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

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

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

   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

   b. 2 only

   c. 2 & 3

   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 an downward bias

   (4) Paasches' index shows an downward bias

   a. 1 & 4

   b. 1 only

   c. 2 & 3

   d. 3 & 4

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

   a. Laspeyres quantity index

   b. Paasches' price index

   c. Laspeyres price index

   d. Kelly's price index

5. Which one of the following indices satisfies both time reversal and factor reversal list ?

    a. Lasperyres index number   c. Paasches index number

    b. Fischer's index number   d. Bowley's index number

6. Which one of the following index numbers is based on Geometric Mean ?

    a. Lasperyres index number   c. Paasches index number

    b. Fischer's 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   c. 225

    b. 215   d. 230

8. The price index that uses base year quantities as weights is called ....

    a. Paasches index   c. Fischer's index

    b. Lasperyres index   d. Whole sale price index

9. The major purpose of price index is to measure change in the ....

    a. Standard of living   c. Buying power of money

    b. Gold content 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 determing 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

c. Deflating

b. Base shifting

d. None of these

13. Consumer price index number indicates

a. The General price level

c. Export price

b. The Wholesale price level

d. All of these

14. Number of components of a time series are …………..

a. Two

c. Many

b. Four

d. Cannot be stated

15. The principle of least squares can be used for finding ………..

a. Cyclical variation

c. Seasonal variation

b. Irregular variation

d. Secular trend

16. Index Numbers measure

a. the change in base year prices

c. real changes

b. the change in current year prices

d. None of the above

17. Simple fixed quantity relative

a. $\frac{Q_0}{Q_1} \times 100$

c. $\frac{Q_1}{Q_0} \times 100$

b. $\frac{Q_1}{P_1} \times 100$

d. $\frac{P_1}{Q_0} \times 100$

18. The day to day irregularities in business activity are the example of

a. Secular trend

c. Cyclical fluctuations

b. Seasonal fluctuations

d. random or erratic fluctuations

19. $\dfrac{\sum P_1 q_0 + \sum P_1 q_1}{\sum P_0 q_0 + \sum P_0 q_1} \times 100$ is the formula for calculating

a. Bowley's index

c. Marshall – Edgeworth index

b. Fisher's index

d. Kelley's index

20. Fisher's ideal index Number satisfies

a. Time reversal & factor reversal list

c. only factor reversal list

b. only time reversal list

d. circular list

21. Fishers ideal index is obtained as :

    a. the sum of Laspeyre's & paasche's indices

    b. the geometric mean of Laspeyer's & paasche's indices

    c. the arithemetic mean of Laspeyer's & paasche's indices

    d. 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 ....

    a. Bowley's index   c. Laspeyer's index

    b. Fisher's index   d. Paasche's index

23. Laspeyres index measures change in

    a. fixed market basket   c. both fixed and current market basket

    b. current consumption   d. None

24. $\frac{L + P}{2}$ is the formula for calculating

    a. Fishers index   c. Laspeyre's index

    b. Bowley's Method   d. paasche's index

25. Making allowances for the effect of changing price levels is called ....

    a. Splicing   c. Deflating

    b. Base shifting   d. None of these

26. The consumer price index Numbers is also known as ....

    a. cost of living index number   c. Retail index

    b. Price of living index   d. All the above

27. Recurrent variations in time series that usually last longer than a year is known as ....

    a. Seasonal variation   c. Irregular variation

    b. Secular trend   d. Cyclical variation

28. Paasche's index measures change in

    a. fixed market basket   c. both fixed and current market

    b. current consumption   d. None

29. Weather or climate changes are examples of ....

    a. Secular trend   c. Cyclical variation

    b. Seasonal variation   d. Irregular variation

30. Method of moving average is used to measure ....

    a. Secular trend   c. Cyclical variation

    b. Seasonal Variations   d. 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

    a. $I_{OK} \cdot I_{KO} = 1$ c. $\dfrac{I_{OK} \cdot I_{KO}}{2} = 1$

    b. $\sqrt{I_{OK} \cdot I_{KO}} = 1$ d. $I_{OK} \cdot I_{KO} = {}^{-}1$

32. A lock-out in a factory for a month is associated with the component of time series

    a. Trend   c. Cyclic variation

    b. Seasonal variation   d. Irregular variation

33. If 100 and 140 respectively be the Laspeyre's and Paasche's index number, then Fishers index number is

    a. $\dfrac{100 + 140}{2}$ c. 100×140

    b. $\sqrt{100 \times 140}$ d. $\sqrt{\dfrac{100 \times 140}{2}}$

34. Consumer price index number is constructed for

    a. a well defined section of people   c. all people

    b. workers only   d. All the above

35. Which one is not the test of index Number

    a. Unit test   c. Triangular Test

    b. Time reversal test   d. Factor reversal test

36. The average of Laspeyre's and Paasche's index number which gives Fisher's index number is

    a. AM   c. HM

    b. GM   d. Weighted average

37. Purchasing power of money

    a. price index × 100

    b. $Price\ index/_{100}$

    c. $100/Price\ index$

    d. Real wage

38. Factor reversal list permits the interchange of

    a. Base periods

    b. Price & Quantity

    c. Weights

    d. None of the above

39. The method which is not used for estimating seasonal components of a time series

    a. Ratio to trend method

    b. Link relative method

    c. Method of simple average

    d. Method of least squares

40. Cost of living index is known as

    a. Consumer price index

    b. whole sale price index

    c. Quantity index

    d. None

41. Paasches index number is based on

    a. Base year quantity

    b. Current year quantity

    c. Day year quantity

    d. None

42. The formula for Fisher's index number

    a. $\dfrac{\sum P_1 q_0 + \sum P_1 q_1}{\sum P_0 q_0 + \sum P_0 q_1}$

    b. $\sqrt{\dfrac{\sum p_1 q_0}{\sum p_0 q_1} \times \dfrac{\sum p_1 q_1}{\sum p_0 q_1}}$

    c. $\dfrac{\sum P_1 q_0}{\sum P_0 q_0} + \dfrac{\sum P_1 q_1}{\sum P_0 q_1}$

    d. None

43. The formula, $P_{01} \times Q_{01} = \dfrac{\sum P_1 q_1}{\sum P_0 q_0}$ shows

    a. Factor reversal test

    b. Time reversal test

    c. Unit test

    d. None

44. Measures of change in the level of phenomenon is called

    a. Correlation

    b. Dispersion

    c. Mean

    d. 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 $\dfrac{\sum p_1 q_1}{\sum p_0 q_1} \times 100$ 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. $\underset{x \to 2}{Lt} \ x^2 + 7$ is

    (a) 32   (b) 39   (c) 8   (d) *None of the above*

60. A function is continuous if

(a) $\underset{x \to a}{Lt} \ f(x) = f(a)$ exist   (c) Both 'a' and 'b'

(b) $f(a)$ *is a finite quantity*   (d) None of the above

61. $\underset{x \to 1}{Lt} \ \dfrac{4x^4 + 3x^3 - 1}{x^2 + 1}$ is

(a) $^4/_5$ (b)$^4/_3$ (c) $^4/_7$ (d) $^3/_4$

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 $^1/_{x^2}$ is

(a) $-x^2$ (b) $-2^{x^{-3}}$ (c) $2x^{-3}$ (d) *None of these*

65. If T = 10 + 2x + 3x² be the cost function then the slope of the average cost be

(a) 2+6x   (b) $2x + 3x^2$ (c) $\dfrac{-10}{x^2} + 8$ (d) $2x^2 + 4x^3$

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

(a) $(x^2 + 2)e^x$ (b) $(x^2 + 2x)e^x$ (c) $x^2 e^x$ (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) $\frac{1}{e^x}$

69. The derivative of $\log x$

(a) $x \log x$ (b) $\log x^2$ (c) x (d) $\frac{1}{x}$

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) $\frac{y}{x}$ (b) $\frac{x}{y}$ (c) $\frac{-x}{y}$ (d) $\frac{-y}{x}$

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 $-3x^2 + 12 + 5$ 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   d) none of the above

  c) Mutually Exclusive

  b) any event

83. In which approach to probability the outcomes are equally likely to occur?

  a) Classical Probability   d) In both a and b

  c) Subjective Probability

  b) Relative Frequency

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   d) 15/36

  c) 13/36

  b) 21/36

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

88. $P(\phi) = \ldots\ldots$

    a) 1
            b) 0

    c) Greater than 1
            d) Less than 1

89. $P(A \cup \overline{A}) = \ldots\ldots$

    a) 0
            d) 1

    c) Not defined

    b) Depends on the events

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

    deck of 52 playing cards is an ace

    a)

    b) $\dfrac{4}{52}$
            b) $\dfrac{2}{52}$

    c) $\dfrac{13}{52}$
            d) $\dfrac{3}{52}$

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

    and tail second.

    a)

b) $\dfrac{1}{2}$

b) $\dfrac{2}{4}$

c) $\dfrac{1}{4}$

d) $\dfrac{3}{4}$

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)

b) $\dfrac{2}{10}$

b) $\dfrac{4}{5}$

c) $\dfrac{2}{8}$

d) $\dfrac{1}{5}$

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)

b) $\dfrac{3}{4}$

c) $\dfrac{3}{7}$

b) $\dfrac{4}{3}$

d) $\dfrac{7}{3}$

13

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

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

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

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

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

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) $\dfrac{7}{15}$

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

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

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

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 occured

   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
    a. Kerala
    b. Goa
    c. Madhya Pradesh
    d. Uttar Pradesh

141. Vital statistics is mainly concerned with
    a. births
    b. deaths
    c. marriages
    d. all the above

142. Complete count of the heads of people of a country is known as:
    a. census
    b. vital statistics
    c. demography
    d. none of the above.

143. Vital statistics throws light on:
    a. changing pattern of the population during intercensal period
    b. growth of population
    c. fertility of races
    d. all the above

144. The registration of births, deaths and marriages are:
    a. a fancy of society
    b. a part of medical research
    c. a legal document
    d. all the above

145. In India, the collection of vital statistics started for the first time in
    a. 720
    b. 1886
    c. 1969
    d. 1946.

146. The registration of vital statistics in India suffers from :
    a. incomplete reporting
    b. incomplete coverage
    c. lack of accuracy
    d. all the above

147. Registration of vital statistics is organized at the apex by :
    a. Director General
    b. Registrar General
    c.. Census Commissioner
    d. all the above

148. At state level, the registration of vital statistics is carried by :
    a. Director of economics and statistics
    b. Chief Returning Officer
    c. Chief Registrar
    d. none of the above

149. Vital Statistics is obtained through :
    a. census operation
    b. registration system
    c. survey method
    d. all the above

150. The advantage of sampling registration is that:
    a. it has full coverage
    b. it is more accurate
    c. it provides the estimate for rural and urban areas separately
    d. all the above

151. The sapling registration system record:
    a. age and sex
    b. birth rates
    c. death rates
    d. all the above

152. Vital statistics is greatly utilized by:
    a. actuaries
    b. planners
    c. social reformers
    d. all the above

153. Vital rates customarily expressed as :
    a. percentages
    b. per thousand
    c. per million
    d. per trillion

154. The child bearing age in India is
    a. 20-24 years
    b. 20-29 years
    c. 15-49 years
    d. 13-48 years

155. The fertility of women in India is maximum in the age group:
    a. 15-20
    b. 20-24
    c. 25-29
    d. 15-29

156. The death rate obtained for a segment of a population is known as :
    a. specific death rate
    b. crude death rate
    c. standardized rate
    d. vital index

157. The age specific death rate for the babies of age less than one year is specifically called:
    a. neonatal death rate
    b. infant mortality rate
    c. maternal mortality rate
    d. foetal death rate

158. The death rate of babies under one month is known as :
    a. neonatal mortality rate
    b. infant mortality rate
    c. maternal mortality rate
    d. foetal death rate

159. The death rate of women due to delivery of children is termed as :
    a. neonatal mortality rate
    b. infant mortality rate
    c. maternal mortality rate
    d. foetal death rate

160. Age specific mortality rates fail to reveal:
   a. mortality conditions
   b. age distribution of persons
   c. sex ratio
   d. all the above

161. Standardised death rates are particularly useful for :
   a. comparing the death rates in males and females
   b. comparing the death rates of two regions
   c. both (a) and (b)
   d. neither (a) or (b)

162. Fertility rates mainly doped on :
   a. total female population
   b. total population
   c. female population of child bearing age
   d. number of newly born babies

163. Population growth is mainly concerned with:
   a. total number of births
   b. number of male births
   c. number of female births
   d. none of the above

164. Sex ratio is defined as
   a. $\dfrac{number\ of\ males}{number\ of\ female} \times 100$
   b. $\dfrac{number\ of\ females}{number\ of\ male} \times 1000$
   c. $\dfrac{number\ of\ females}{number\ of\ male} \times 100$
   d. $\dfrac{number\ of\ males}{number\ of\ female} \times 1000$

165. The measure which is not used for mortality is
   a. Crude death rate
   b. Age specific death rate
   c. Standardised death rate
   d. Crude birth rate

166. Which state has the highest Infant Mortality rate in India?
   a. Kerala
   b. Goa
   c. Madhya Pradesh
   d. Uttar Pradesh

167. In India collection of vital statistics started for the first time in
   a. 1720
   b. 1886
   c. 1969
   d. 1946

168. Child bearing age in India is
   a. 20-24
   b. 20-29
   c. 15-49
   d. 13-48 years

169. Crude Death Rate (CDR) =

    a. $\dfrac{\text{Annual Mean Population}}{\text{Annual Deaths}} \times 100$

    b. $\dfrac{\text{Annual Deaths}}{\text{Annual Mean Population}} \times 1000$

    c. $\dfrac{\text{Annual Deaths}}{\text{Total Population}} \times 1000$

    d. None of these

170. Death rate obtained for a segment of a population is known as
    a. Specific death rate
    b. Crude death rate
    c. Standardised rate
    d. Vital index

171. Standardised death rates are particularly useful for comparing death rates
    a. in males and females
    b. of two regions
    c. both
    d. none

172. Fertility rates mainly depend on
    a. Total Population
    b. Total Female Population
    c. Female Population of Child bearing age
    d. Number of newly born babies

173. Generally, the relation between NRR and GRR is
    a. NRR = GRR
    b. NRR < GRR
    c. NRR > GRR
    d. none of these

174. Increase in Population indicates
    a. NRR = 1
    b. NRR < 1
    c. NRR >1
    d. none of these

175. All the following are measures of fertility except
    a. Crude Birth Rate
    b. Age Specific Fertility Rate
    c. Infant Mortality Rate
    d. Net Reproduction Rate

176. The measure which is not used for mortality is
    a. Crude Death Rate
    b. Age Specific Death Rate
    c. Standardised death rate
    d. Crude birth rate

177. Which of the following is not a measure of mortality?
    a. Crude death rate
    b. Specific death rate
    c. Infant mortality rate
    d. Crude birth rate

		21	b				
Answer Key		22	c	43	a	72	b
1	b	23	a	44	d	73	d
2	c	24	b	45	a	74	b
3	a	25	c	46	b	75	a
4	a	26	d	47	c	76	d
5	b	27	d	48	b	77	a
6	b	28	b	49	d	78	d
7	c	29	b	50	a	79	b
8	b	30	c	59	b	80	a
9	c	31	a	60	c	81	d
10	b	32	d	61	d	82	c
11	b	33	b	62	d	83	a
12	a	34	a	63	a	84	a
13	a	35	c	64	b	85	d
14	b	36	b	65	c	86	a
15	d	37	c	66	b	87	c
16	a	38	b	67	b	88	b
17	c	39	d	68	b	89	d
18	d	40	a	69	d	90	a
19	c	41	b	70	a	91	c
20	a	42	d	71	a	92	b

93	c	146	d	166	c
94	b	147	b	167	b
95	a	148	c	168	c
96	c	149	d	169	b
97	d	150	d		
98	a	151	a	170	a
99	c	152	b	171	b
100	b	153	d	172	b
101	a	154	c	173	b
102	b	155	c	174	c
103	a	156	a	175	c
104	b	157	b	176	d
105	c	158	a	177	d
106	a	159	c		
140	b	160	d		
141	d	161	b		
142	a	162	c		
143	d	163	c		
144	c	164	b		
145	b	165	d		