

# Multiple Choice Questions

## EC010205 Statistical Methods for Economic Analysis

### Second Semester PG Private

1. Variable which can assume each and every value within a given range :
  - a) Discrete variable
  - b) Random variable
  - c) Continuous variable
2. A variable whose value is determined by the outcome of a random experiment is called
  - a) Random
  - b) Random variable
  - c) Constant
3. The speed of the car is an example of
  - a) Continuous variable
  - b) Discrete variable
  - c) Absolute variable
4. Let  $x$  be a continuous random variable which shows the temperature that is measured. The range of temperature varies from 1 to 100 degree celcius and the probability density function of  $X$  be  $f(x) = 0.01$  for  $0 \leq X \leq 100$  : the mean of  $X$  is
  - a) 5.0
  - b) 25
  - c) 50
5. Which of the following statistical method can be used for a single sample data?
  - a) Uncertainty distribution
  - b) Standard deviation
  - c) Frequency distribution

6. A Random Variable  $X$  can take only two values, 4 and 5 such that  $P(4) = 0.32$  and  $P(5) = 0.47$ . Determine the Variance of  $X$ .
- A) 8.21
  - b) 12
  - c) 3.7
7. Let  $Z = (X, Y)$  be a bivariate normal random variable. Then, which of the following statements is false?
- a)  $X$  and  $Y$  are independent if and only if they are uncorrelated.
  - b)  $X + Y$  is univariate normal
  - c)  $X + Y$  and  $X - Y$  are independent
8. The probability without any conditions of occurrence of event is called
- a) Conditional probability
  - b) Marginal probability
  - c) Non conditional probability
9. Marginal probability of independent and dependent events should be
- a) One
  - b) Same
  - c) Different
10. Moment generating function of two independent random variate is equal to the \_\_\_\_\_ of mgf of two variate:
- a) Addition
  - b) Subtraction
  - c) Multiplication
11. The Central Limit Theorem says that the sampling distribution of the sample mean is approximately normal if
- a) All possible samples are selected.
  - b) The sample size is large.
  - c) The standard error of the sampling distribution is small.
12. The Central Limit Theorem says that the mean of the sampling distribution of the sample means is
- a) Equal to the population mean divided by the square root of the sample size.
  - b) Close to the population mean if the sample size is large.

c) Exactly equal to the population mean.

13. In binomial probability distributions , the dependents of standard deviations must includes:

- a) Probability of q
- b) Probability of p
- c) Both a and b

14. In binomial distribution , the formula of calculating standard deviation is :

- a) Square root of p
- b) Square root of npq
- c) Square root of pq

15. The distribution whose function is calculated by considering the Bernoulli trials that are infinite in number is classified as :

- a) Negative poisson distribution
- b) Common probability distribution
- c) Negative binomial probability distribution

16. In the poisson probability distribution, if the value of lambda is integer then the distribution will be

- a) Bimodal
- b) Positive modal
- c) Negative modal

17. In binomial probability distribution , the success and failure generated by the trial is denoted by

- a) P and q
- b) P+q
- c) P-q

18. The class of variable which can accept any value within the upper and lower limit is classified as

- a) Interior random variable

- b) Discrete random variable
  - c) Continuous random variable
19. The aggregate of all the units pertaining to a study is called
- a) Unit
  - b) Universe
  - c) Sample
20. Population value is called:
- a) Statistic
  - b) Parameter
  - c) Variable
21. Sample value is called
- a) Variable
  - b) Statistic
  - c) Parameter
22. Among the following which of these are not probability sampling?
- a) Stratified sampling
  - b) Simple random sampling
  - c) Quota sampling
23. Judgemental sampling is also called :
- a) Convenience sampling
  - b) Cluster sampling'
  - c) Purposive sampling
24. ----- sampling provides for a known non zero chance of selection
- a) Quota sampling
  - b) Non probability sampling
  - c) Probability sampling
25. Among the following , ----- requires the largest sample size
- a) Systematic sampling
  - b) Simple random sampling
  - c) Cluster sampling
26. Sampling error is present only in :
- a) Census survey
  - b) Sample survey
  - c) Both census and sample survey

27. Non sampling error can be found only in:
- Census survey
  - Samle survey
  - Both sample and census survey
28. As the sample size increases, sampling error also
- Decreases
  - Increases
  - No change
29. The degrees of freedom for the chi square test statistics when testing for independence in a contingency table with 4 rows and 4 columns would be
- 9
  - 6
  - 4
30. When using chi square test for differences in two proportions with a contingency table that has  $r$  rows and  $c$  columns, the degrees of freedom for the test statistic will be:
- $N-1$
  - $(r-1)(c-1)$
  - $(r-1) + (c+1)$

31. Calculate chi square value:

Event	Expected	Observed
X	60	52
Y	40	48

- 2.77
  - 2.67
  - 3.33
32. Chi square test depends on the degree of freedom,  $v$  :
- True
  - False
  - Not related

33. In chi square distribution ----- is greater than mode

- a) Median
  - b) Mean
  - c) None of the above
34. Chi square distribution becomes ----- as the degrees of freedom goes on increasing
- a) Symmetrical
  - b) Skewed
  - c) None of the above
35. The distribution curve of t is
- a) Asymmetrical
  - b) Symmetrical
  - c) None of the above
36. Test to be applied when the number of observations are less than 30 and variance is not known is called:
- a) Chi square test
  - b) T test
  - c) Z test
37. Testing the significance of difference between two sample means ----- test should be applied
- a) F test
  - b) Z test
  - c) T test
38. The f distribution depends on the degrees of freedom  $v_1$  and  $v_2$
- a) True
  - b) False
  - c) Cannot be determined
39. To test the equality of two population variances, the following test is to be applied:
- a) T test
  - b) Z test
  - c) F test
40. F test is also called as
- a) Z test
  - b) Variance ratio test
  - c) Standard error test

41. Among the following , the first step in research process is :
- Survey of literature
  - Identification of problem
  - Searching sources of information to locate problem
42. Action research means
- An applied research
  - A research initiated to solve an immediate problem
  - Research with socioeconomic objective
43. A reasoning from particular to general statement is called:
- Deductive approach
  - Inductive approach
  - Theory
44. In the process of conducting research , ‘ formulation of Hypothesis ‘ is followed by
- Statement of objectives
  - Analysis of data
  - Selection of research tools
45. A research paper is a brief report of research work based on
- Primary data only
  - Secondary data only
  - Both primary and secondary data
46. Questionnaire is a :
- Research method
  - Measurement technique
  - Tool for data collection
47. Controlled group is a term used in:
- Survey research
  - Historical research
  - Experimental research
48. Deductive approach proceeds from :
- General to particular
  - Particular to general
  - General to general
49. The method by which a sample is chosen is called -----
- Unit

- b) Design
  - c) Random
50. Research undertaken for knowledge sake is called:
- a) Pure research
  - b) Action research
  - c) Pilot study
51. Research related to abstract idea or concept is -----
- a) Empirical research
  - b) Conceptual research
  - c) Quantitative research
52. A research report is a formal statement of -----
- a) Research problem
  - b) Research process
  - c) Data collection
53. A blue print of research work is called -----
- a) Research tools
  - b) Research problem
  - c) Research design
54. A hypothesis is a:
- a) Tentative statement
  - b) Statement of aims of investigation
  - c) Evaluation of research evidence
55. Bibliography given in the research report shows:
- a) No relevance to research
  - b) Helps those interested in further research
  - c) Shows vast knowledge of researcher
56. Scientific method is committed to
- a) Objectivity
  - b) Ethics
  - c) Proposition
57. Social science research ----- problems
- a) Explain
  - b) Diagnose
  - c) Recommend



58. Basing conclusions without value judgement and bias is called -----
- a) Values
  - b) Facts
  - c) Objectivity
59. The format of thesisis writing is same as
- a) Preparation of research article/ paper
  - b) Research dissertation
  - c) Presenting a conference paper
60. The purpose of pilot study in a research is :
- a) To check suitability of conducting full study
  - b) To find respondents for full study
  - c) To finalise sampling for full study
61. What is the probability of a type II error when  $\alpha=0.05$  ?
- a) 0.05
  - b) 0.95
  - c) Cannot be determined without more information
62. If we reject the null hypothesis, we might be making
- a) Type-I Error
  - b) Type-II Error
  - c) A Correct Decision
63.  $1-\alpha$  is the probability of
- a) Type-I Error
  - b) Rejection Region
  - c) Acceptance Region
64. A statement made about a population for testing purpose is called?
- a) Hypothesis
  - b) Statistics
  - c) Level of significance
65. The rejection probability of null hypothesis when it is true is called:

- a) Level of margin
  - b) Level of confidence
  - c) Level of significance
66. If the critical region is evenly distributed then the test is called as:
- a) One tailed
  - b) Two tailed
  - c) Zero tailed
67. Which of the following is defined as formula to test a null hypothesis?
- a) Test statistic
  - b) Population statistic
  - c) Variance statistic
68. Type one error occurs when :
- a) Accepting null hypothesis when it is true
  - b) Rejecting null hypothesis when it is true
  - c) Accepting null hypothesis when it is false
69. Type two error occurs when :
- a) Accepting null hypothesis when it is true
  - b) Rejecting null hypothesis when it is true
  - c) Accepting null hypothesis when it is false
70. Suppose that we reject a null hypothesis at the 5 % level of significance . For which of the following levels of significance do we also reject the null hypothesis?
- a) 6%
  - b) 4%
  - c) 2.5%
71. The p value of a test is :
- a) Smallest significance level at which the null hypothesis cannot be rejected
  - b) Largest significance level at which the null hypothesis cannot be rejected
  - c) Smallest significance level at which the null hypothesis can be rejected
72. The probability of type 1 error is called as :
- a)  $1 - \alpha$
  - b)  $\beta$
  - c)  $\alpha$

73. The type of test is defined by:
- a) Null hypothesis
  - b) Alternative hypothesis
  - c) Simple hypothesis
74. The point where null hypothesis gets rejected is called as :
- a) Significant value
  - b) Critical value
  - c) Rejection value
75. If the null hypothesis is false , then which of the following is accepted?
- a) Null hypothesis
  - b) Positive hypothesis
  - c) Alternative hypothesis
76. Type one error is defined as
- d) Accepting null hypothesis when it is true
  - e) Rejecting null hypothesis when it is true
  - f) Accepting null hypothesis when it is false
77. Type two error is defined as
- d) Accepting null hypothesis when it is true
  - e) Rejecting null hypothesis when it is true
  - f) Accepting null hypothesis when it is false
78. The aggregate of all the units pertaining to a study is -----
- d) Unit
  - e) Universe
  - f) Sample
79. In The Central Limit Theorem the sampling distribution of the sample mean is approximately normal when
- d) All possible samples are selected.
  - e) The sample size is large.
  - f) The standard error of the sampling distribution is small.
80. A single value used to estimate a population value is called:
- a) Confidence limits

- b) Interval estimate
- c) Point estimate

81. The process of making estimates about the population parameter from a sample is called

- a) Statistical hypothesis
- b) Statistical independence
- c) Statistical inference

82. A range (set) of values within which the population parameter is expected to occur is called:

- a) Confidence limits
- b) Confidence coefficient
- c) Confidence interval

83. The process of using sample data to estimate the values of unknown population parameters is called

- a) Estimator
- b) Estimation
- c) Estimate

84. There are two main branches of statistical inference, namely

- a) Biased estimator and unbiased estimator
- b) Estimation of parameter and testing of hypothesis
- c) Point estimate and interval estimate

85. A formula or rule used for estimating the parameter of interest is called:

- a) Estimate
- b) Estimation
- c) Estimator

86. Estimation can be classified into

- a) Biased and Unbiased
- b) One sided and sided testing
- c) Point estimation and interval estimation

87. The end points of a confidence interval are called:

- a) Parameters
- b) Confidence limits
- c) Confidence coefficient

88. The estimate is the observed value of an:

- a) Unbiased estimator
- b) Estimation
- c) Estimator

89. A set (range) of values calculated from the sample data and it is likely to contain the true value of the parameter with some probability is called:

- a) Point estimate
- b) Interval estimate
- c) Confidence limits

90. Estimation is the branch of.

- A) Statistic
- b) Statistical Method
- c) Statistical Inference

91. Part of population is called.

- A) Statistical Inference
- b) Statistical Analysis
- c) Sample

92. If expected value of an estimator is less than the parameter then estimator is called.

- A) Negatively biased
- b) Positively biased
- c) Only biased

93. What is the best description of a point estimate?

- a) Any value from the sample used to estimate a parameter
- b) A sample statistic used to estimate a parameter
- c) The margin of error used to estimate a parameter

94. Which best describes the lower endpoint of a confidence interval?

- a) Point estimate
- b) Point estimate minus margin of error
- c) Point estimate plus margin of error

95. Which best describes the upper endpoint of a confidence interval?

- a) Point estimate
- b) Point estimate minus margin of error
- c) Point estimate plus margin of error

96. Which value will be at the center of a confidence interval?

- a) Population parameter
- b) Point estimate
- c) Margin of error

97. What is the relationship between a 95 confidence interval and a 99 confidence interval from the same sample

- a) The 95% interval will be wider

- b) The 99% interval will be wider
- c) Both intervals have the same width

98. ----- means Basing conclusions without value judgement and bias

- a) Values
- b) Objectivity
- c) Facts

99. If the value of lambda is integer then the distribution will be -----in the poisson probability distribution,

- a) Bimodal
- b) Positive modal
- c) Negative modal

100. ----- means a variable whose value is determined by the outcome of a random experiment

- a) Random
- b) Random variable
- c) Constant

# Multiple Choice Questions Answer Key

Statistical Methods for Economic Analysis -EC010205

Second Semester PG Private

Question no:	Answer
1.	C
2.	B
3.	A
4.	C
5.	C
6.	C
7.	C
8.	B
9.	B
10.	A
11.	B
12.	C
13.	C
14.	B
15.	C
16.	A
17.	A
18.	C



<b>19.</b>	<b>B</b>
<b>20.</b>	<b>B</b>
<b>21.</b>	<b>B</b>
<b>22.</b>	<b>C</b>
<b>23.</b>	<b>C</b>
<b>24.</b>	<b>C</b>
<b>25.</b>	<b>C</b>
<b>26.</b>	<b>B</b>
<b>27.</b>	<b>C</b>
<b>28.</b>	<b>A</b>
<b>29.</b>	<b>A</b>
<b>30.</b>	<b>B</b>
<b>31.</b>	<b>B</b>
<b>32.</b>	<b>A</b>
<b>33.</b>	<b>B</b>
<b>34.</b>	<b>A</b>
<b>35.</b>	<b>B</b>
<b>36.</b>	<b>B</b>
<b>37.</b>	<b>C</b>
<b>38.</b>	<b>A</b>
<b>39.</b>	<b>C</b>
<b>40.</b>	<b>B</b>
<b>41.</b>	<b>B</b>
<b>42.</b>	<b>B</b>
<b>43.</b>	<b>B</b>

<b>44.</b>	<b>C</b>
<b>45.</b>	<b>C</b>
<b>46.</b>	<b>C</b>
<b>47.</b>	<b>C</b>
<b>48.</b>	<b>A</b>
<b>49.</b>	<b>B</b>
<b>50.</b>	<b>A</b>
<b>51.</b>	<b>B</b>
<b>52.</b>	<b>B</b>
<b>53.</b>	<b>C</b>
<b>54.</b>	<b>A</b>
<b>55.</b>	<b>B</b>
<b>56.</b>	<b>A</b>
<b>57.</b>	<b>B</b>
<b>58.</b>	<b>C</b>
<b>59.</b>	<b>B</b>
<b>60.</b>	<b>A</b>
<b>61.</b>	<b>C</b>
<b>62.</b>	<b>A</b>
<b>63.</b>	<b>C</b>
<b>64.</b>	<b>A</b>
<b>65.</b>	<b>C</b>
<b>66.</b>	<b>B</b>
<b>67.</b>	<b>A</b>
<b>68.</b>	<b>B</b>

<b>69.</b>	<b>C</b>
<b>70.</b>	<b>A</b>
<b>71.</b>	<b>C</b>
<b>72.</b>	<b>C</b>
<b>73.</b>	<b>B</b>
<b>74.</b>	<b>B</b>
<b>75.</b>	<b>C</b>
<b>76.</b>	<b>B</b>
<b>77.</b>	<b>C</b>
<b>78.</b>	<b>B</b>
<b>79.</b>	<b>B</b>
<b>80.</b>	<b>C</b>
<b>81.</b>	<b>C</b>
<b>82.</b>	<b>C</b>
<b>83.</b>	<b>B</b>
<b>84.</b>	<b>B</b>
<b>85.</b>	<b>C</b>
<b>86.</b>	<b>C</b>
<b>87.</b>	<b>B</b>
<b>88.</b>	<b>C</b>
<b>89.</b>	<b>B</b>
<b>90.</b>	<b>C</b>
<b>91.</b>	<b>C</b>
<b>92.</b>	<b>B</b>
<b>93.</b>	<b>B</b>

<b>94.</b>	<b>B</b>
<b>95.</b>	<b>C</b>
<b>96.</b>	<b>B</b>
<b>97.</b>	<b>B</b>
<b>98.</b>	<b>B</b>
<b>99.</b>	<b>A</b>
<b>100.</b>	<b>B</b>