BA ECONOMICS COMPLIMENTARY COURSE

MATHEMATICAL ECONOMICS

Question Bank & Answer Key

1. The intercept term,β_1, is absent in.................. model.
A. regression through the origin B. lin log model
C. log lin model D. OLS model
2. The lin log model and log lin model are .... in parameters.
A. Non linear B. Linear
C. Functional D. Dependent
3. r_2 in intercept less model is.... .... negative.
A. Always B. Sometimes
C. Never D. Cannot say
4. The slope coefficient ,β_2, of .... model measures elasticity of Y with respect to X.
A. regression through the origin B. log log model
C log lin model D. CLRM
5. .... is a growth model.
A. Alinear trend model B. lin log model
C. log lin model D. none of the above
Answer A linear trend model
6. In regression through the origin model, ... is absent.
A. The intercept term ,β_1 B. The slope coefficient ,β_2
C. error term D. explanatory variables
7. Econometrics is concerned with
A. Empirical support to economic theory B. Quantitative analysis of economic data
C. Use of tools of mathematics and statistical inference D. All of the above
8. Which of the following is the combination of economic theory, mathematical economics and economic statistics
A. Econometrics B. Statistics
C. Mathematics D. Quantitative Economics
9. The first step in traditional econometric methodology is
A. Statement of theory B. Forecasting
C. Obtaining data D. Estimation of the model
10. Which of the following discipline express the economic theory in mathematical form
A. Econometrics B. Statistics
C. Mathematics D. Mathematical Economics
11. According to Keynes the value of marginal propensity to consume is
A. 0 B. 1
B. 0 and one D. Infinity
12. Keynes postulated ----- relationship between income and consumption

A. Negative B. Positive

C. Non linear D Infinite

13. In the function, Q= α+βP, the slope coefficient is

A. α B. β

C. P D Q

14. In the Keynesian linear consumption function $Y=\beta_1+\beta_2X$, Y represents

A. Income B. Consumption expenditure

C. Output D. Price

15. In the Keynesian linear consumption function $Y=\beta_1+\beta_2X$, β_1 is

A. Slope coefficient B. Intercept coefficient

C. Output coefficient D. None of the above

16. In the Keynesian linear consumption function $Y=\beta_1+\beta_2X$, β_1 is

A. Slope coefficient B. Intercept coefficient

C. Output coefficient D. None of the above

17. In the Keynesian linear consumption function $Y=\beta_1+\beta_2X$, the parameters of the model are

A. β_1 and β_2 B. β_1 and X

C. X and Y D. Y and β_2

18. In the Keynesian linear consumption function $Y=\beta_1+\beta_2X$, the marginal propensity to consume is

A β_1 B. X

C Y D β_2

19. if the model has only one equation, the model is called

A. single equation model B. multiple equation model

C. variable equation model D. none of the above

20. if the model has more than one equation, the model is called

A. single equation model B. multiple equation model

C. variable equation model D. none of the above

21. In the Keynesian linear consumption function $Y=\beta_1+\beta_2X$, the dependent variable is

A. β_1 B. X

C Y D β_2

22. In the Keynesian linear consumption function $Y=\beta_1+\beta_2X$, the explanatory variable is

A β_1 B X

C Y D β_2

23. the variable appearing on the left side of the equality sign is called

A dependent variable B independent variable

C explanatory variable D none of the above

24. In conventional model r_2 is .... negative.

A. Always B Sometimes

C. Never D Cannot say

25. the variable appearing on the right side of the equality sign is called

A. independent variable B. explanatory variable

C. all of the above D. none of the above

26. independent variables are also known as

A explanatory variables B dependent variable

C implicit variable D static variable

27. which is the explanatory variable in the Keynesian consumption function

A income B consumption
C price D output
28. a mathematical model assumes----- relationship between variables
A inexact B exact
C probable D none of the above
29. a function that can be represented as straight line graphically is
A non linear B linear
C polynomial D quadratic
30. in the function $Y=\beta_1+\beta_2X+u$, the term 'u' is called
A disturbance term B intercept
C slope D dependent term
31. A model in which regressand is logarithmic is called...............
A. regression through the origin B lin log model
C. log lin model D CLRM
32. the function $Y=\beta_1+\beta_2X+u$ is an example of
A. linear regression model B econometric model
C. all of the above D none of the above
33. confirmation or refutation of economic theories on the basis of sample evidence is based on the branch of statistical theory called
A. statistical inference B standard deviation
C. arithmetic mean D regression analysis
34. the term regression was first introduced by
A. Irwing Fisher B. Laspayer
C. Francis Galton D Pearson
35. Reciprocal and log lin models are .... in variables.
A. Non linear B Linear
C. Functional D Dependent
36. the function $Y=\beta_1+\beta_2X+u$ is an example of
A. non linear regression model B. linear regression model
C. quadratic regression model D. none of the above
37. Regression analysis is concerned with
A. Study of the dependence on one variable on the other
B. Predicting the average value
C. Predicting the population mean
D. All of the above
38. In the Keynesian linear consumption function $Y=\beta_1+\beta_2X$, the independent variable is
A β_1 B. X
C Y D β_2
39. Regression analysis is concerned with --------- relationship among variables
A Statistical B Functional
B Deterministic D None of the above
40. Statistical relationships assumes that variables are
A Random B Stochastic
C All of the above D None of the above
41. Stochastic variables are those having
A Probability distribution B Indexation

C Correlation C Causation

42. A statistical relationship per say cannot logically imply
A Regression B Causation
C Error D Random

43. The measure that analyses the degree of linear association between two variables is called
A Correlation coefficient B Regression coefficient
C Significance level D Testing of hypothesis

44. In the Keynesian linear consumption function $Y=\beta_1+\beta_2X$, X represents
A Income B Consumption expenditure
C Output D Price

45. Correlation analysis is concerned with
A. Prediction of future value B Prediction of average value
C. Degree of association among variables D Testing of hypothesis

46. A model in which regressand is linear and regressor is logarithmic is called...............
A regression through the origin B lin log model
B log lin model D CLRM

47. Correlation theory is based on the assumption of
A Randomness of variables B Conditional mean
C Random errors D Specification

48. The correlation coefficient between the mathematics and economics was found to be 0.64. What will be the value of correlation coefficient between economics and mathematics
A 0.32 B -0.64
C 0.64 D 1.28

49. the law of universal regression was first introduced by
A Irwing Fisher B Laspayer
C Francis Galton D Pearson

50. In ------ analysis there is no distinction between dependent and explanatory variables
A Regression B Correlation
C Hypothesis testing D Estimation

51. If we are studying the dependence of a variable on a single explanatory variable, the analysis is called
A. Two variable regression analysis B Multiple regression analysis
C Single regression analysis D None of the above

52. If we are studying the dependence of a variable on more than one explanatory variable, the analysis is called
A Two variable regression analysis B Multiple regression analysis
C Single regression analysis D None of the above

53. The term "random" is synonym for the term
A Stochastic B Variable
C Error D Regression

54. If the data is collected at one point in time, it is called
A Time series data B Cross section data
C Pooled data D None of the above

55. If the data is collected over a period of time, it is called
A Time series data B Cross section data
C Pooled data D None of the above

56. The combination of time series and cross sectional data is known as
A Pooled data B Panel data
C Longitudinal data D None of the above
57. Qualitative variables are also called
A Quantitative variables B Dummy variables
B Linear variables D Log linear variables
58. The set of all possible outcomes of an experiment or measurement is known as
A Population B Census
C Sample D Variable
59. conditional mean of Y given X value is denoted as
A Con Y B E(Y/X)
C Prob (Y/X) D E(X/Y)
60. An expected value is the same as
A Average value B Standard deviation
C Dispersion D None of the above
61. The locus of points conditional means of the dependent variable for the fixed values of the explanatory variables is
A Venn Diagram B Lorenz Curve
C Probability curve D Population regression curve
62. The regression line or curve passes through
A Origin B Vertical axis
C Horizontal axis D Conditional means
63. $E(Y/X_i) = f(X_i)$ is known as
A. Population regression function B Sample regression function
C. Expected average D None of the above
64. In the regression function $E(Y/X_i)=\beta_1+\beta_2 X_i$, regression coefficients are
A. Y and X B Y and β_1
C β_1 and β_2 D β_2 and X_i
65. the regression function $E(Y/X_i)=\beta_1+\beta_2 X_i$ is a
A linear regression function B sample regression function
C non linear regression function D log linear regression function
66. in the regression function $E(Y/X_i)=\beta_1+\beta_2 X_i$, β_1 is
A intercept coefficient B slope coefficient
C variable D average value
67. in the regression function $E(Y/X_i)=\beta_1+\beta_2 X_i$, β_2 is
A Aintercept coefficient B slope coefficient
C variable D average value
68. the regression function $E(Y/X_i)=\beta_1+\beta_2 X_i$
2 is linear in
A variables B parameters
C coefficients D none of the above
69. in the regression function $E(Y/X) = \beta + \beta X$ is linear in
A variables B parameters
C coefficients D none of the above
70. in the function $Y_i= \beta_1+\beta_2 X_i+u_i$, the term u_i refers to
A variable B parameters

C coefficient D stochastic error term

71. in the function $Y_i= \beta_1+\beta_2X_i+u_i$, the term u_i is ------- in nature
A random B nonsystematic
C all of the above D none of the above

72. "the descriptions be kept as simple as possible until proved inadequate" corresponds to
A Occam's razor B Index numbers
C Regression D Correlation

73. The rule or formula that tells how to estimate the population parameter from the sample information is called
A Estimate B Estimator
C Population D Coefficient

74. The function $Y = \beta + \beta X$ is a
A sample regression function B non linear regression function
C log linear regression function D population regression function

75. the most popular method of constructing sample regression function in the regression analysis is
A method of OLS B generalised squares
C ordinary regression method D none of the above

76. the method of ordinary least squares is attributed to
A Pearson B Pashee
C Fisher D Carl Friedrich Gauss

77. Under the method of OLS, we try to minimise
A Residuals B Squared residuals
B Coefficients D Parameters

78. If each estimator provides only a single value of the relevant population parameter, it is
A Point estimator B Interval estimator
C Class estimator D Single estimator

79. If each estimator provides a range of possible values relevant population parameter, it is
A Point estimator B Interval estimator
C Class estimator D Single estimator

80. The sample regression line obtained through the OLS method passes through
A Sample means B Sample standard deviation
C Origin D Vertical axis

81. The Gaussian standard classical linear regression model assumes------- assumptions
A Seven B Ten
C Five D Eight

82. Which is the assumption of Gaussian standard classical linear regression model
A Linear regression model B X values are fixed
C Zero mean values for disturbances D All of the above

83. The numerical value obtained by the estimator in an application is known as
A Estimate B Estimator
C Population D Coefficient

84. Given the value for X, the CLRM assumes the mean value of u_i
A Constant B Zero
B One D Infinity

85. Homoscedasticity means------ for disturbances

A Equal mean B Equal variance
C Zero mean D None of the above
86. The literal meaning of econometrics is
A Estimation B Economic measurement
C Forecasting D Testing
87. Economic theory makes statements that are mostly
A Quantitative B Qualitative
C Positive D None of the above
88. In the function, Q= α+βP, the intercept coefficient is
A α B β
C P D Q
89. Heteroscedasticity implies
A Equal spread B Unequal spread
C Equal mean D Equal variance
90. Given any two X values the classical linear regression model assumes the correlation between the disturbances as
A One B Infinity
C Negative D Zero
91. The standard deviation of the sampling distribution of the estimator is called
A Standard error B Degree of freedom
B Coefficient level D Test of significance
92. In the two variable regression model, the degree of freedom will be
A 2 B n-2
B 2-n D n/2
93. which is the dependent variable in the Keynesian consumption function
A income B consumption
C price D output
94. in the regression context, the OLS estimators are BLUE according to
A Central Limit Theorem B Gauss Markov Theorem
C Young Theorem D Fisher's Theorem
95. The summary measure used to measure the goodness of fit of a regression line
A Coefficient of determination B Coefficient of variation
C Standard error D Standard deviation
96. The numerical value of coefficient of determination lies between
A -1 and 1 B 0 and 1
C -∞ to +∞ D -∞ to 1
97. The numerical value of coefficient of correlation lies between
A -1 and 1 B 0 and 1
B -∞ to +∞ D -∞ to 1
98. The classical theory of statistical inference consists of
A Estimation and hypothesis testing B Regression and correlation
C Averages and dispersion D None of the above
99. The rejecting of a true hypothesis is called
A Type I error B Type II error
C Standard error D Point estimation
100. Which of the following is used to measure the degree of association between two

variables

A Coefficient of determination B Coefficient of correlation

C Standard error D Standard deviation

101. The accepting of a false hypothesis is called

A Type I error B Type II error

C Standard error D Point estimation

102. The larger the standard error, the ----- the width of the confidence interval

A Smaller B Larger

C Infinity D Cannot calculate

1 A 18 D 35 B 52 B 69 A 86 B
2 A 19 A 36 B 53 A 70 D 87 B
3 B 20 B 37 D 54 B 71 C 88 B
4 B 21 C 38 B 55 A 72 A 89 B
5 A 22 B 39 A 56 A 73 B 90 D
6 A 23 A 40 C 57 B 74 A 91 A
7 D 24 C 41 A 58 A 75 A 92 B
8 A 25 C 42 B 59 B 76 D 93 B
9 A 26 A 43 A 60 A 77 B 94 B
10 D 27 A 44 A 61 D 78 A 95 A
11 C 28 B 45 C 62 D 79 B 96 B
12 B 29 B 46 B 63 A 80 A 97 A
13 B 30 A 47 A 64 C 81 B 98 A
14 B 31 C 48 C 65 A 82 D 99 A
15 B 32 C 49 C 66 A 83 A 100 B
16 B 33 A 50 B 67 B 84 B 101 B
17 A 34 C 51 A 68 B 85 B 102 B