

UNIVERSITY OF CALICUT
SCHOOL OF DISTANCE EDUCATION
(2014 Admn. onwards)

IV Semester

Core Course for **B.A ECONOMICS**

QUANTITATIVE METHODS FOR ECONOMIC ANALYSIS-II

QUESTION BANK & ANSWER KEY

Choose the correct Answer from the bracket.

1. Which one of the following is line reversal list?

a. $P_{01} \times Q_{01} = \frac{\sum P_1 q_1}{\sum P_0 q_0}$

c. $P_{01} \times P_{12} \times P_{20} = 1$

b. $P_{01} \times P_{10} = 1$

d. $P_{01} \times P_{10} \neq 1$

2. A good index number is one which satisfies

(1) Unit test (2) Time reversal test (3) Factor reversal test

Which of the following is correct

a. 1 only

c. 2 & 3

b. 2 only

d. 1, 2 & 3

3. Which one of the following statement is correct?

(1) Laspeyres' index shows an upward bias

(2) Paastes' index shows an upward bias

(3) Laspeyres' index shows a downward bias

(4) Paasches' index shows an downward bias

a. 1 & 4

c. 2 & 3

b. 1 only

d. 3 & 4

4. The weighted average of price relations using basic values as weights is same as the

a. Laspeyres quantity index

c. Laspeyres price index

b. Paasches' price index

d. Kelly's price index

5. Which one of the following indices satisfies both time reversal and factor reversal list ?
- a. Laspeyres index number
 - b. Fischer's index number
 - c. Paasches index number
 - d. Bowley's index number
6. Which one of the following index numbers is based on Geometric Mean ?
- a. Laspeyres index number
 - b. Fischer's index number
 - c. Paasches index number
 - d. Bowley's index number
7. If the Paasches' index is 196 and Fishers index is 210, What is the value of the Laspeyres' index?
- a. 220
 - b. 215
 - c. 225
 - d. 230
8. The price index that uses base year quantities as weights is called
- a. Paasches index
 - b. Laspeyres index
 - c. Fischer's index
 - d. Whole sale price index
9. The major purpose of price index is to measure change in the
- a. Standard of living
 - b. Gold content of money
 - c. Buying power of money
 - d. Capacity to produce
10. Which of the following statement is not correct ?
Fishers' index :
- a. Lies between Laspeyres' (L) & Paasches' index
 - b. is the Arithmetic mean of L & P
 - c. is the Geometric mean of L & P
 - d. is equal to L or P if $L = P$
11. In consumer price index number weights are determining on the basis of
- a. Actual price of the index
 - b. the consumption pattern of the class of population
 - c. Actual consumption Expenditure
 - d. Both price & consumption expenditure
12. The procedure of combining two or more overlapping series of index numbers into one continuous series is called

- a. Splicing
b. Base shifting
- c. Deflating
d. None of these
13. Consumer price index number indicates
- a. The General price level
b. The Wholesale price level
- c. Export price
d. All of these
14. Number of components of a time series are
- a. Two
b. Four
- c. Many
d. Cannot be stated
15. The principle of least squares can be used for finding
- a. Cyclical variation
b. Irregular variation
- c. Seasonal variation
d. Secular trend
16. Index Numbers measure
- a. the change in base year prices
b. the change in current year prices
- c. real changes
d. None of the above
17. Simple fixed quantity relative
- a. $\frac{Q_0}{Q_1} \times 100$
b. $\frac{Q_1}{P_1} \times 100$
- c. $\frac{Q_1}{Q_0} \times 100$
d. $\frac{P_1}{Q_0} \times 100$
18. The day to day irregularities in business activity are the example of
- a. Secular trend
b. Seasonal fluctuations
- c. Cyclical fluctuations
d. random or erratic fluctuations
19. $\frac{\sum P_1 q_0 + \sum P_0 q_1}{\sum P_0 q_0 + \sum P_1 q_1} \times 100$ is the formula for calculating
- a. Bowley's index
b. Fisher's index
- c. Marshall - Edgeworth index
d. Kelley's index
20. Fisher's ideal index Number satisfies
- a. Time reversal & factor reversal list
b. only time reversal list
- c. only factor reversal list
d. circular list

21. Fishers ideal index is obtained as :
- the sum of Laspeyre's & paasche's indices
 - the geometric mean of Laspeyer's & paasche's indices
 - the arithmetic mean of Laspeyre's & paasche's indices
 - the harmonic mean of Laspeyre's & paasche's indices
22. $\frac{\sum P_1 q_0}{\sum P_0 q_0} \times 100$ is the formula for calculating
- Bowley's index
 - Fisher's index
 - Laspeyer's index
 - Paasche's index
23. Laspeyres index measures change in
- fixed market basket
 - current consumption
 - both fixed and current market basket
 - None
24. $\frac{L + P}{2}$ is the formula for calculating
- Fishers index
 - Bowley's Method
 - Laspeyre's index
 - paasche's index
25. Making allowances for the effect of changing price levels is called
- Splicing
 - Base shifting
 - Deflating
 - None of these
26. The consumer price index Numbers is also known as
- cost of living index number
 - Price of living index
 - Retail index
 - All the above
27. Recurrent variations in time series that usually last longer than a year is known as
- Seasonal variation
 - Secular trend
 - Irregular variation
 - Cyclical variation
28. Paasche's index measures change in
- fixed market basket
 - current consumption
 - both fixed and current market
 - None

29. Weather or climate changes are examples of
- Secular trend
 - Seasonal variation
 - Cyclical variation
 - Irregular variation
30. Method of moving average is used to measure
- Secular trend
 - Seasonal Variations
 - Cyclical variation
 - Irregular Variation
31. If I_{OK} is the price index number of the year K with base year 0 and I_{KO} is the price index of the year 0 with base year K, then time reversal list requires
- $I_{OK} \cdot I_{KO} = 1$
 - $\sqrt{I_{OK} \cdot I_{KO}} = 1$
 - $\frac{I_{OK} \cdot I_{KO}}{2} = 1$
 - $I_{OK} \cdot I_{KO} = -1$
32. A lock-out in a factory for a month is associated with the component of time series
- Trend
 - Seasonal variation
 - Cyclic variation
 - Irregular variation
33. If 100 and 140 respectively be the Laspeyre's and Paasche's index number, then Fishers index number is
- $\frac{100 + 140}{2}$
 - $\sqrt{100 \times 140}$
 - 100×140
 - $\sqrt{\frac{100 \times 140}{2}}$
34. Consumer price index number is constructed for
- a well defined section of people
 - workers only
 - all people
 - All the above
35. Which one is not the test of index Number
- Unit test
 - Time reversal test
 - Triangular Test
 - Factor reversal test
36. The average of Laspeyre's and Paasche's index number which gives Fisher's index number is
- AM
 - GM
 - HM
 - Weighted average

37. Purchasing power of money
- price index $\times 100$
 - $\text{Price index}/100$
 - $100/\text{Price index}$
 - Real wage
38. Factor reversal list permits the interchange of
- Base periods
 - Price & Quantity
 - Weights
 - None of the above
39. The method which is not used for estimating seasonal components of a time series
- Ratio to trend method
 - Link relative method
 - Method of simple average
 - Method of least squares
40. Cost of living index is known as
- Consumer price index
 - whole sale price index
 - Quantity index
 - None
41. Paasches index number is based on
- Base year quantity
 - Current year quantity
 - Day year quantity
 - None
42. The formula for Fisher's index number
- $\frac{\sum P_1 q_0 + \sum P_1 q_1}{\sum P_0 q_0 + \sum P_0 q_1}$
 - $\sqrt{\frac{\sum p_1 q_0}{\sum p_0 q_1} \times \frac{\sum p_1 q_1}{\sum p_0 q_1}}$
 - $\frac{\sum P_1 q_0}{\sum P_0 q_0} + \frac{\sum P_1 q_1}{\sum P_0 q_1}$
 - None
43. The formula, $P_{01} \times Q_{01} = \frac{\sum P_1 q_1}{\sum P_0 q_0}$ shows
- Factor reversal test
 - Time reversal test
 - Unit test
 - None
44. Measures of change in the level of phenomenon is called
- Correlation
 - Dispersion
 - Mean
 - Index Numbers

45. Which of the following is described as 'barometers of economic activity'?
- a. Index number
 - b. Correlation
 - c. Regression
 - d. Time series
46. The formula $\frac{\sum p_1 q_1}{\sum p_0 q_1} \times 100$ is used to measure
- a. Laspeyres index
 - b. Paasche's index
 - c. Fisher's index
 - d. Bowley's index
47. Test to determine whether a given method will work both forward & backward
- a. Unit test
 - b. Factor reversal test
 - c. Time reversal test
 - d. None
48. Data which are collected, observed or recorded at successive intervals of time is known as
- a. Index Numbers
 - b. Time series
 - c. Regression
 - d. correlation
49. Earthquake is an example of
- a. Secular trend
 - b. Seasonal variation
 - c. Cyclical variation
 - d. Irregular variation
50. All methods of index numbers except simple (unweighted) aggregative index satisfies
- a. Unit test
 - b. Time Reversal list
 - c. Factor reversal test
 - d. Circular test

59. $\lim_{x \rightarrow 2} x^2 + 7$ is
 (a) 32 (b) 39 (c) 8 (d) None of the above
60. A function is continuous if
 (a) $\lim_{x \rightarrow a} f(x) = f(a)$ exist (c) Both 'a' and 'b'
 (b) $f(a)$ is a finite quantity (d) None of the above
61. $\lim_{x \rightarrow 1} \frac{4x^4 + 3x^3 - 1}{x^2 + 1}$ is
 (a) $\frac{4}{5}$ (b) $\frac{4}{3}$ (c) $\frac{4}{7}$ (d) $\frac{3}{4}$
62. The derivative of e^{x^2} is
 (a) e^{x^2} (b) e^{2x} (c) $2e^x$ (d) $2x e^{x^2}$
63. The minimum of the function $y = 4x^2 + 8$ is at
 (a) $x = 0$ (b) $x = 8$ (c) $x = 4$ (d) None of these
64. Derivative of $\frac{1}{x^2}$ is
 (a) $-x^2$ (b) $-2x^{-3}$ (c) $2x^{-3}$ (d) None of these
65. If $T = 10 + 2x + 3x^2$ be the cost function then the slope of the average cost be
 (a) $2+6x$ (b) $2x + 3x^2$ (c) $\frac{-10}{x^2} + 8$ (d) $2x^2 + 4x^3$

66. The derivative of x^2e^x is

- (a) $(x^2 + 2)e^x$ (b) $(x^2 + 2x)e^x$ (c) x^2e^x (d) $(2x + 1)e^x$

67. If $y = \sqrt[3]{x} \frac{dy}{dx}$ is

- (a) $3x$ (b) $\frac{1}{3}x^{-2/3}$ (c) $\frac{2}{3}x^{1/3}$ (d) $\frac{1}{3}x$

68. Derivative of e^x is

- (a) xe^{x-1} (b) e^x (c) $\log e^x$ (d) $1/e^x$

69. The derivative of $\log x$

- (a) $x \log x$ (b) $\log x^2$ (c) x (d) $1/x$

70. $\frac{d}{dx}x^{-3}$ is

- (a) $3x^{-4}$ (b) $-3x^{-2}$ (c) $3x^{-4}$ (d) $3x^{-2}$

71. If $y = \frac{x}{2x}$ the derivative is

- (a) 0 (b) $\frac{1}{2}$ (c) $2x^2$ (d) None of these

72. $\frac{d}{dx}x \log x$ is

- (a) $\frac{1}{x}$ (b) $1 + \log x$ (c) $1 \log x$ (d) None of these

73. $xy = c^2$ the derivative is

- (a) y/x (b) x/y (c) $-x/y$ (d) $-y/x$

74. A function is said to be maximum at $x = a$ if
- (a) $f'(a)$ is negative and $f''(a)$ zero
 - (b) $f'(a)$ is zero and $f''(a)$ is negative
 - (c) $f'(a)$ is zero and $f''(a)$ is zero
 - (d) $f'(a)$ is negative and $f''(a)$ is negative
75. A function is said to be minimum
- (a) $f' = 0$ and $f'' > 0$
 - (b) $f' = 0$ and $f'' < 0$
 - (c) $f' > 0$ and $f'' = 0$
 - (d) $f' < 0$ and $f'' = 0$
76. The function $2x^2 - 8x + 10$ is minimum at ' x ' is equal to
- (a) 4
 - (b) -8
 - (c) $2x$
 - (d) 2
77. At $x = 2$ the function $-3x^2 + 12x + 5$ is
- (a) maximum
 - (b) minimum
 - (c) Point of Inflection
 - (d) None of the above
78. When Revenue is maximum if $R = 3000 - (3 - x)^2$
- (a) -9
 - (b) 9
 - (c) -3
 - (d) 3
79. Increasing function if and only if its derivatives on (a, b) is
- (a) Negative
 - (b) Non - Negative
 - (c) Non-positive
 - (d) None of the above
80. The function $3x^3 + 3x^2 + x - 10$ is
- (a) An increasing function
 - (b) Decreasing function
 - (c) Standard function
 - (d) None of the above

Question Bank
QUANTITATIVE METHODS FOR ECONOMIC ANALYSIS II

81. Which of the following is not a correct statement about a probability?
- a) The value of probability lies between 0 and 1
 - b) It can be reported as a decimal or a fraction
 - c) A value near 1 means that the event will occur
 - d) It is only applicable in the case of certain case
82. If the occurrence of one event means that another cannot happen, then the events are
- a) Independent
 - b) any event
 - c) Mutually Exclusive
 - d) none of the above
83. In which approach to probability the outcomes are equally likely to occur?
- a) Classical Probability
 - b) Relative Frequency
 - c) Subjective Probability
 - d) In both a and b
84. The joint probability is
- a) The likelihood of two events happening together
 - b) The likelihood of an event happening given that another event has already happened
 - c) Based on two mutually exclusive events
 - d) None of the above
85. If you roll a pair of dice, what is the probability that one of the dice is a 4 or the sum of the dice is 7?
- a) $4/36$
 - b) $21/36$
 - c) $13/36$
 - d) $15/36$

86. The set of all possible outcomes in an experiment is known as
- a) Sample space
 - b) Universal set
 - c) Sample point
 - d) Random experiment

87. The events A and B are exhaustive if,

- a) $A \cup B = A$
- b) $A \cup B = B$
- c) $A \cup B = S$
- d) All of the above

$P(\phi) = \dots\dots$

88.

- a) 1
- b) 0
- c) Greater than 1
- d) Less than 1

$P(A \cup \bar{A}) = \dots\dots$

89.

- a) 0
- b) Depends on the events
- c) Not defined
- d) 1

90. What is the probability that the first card extracted from well-shuffled standard

deck of 52 playing cards is an ace

- a) $\frac{4}{52}$
- b) $\frac{2}{52}$
- c) $\frac{13}{52}$
- d) $\frac{3}{52}$

91. Suppose you are tossing two coins, what is the probability that you will get Head first and tail second.

- a)

$$\frac{1}{2}$$

b)

$$\frac{1}{4}$$

c)

$$\frac{2}{4}$$

b)

$$\frac{3}{4}$$

d)

92. Suppose you have 10 currencies in your pocket. Of these currencies, 2 are Dollars. If

you choose one currency randomly, what is the probability that the currency is not.

dollar

a)

$$\frac{2}{10}$$

b)

$$\frac{2}{8}$$

c)

$$\frac{4}{5}$$

b)

$$\frac{1}{5}$$

d)

93. A box contains 45 red balls and 60 blue balls. Suppose a candy is selected at random,

What are the odds against selecting a red ball?

a)

$$\frac{3}{4}$$

b)

$$\frac{4}{3}$$

b)

$$\frac{3}{7}$$

c)

$$\frac{7}{3}$$

d)

94. A fair coin is tossed four times. What is the probability that all the four tosses are tail?

a) $\frac{1}{4}$

b) $\frac{1}{16}$

c) $\frac{2}{4}$

d) $\frac{1}{8}$

95. A box contains 15 papers which are numbered from 1 to 15. A paper is drawn random,

find the probability that the number is

a) $\frac{7}{15}$

b) $\frac{15}{7}$

c) $\frac{6}{15}$

d) $\frac{5}{158}$

96. A bag contains nine white, how many ways of drawing 2 white balls.

a) 40

b) 32

c) 36

d) 38

97. The probability of an event always lies in the range of

a) 0 to 2

b) 0 to 3

c) less than 1

d) 0 to 1

98. For sure event the value of probability will be

a) 1

b) 0

c) greater than 1

d) less than 1

99. For an impossible event the value of probability will be

a) less than 1

b) greater than one

c) 0

d) 1

100. The outcomes in an experiment are called

a) trial

b) event

c) experiment

d) random experiment

101. Simple event is also known as

a) Elementary event

b) composite event

- c) joint event
- d) None of the above

102. Composite event is also known as

- a) Elementary event
- b) compound event
- c) joint event
- d) None of the above

103. The name associated with Subjective probability is

- a) Ramsey
- b) Kolomogrov
- c) Franklin
- d) None of the above

104. The name associated with Subjective probability is

- a) Ramsey
- b) Kolomogrov
- c) Richard Good
- d) Savage

105. probability is the probability of a single event without consideration of

Any other event

- a) Conditional event
- b) Compound event
- c) Marginal event
- d) none of the above

106. probability is the probability that an event will occur given that another

Event has already occurred

- a) Conditional event
- b) Compound event
- c) Marginal event
- d) both b and c

140. The state which has the lowest IMR in India is
- Kerala
 - Goa
 - Madhya Pradesh
 - Uttar Pradesh
141. Vital statistics is mainly concerned with
- births
 - deaths
 - marriages
 - all the above
142. Complete count of the heads of people of a country is known as:
- census
 - vital statistics
 - demography
 - none of the above.
143. Vital statistics throws light on:
- changing pattern of the population during intercensal period
 - growth of population
 - fertility of races
 - all the above
144. The registration of births, deaths and marriages are:
- a fancy of society
 - a part of medical research
 - a legal document
 - all the above
145. In India, the collection of vital statistics started for the first time in
- 720
 - 1886
 - 1969
 - 1946.
146. The registration of vital statistics in India suffers from :
- incomplete reporting
 - incomplete coverage
 - lack of accuracy
 - all the above
147. Registration of vital statistics is organized at the apex by :
- Director General
 - Registrar General
 - Census Commissioner
 - all the above
148. At state level, the registration of vital statistics is carried by :
- Director of economics and statistics
 - Chief Returning Officer
 - Chief Registrar
 - none of the above
149. Vital Statistics is obtained through :
- census operation
 - registration system
 - survey method
 - all the above