
b. The error variance is proportional to Y_i
c.The error variance is proportional to X_i^2
d. The error variance is proportional to the square of the mean value of Y

39) Heteroscedasticity may arise due to various reasons. Which one of these is NOT a reason
a) Extremely low or high values of X and Y coordinates in the dataset
b) Correlation of variables over time
c)Incorrect specification of the functional form of the model
d)Incorrect transformation of variables

40). The regression coefficient estimated in the presence of autocorrelation in the sample data are NOT
a. Unbiased estimators
b. Consistent estimators
c Efficient estimators
d. Linear estimators

41)Estimating the coefficients of regression model in the presence of autocorrelation leads to this test being NOT valid
a)t test
b)F test
c)Chi-square test
d) All of the above

42)There are several reasons for serial correlation to occur in a sample data. Which of these is NOT
a). Business cycle
b). Specification bias
c) Manipulation of data
d). Stationary data series

43) When supply of a commodity, for example agricultural commodities, react to price with a lag of one time period due to gestation period in production, such a phenomenon is referred to as
a. Lag phenomenon
b. Cobweb phenomenon
e. Inertia
d. Business cycle

44). If in our regression model, one of the explanatory variables included is the lagged value of the dependent variable, then the model is referred to as
a. Best fit model
b. Dynamic model
C. Autoregressive model
d. First-difference form

45). A time series sample data is considered stationary if the following characteristics of the series are time invariant:
d. Mean
b. Variance
c. Covariance
d. All of the above

46) By autoconrelation we mean
a) That the residuals of a regression model are not independent
b) That the residuals of a regression model are related with one or more of the regressors
c) That the squared residuals of a regression model are not equally spread
d That the variance of the residuals of a regression model is not constant for all observations

47) The p value is
a)2 minimum power

b)2 plus power
c)the power
d)none of these

48) In the regression function $y=\alpha + \beta x +c$
a)x is the regressor
b)y is the regressor
c)x is the regressand
d)none of these

49)The full form of CLR is
a)Class line ratio
b)Classical linear regression
c)Classical linear relation
d) none of the above

50)Locus of the conditional mean of the dependent variable for the fixed values of the explanatory variable
a)Indifference curve
b)Population regression curve
c)Production Possibility curve
d)None of these.

51)Sample regression function is the estimated version of the_____
a)Estimated version of population regression function
b)Estimated version of population correlation function
c)Not an estimated version of population regression function
d)Both b and c

52)Full form of OLS
a)Ordinary least square method
b)Ordinary least statistical method
c)Ordinary least sample method
d) Both b and c

53)The conditional mean of Y is
a) The expected value of Y for given values of the independent variables, X_i
b) The expected value of Y for given values of the independent variables, $u_{i.}$
c) The expected value of Y for given values of the independent variables, $Y_{i.}$
d)Both b and c

54)The coefficient of determination, r^2 shows.
a) Proportion of the variation in the dependent variable Y is explained by the independent variable X….ans
b) Proportion of the variation in the dependent variable X is explained by the independent variable Y
c) Proportion of the variation in the dependent variable u_i is explained by the independent variable X
d)Both a and c

55)An estimate is
a) The numerical value obtained after applying a formula to a given data set
b) The p value obtained after applying a formula to a given data set
c) The table value obtained after applying a formula to a given data set
d) The correlation coefficient obtained after applying a formula to a given data set

56) Student 't' test was formulated by
a)William Sealy Gosset
b)Carl Friedrick Gauss
c)Durbin Watson
d) Both b and c

57)BLUE is
a)Best Linear Unbiased Estimator
b)Best Linear Unconditional Estimator
c)Basic Linear Unconditional Estimator
d)Both b and c

58)Spatial autocorrelation is
a)The error term pertaining to one household or firm is correlated with the error term of another household or firm through space
b) The dependent variable pertaining to one household or firm is correlated with the error term of another household or firm through space
c) The independent variable pertaining to one household or firm is correlated with the error term of another household or firm through space
d)Both a and c

59)Information about numerical values of variables from period to period is
a)Time series data
b)Cross-section data
b)Pooled data
c)Panel data
d) Both and b

60)Data on one or variables collected at a given point of time
a)Time series data
b)Cross-section data
b)Pooled data
c)Panel data
d) Both and b

61)i)Pooled data imply combination of time series and cross sectional data.
ii) Panel data is special type of pooled data in which the same cross-section unit is surveyed over time
a)Only a is correct
b)Only b is correct
c)Both a and b are wrong
d)Both a and b are correct…

62)i)Least square estimators. Unbiased, minimum variance, Linear is BLUE
ii) Least square estimators. Biased, minimum variance, Linear is BLUE
iii Least square estimators. Unbiased, maximum variance, Linear is BLUE
a)Only a…
b)Only b
C) Both a and b
d) Only c

63)The statistical properties of OLS estimators are
a)Linearity, Unbiasedness, and minimum variance
b) Linearity and Unbiasedness
c) Unbiasedness, and minimum variance
d) Linearity and minimum variance

64)Procedure for testing Hypothesis
i)Set up hypothesis
ii)Selecting the level of significance
iii)Select the suitable test statistic
iv)Determining the critical region
v)Performing computations
vi)Decision- making
a)i, ii, and iv
b)i,ii,iii,iv
c)i,iii,iv
d)i,ii,iii,iv,v,vi..

65)Method of ordinary least square is attributed to
a)Carl Friedrick Gauss
b)William Sealy Goss
c)Durbin Watson
d) Both b and c

66) r^2 refers to
a)Coefficient of determination
b)Coefficient of correlation
c)Square of correlation coefficient
d)Both a and c

67)The coefficient of determination shows,
a)Variation in the dependent variable Y is explained by the independent variable X
b) Variation in the independent variable Y is explained by the dependent variable X.
c)Both a and b are correct
d)Both a and b are wrong

68)The violation of the assumption of constant variance of the residual is known as
a)Heteroscedasticity
b)Homoscedasticity
c)Both a and b are correct
d)Both a and b are wrong

69)Multicollinearity is used to denote,
a)The presence of linear relationships among explanatory variables
b) The presence of non-linear relationships among explanatory variables
c) The presence of linear relationships among dependent variables
d) The presence of linear relationships among endogenous variables

69)What is u_i?
a)Errror term
b)Disturbance term
c)Both a and b are correct
d)Both a and b are wrong

70)Hoomoscedasticity means
a)Constant variance
b)Minimum variance
c)Maximum variance
d)Zero variance

71)Formula of coefficient determination is
a)1-RSS/TSS
b)1+RSS/TSS
c)1-RSS/ESS
d)1+RSS/ESS

72)Two properties of r^2
a)It is non-negative quantity
b)Its limit are $0 \leq r^2 \leq 1$
c)It is positive
d) All of the above

73)The basic framework of regression analysis is the CLRM
a)True,,,
b)False
c)Partially true
d)Cant say

74)Specification bias or specification error means
a)Leaving out important explanatory variables
b)Including unnecessary variables
c)Choosing the wrong functional form between Y and X variables
d)All of the above

75)CLRM full form
a)Classical linear regression model…
b)Classical linear regression method
c)Classical linear relationship model
d)Classical linear relationship method

76)Assumptions under CLRM
a)Linear in parameters…
b)Non linear in parameters
c)X values dependent on error term
d)Positive mean value of disturbance term

78)Assumptions under CLRM
a)Constant variance
b)Heteroscedasticity
c)Autocorrelation between the error terms
d) Autocorrelation between dependent and independent variables.

79)The term regression was coined by
a)Francis Galton
b)Karl pearson
c)Carl Friedrick Gauss..
d)William Sealy Goss

80)Given the sample, each estimator will provide only a single point value of the relevant population parameter is
a)Point estimator
b)Interval estimator
c)Least square estimator
d)Both b and c

81)Assumption of CLRM
a)No Autocorrelation between error term
b)Positive correlation
c)Negative correlation
d)Both b and d are correct

82) Reliability of a point estimation is measured by its
a. Standard deviation
b. Standard normal curve
c. Standard error
d. Coefficient of determination

83). Rejecting a true hypothesis results in this type of error
a. Type I error
b. Type II error
c. Structural error
d.Hypothesis error

83. Accepting a false hypothesis results in this type of error
a. Type I error
b. Type II error
c. Structural error
d. Hypothesis error

84. The end points of the confidence interval ($^{v}\beta_2 + \delta$) are known as
a. Critical error
b. Confidence limit

c. Confidence value
d. Limiting value

85. The α in a confidence interval given by $Pr(^{v}\beta_2-\delta \leq {}^{v}\beta_2-\delta) = 1-\alpha$ is known as
b. Level of confidence
C. Level of significance
d. Significance coefficient

86. The (1-α) in a confidence interval given by $Pr(^{v}\beta_2-\delta \leq {}^{v}\beta_2-\delta) = 1-\alpha$ is known as
a. Confidence coefficient
b. Level of confidence
c. Level of significance
d. Significance coefficient

87. The α in a confidence interval given by $Pr(^{v}\beta_2-\delta \leq {}^{v}\beta_2-\delta) = 1-\alpha$ should be,
a.<0
b. >0
c.<1
d. >0 and <1

88. In confidence interval estimation, α = 5%, this means that this interval includes the true β with probability of
a.5%
b.50%
C. 95%
d. 45%

89. The confidence interval constructed for β_2 will be same irrespective of the sample analyzed. This statement is
a. True
b. False
c. May be true
d. Nonsense statement

90. The larger the standard error of the estimator, the greater is the uncertainty of estimating the true value of the unknown parameters. This statement is
a. True
b. False
c. May be true
d. Nonsense statement

91Standard error of an estimator is a measure of
a. Population estimator
b. Precision of the estimator
c. Power of the estimator

d) Confidence interval of the estimator

92)In $Y_i = \beta_1 + \beta_2 X + u_i$, u_i can take values that are
a.Only positive
b.Only negative
c.Only zero
d.Positive, negative or zero

93)In $Y_i = \beta_1 + \beta_2 X + u_i$, u_i
a.Represent the missing values of Y
b.Acts as proxy for all the omitted variables that may affect Y
c. Acts as proxy for important variable that affect Y
d.Represent measurement errors

94)In $Y_i = E(Y/X_i) + u_i$, the deterministic component is given by
a.Y_i
b. $E(Y/X_i)$
c.U_i
d.$E(Y/X_i) + u_i$

95) In $Y_i = E(Y/X_i) + u_i$, the non-systematic random component is given by
a.Y_i
b. $E(Y/X_i)$
c.U_i
d.$E(Y/X_i) + u_i$

96) $Y_i = \beta_1 + \beta_2 X + u_i$ represents
a.Sample regression function
b.Population regression function
c.Nonlinear regression function
d.Estimate of regression function

97) $^{v}Y_i = {}^{v}\beta_1 + {}^{v}\beta_2 X + {}^{v}u_i$ represents
a.Sample regression function
b.Population regression function
c.Nonlinear regression function
d.Estimate of regression function

98)In $^{v}Y_i = {}^{v}\beta_1 + {}^{v}\beta_2 X + {}^{v}u_i$, β_1 and β_2 represents
a.Fixed component
b.Residual component
c.Estimates
d.Estimators

99)In sample regression function, the observed Y_i can be expressed as$Y_i = {}^{v}Y_i + {}^{v}\beta_1 + {}^{v}\beta_2 X + {}^{v}u_i$. This statement is

a. True

b. False

c. Depends on ${}^{v}\beta_2$

d.Depends on ${}^{v}Y_i$

100)The statement that-There can be more than one SRF representing a population regression function is

a.Always true

b.Always false

c.Sometimes true, sometimes false

d.Nonsense statement