**CBCS**

**VI SEMESTER;**

**DEPARTMENT OF ECONOMICS;**

**OBJECTIVES**

**NAME OF THE PAPER: QUANTITATIVE TECHNIQUES -II**

PAPER – X

SECTION –A

**MULTIPLE CHOICE QUESTIONS (200X1=200)**

**MODULE-I**

**Choose one from the following :**

1. The graph of the normal distribution depends on:
2. Mean and standard deviation
3. Harmonic and standard deviation
4. Harmonic mean
5. Standard deviation
6. \_\_\_\_\_\_\_\_\_\_\_\_use the division of a circle into different sectors.
7. Conversion graphs
8. Frequency polygon
9. Sector graph
10. Line graph
11. Dividing upper and lower limits of a particular class we get:
12. Class interval
13. Class frequency
14. Class boundary
15. Class mark
16. Graph of time series is called
17. Polygon
18. Histogram
19. Ogive
20. Historigram
21. Cumulative Frequency is \_\_\_\_\_\_\_\_\_\_\_\_\_frequency.
22. Increasing
23. Decreasing
24. Fixed
25. None of these
26. Total angles in Pie Chart
27. 360
28. 90
29. 180
30. 45
31. A Histogram is a set of adjacent
32. Rectangles
33. Triangles
34. Squares
35. Lines
36. The process of systematic arrangement of data in rows and columns is called
37. Array
38. Tabulation
39. Classification
40. None of these
41. While constructing frequency distribution, the number of classes used depends upon
42. Number of observation
43. Size of class
44. Range of data
45. None of these
46. The graph of frequency distribution is called
47. Curve
48. Histogram
49. Cumulative Frequency Polygon
50. Ogive
51. Data which have been arranged in ascending or descending order is called\_\_\_\_\_\_\_ data?
52. Grouped data
53. Classified
54. Array
55. Ungrouped data
56. The graph of a cumulative frequency distribution is called
57. Frequency polygon
58. Histogram
59. Cumulative frequency polygon
60. Ogive
61. In constructing a histogram, if the class interval size of one class is double than others, then the width of that bar should be?
62. Doubled
63. Half
64. One
65. Quarter
66. Component bar charts are used when data is divided into
67. Parts
68. Groups
69. Circles
70. None of these
71. In pie- chart, the arrangement of the angles of the different sectors is generally?
72. Anti-clockwise
73. Arrayed
74. Clock-wise
75. Alternative
76. The graphs of the symmetrical distribution are?
77. J-shaped
78. U-shaped
79. Bell-shaped
80. None of these
81. For a given class 30-44, the midpoint will be \_\_\_\_\_\_?
82. 30
83. 34
84. 37
85. 35
86. Class mark is the value which divides a class into\_\_\_\_\_\_ equal parts?
87. Four
88. One
89. Three
90. Two
91. A frequency touches the axis
92. Yes
93. No
94. Sometimes
95. None of these
96. Graphical and numerical methods are specialized process utilized in
97. Education statistics
98. Descriptive statistics
99. Business statistics
100. Social statistics
101. Individual respondents, focus groups, and panels of respondents are categorized as
102. Primary data sources
103. Secondary data sources
104. Itemized data sources
105. Pointed data sources
106. The variables whose calculation is done according to the height, length, and weight are categorized as
107. Discrete variables
108. Flowchart variables
109. Measuring variables
110. Continuous variables
111. Statistics branches include
112. Applied statistics
113. Mathematical statistics
114. Industry statistics
115. Both A & B
116. When each member of a population has an equally likely chance of being selected
117. Non-random sampling method
118. Quota sample
119. Snowball sample
120. An equal probability selection method
121. Which of the following is not a form of non-random sampling?
122. Snowball sampling
123. Quota sampling
124. Purposive sampling
125. All of the above
126. Which of the following will give a more accurate representation of the population from which a sample has been taken?
127. A large sample based on the convenience sampling technique
128. A small sample based on simple random sampling
129. A small cluster sample
130. A large sample based on simple random sampling
131. The process of drawing a sample from a population is known as \_\_\_\_\_\_\_\_\_\_\_\_.
132. Sampling
133. Census
134. Survey research
135. None of the above
136. A \_\_\_\_\_ is a numerical characteristic of a sample and a \_\_\_\_\_ is a numerical characteristic of a population.
137. Sample, population
138. Population, sample
139. Statistic, parameter
140. Parameter, statistic
141. A graph that uses vertical bars to represent data is called a\_\_\_\_\_-
142. Line graph
143. Bar graph
144. Scatter-plot
145. Vertical graph
146. The goal of \_\_\_\_\_ is to focus on summarizing and explaining a specific set of data.
147. Inferential statistics
148. Descriptive statistics
149. Both a & b
150. None of the above
151. Which of these is not a method of data collection?
152. Questionnaires
153. Interviews
154. Experiments
155. Observations
156. A census taker often collects data through which of the following ?
157. Standardized tests
158. Interviews
159. Secondary data
160. Observations
161. The mean of a sample is
162. Always equal to the mean of the population
163. Always smaller than the mean of the population
164. Computed by summing the data values and dividing the sum by (n-1)
165. Computed by summing all the data values and dividing the sum by the number of items
166. Which of these represent qualitative data?
167. Height of a student
168. Liking or disliking of (500) persons of a product
169. The income of a government servant in a city
170. Yield from a wheat plot
171. Population census is conducted through
172. Sample survey
173. Accounting
174. Investigation
175. Complete enumeration
176. Data classified by many \_\_\_\_\_\_are said to be quantitative.
177. Characteristics
178. Categories
179. Affinities
180. Attributes
181. A graph consists of \_\_\_\_\_\_\_ lines.
182. Parallel line
183. Smooth curve
184. Curve
185. Straight
186. The Normal distribution is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_?
187. Platykurtic
188. Mesoukurtic
189. Leptokurtic
190. None of these
191. A distribution is called \_\_\_\_\_\_ distribution if it has two modes.
192. Uni-modal
193. Bi-modal
194. Tri-modal
195. None of these
196. Statistics are \_\_\_\_\_\_\_\_\_\_\_\_\_expressed.
197. Descriptive
198. Ability
199. Qualitatively
200. Quantitatively

KEYANSWER - UNIT I-QUANTITATIVE TECHNIQUE-II

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Question | Key Answer |  | Question | Key Answer |
| 1 | a |  | 21 | b |
| 2 | c |  | 22 | a |
| 3 | d |  | 23 | d |
| 4 | d |  | 24 | d |
| 5 | a |  | 25 | d |
| 6 | a |  | 26 | d |
| 7 | a |  | 27 | a |
| 8 | b |  | 28 | c |
| 9 | b |  | 29 | b |
| 10 | b |  | 30 | b |
| 11 | c |  | 31 | c |
| 12 | d |  | 32 | b |
| 13 | a |  | 33 | d |
| 14 | b |  | 34 | b |
| 15 | c |  | 35 | d |
| 16 | c |  | 36 | d |
| 17 | c |  | 37 | d |
| 18 | d |  | 38 | b |
| 19 | a |  | 39 | b |
| 20 | b |  | 40 | d |

SECTION-B

**FILL IN THE BLANKS**

1. \_\_\_\_\_\_\_ is the difference between two class limit.
2. Technical & trade journals are the source of \_\_\_\_\_\_\_ \_\_data.
3. A time series is an arrangement of data according to \_\_\_\_\_\_\_\_\_\_.
4. The graph obtained by joining the mid-points of tops of adjacent rectangles in histogram is called\_\_\_\_\_\_\_\_.
5. The lower class boundary of 25 -35 will be\_\_\_\_\_\_.
6. Any data collected by the investigator personally from the informants are called \_\_\_\_\_\_ data.
7. A circle in which sectors represents various quantities is called \_\_\_\_\_\_\_\_\_\_\_\_.
8. \_\_\_\_\_\_\_\_ is a set of elements taken from a larger population according to certain rules.
9. Data which have not been arranged in systematic order is called \_\_\_\_\_\_\_data.
10. Total area under the normal curve is \_\_\_\_\_\_\_\_\_\_\_\_.
11. Normal distribution is \_\_\_\_\_\_ shaped.
12. Village Patwari collecting the data about cotton crops is the example of \_\_\_\_\_\_\_\_ Data.
13. Proportion becomes percentage when multiplied by\_\_\_\_\_\_\_\_\_\_\_.
14. \_\_\_\_\_\_\_ statistics is a branch of statistics that deals with the techniques that are used to organize, summarize, and present the data.
15. Statistics laws are true for \_\_\_\_\_\_\_run.
16. The study that deals with the methods to make decisions about population based on sample results is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ statistics.
17. A \_\_\_\_\_\_\_ is the periodic collection of information from the entire population.
18. \_\_\_\_\_is a presentation of information using lines on two or three axes such as x, y nd z.
19. \_\_\_\_\_\_\_is a form of diagrammatic presentation of data by joining mid-points of the tops of all rectangles in a histogram.
20. \_\_\_\_\_\_\_\_sampling is that method of sampling in which each and every item of the universe has equal chance of being selected in the sample.

|  |  |
| --- | --- |
| Question No | Answer |
| 1. | Class interval |
| 2 | secondary |
| 3 | Time |
| 4 | Frequency polygon |
| 5 | 25 |
| 6 | Primary |
| 7 | Pie-chart |
| 8 | Sample |
| 9 | Raw |
| 10 | 1 |
| 11 | Bell |
| 12 | Primary |
| 13 | 100 |
| 14 | Descriptive |
| 15 | Long |
| 16 | Inferential |
| 17 | Census |
| 18 | Graph |
| 19 | Polygon |
| 20 | Random |

**PAPER- X (QUANTITATIVE TECHNIQUE-II)**

**Module - II**

1. Which of the following is not a pre-requisite for a good measure of central tendency?
   1. It should not be rigidly defined
   2. It should be based on all observations
   3. It should not be affected by fluctuation of sampling
   4. None of the above
2. Which one of the following is a pre-requisite for a good measure of dispersion?
   1. It should be affected by fluctuation of sampling
   2. It should be easy to calculate
   3. It should not be based on all observations
   4. All of the above
3. In an open ended frequency distribution:
   1. Mean cannot be found
   2. Median cannot be found
   3. Mode cannot be found
   4. None of the above
4. Which of the following is true?
   1. Median cannot be located in an open ended distribution
   2. Median is badly affected by extreme values
   3. Median is not affected by extreme values
   4. All of the above
5. Which one of the following is a positional average?
   1. Geometric mean
   2. Harmonic mean
   3. Median
   4. None of the above
6. Which one of the following is not a mathematical average?
   1. Geometric mean
   2. Harmonic mean
   3. Arithmetic mean
   4. Median
7. Which of the following is/are a mathematical averages?
   1. Geometric mean
   2. Harmonic mean
   3. Arithmetic mean
   4. All of the above
8. Choose the correct answer
   1. HM≥GM≥AM
   2. HM≤GM≤AM
   3. GM>HM>AM
   4. None of the above
9. Choose correct combination from Group A and B

Group A Group B

(1) Geometric mean (i)

(2) Harmonic mean (ii)

(3) Arithmetic mean (iii)

* 1. (1) and (i), (2) and (ii), (3) and (iii)
  2. (1) and (ii), (2) and (iii), (3) and (i)
  3. (1) and (i), (2) and (iii), (3) and (ii)
  4. None of the above

1. If mode is calculated from the formula = (- , then choose correct combination from Group A and B

Group A Group B

(1) (i)Lower limit of the modal class

(2) (ii)Frequency of the class immediately below the modal class

(3) (iii)Frequency of the modal class

* 1. (1) and (i), (2) and (iii), (3) and (ii)
  2. (1) and (i), (2) and (ii), (3) and (iii)
  3. (1) and (iii), (2) and (i), (3) and (ii)
  4. None of the above

1. The relationship between median, arithmetic mean and mode is
   1. Mode = 2Median – 3Mean
   2. Mode = 3Median – 2Mean
   3. Median= 3Mode – 2Mean
   4. Mean = 3Median – 2Mode
2. If Arithmetic mean = 20 and Median = 25. Then, the value of Mode is equal to\_\_
   1. 22.5
   2. 20.5
   3. 30.0
   4. None of the above
3. The averages are affected by change of:
   1. Origin
   2. Scale
   3. Both (a) and (b)
   4. None of the above
4. The suitable average for qualitative data is:
   1. Mean
   2. Median
   3. Mode
   4. Geometric mean
5. Suitable average for averaging the shoe sizes for children is:
   1. Mean
   2. Mode
   3. Median
   4. Geometric mean
6. In a given data the average which has the least value is
   1. Mean
   2. Median
   3. Harmonic mean
   4. Geometric mean
7. The most commonly occurring value in a group of distribution is known as
   1. Median
   2. Mode
   3. Mean
   4. None of the above
8. Demerit of arithmetic mean is that
   1. It is not based on all observations
   2. It is not amendable to algebraic treatment
   3. It is not rigidly defined
   4. It is affected very much by extreme values
9. Which of the following is not a measure of dispersion?
   1. Range
   2. Inter Quartile Range
   3. Mean Deviation
   4. None of the above
10. Co-efficient of Range or Ratio of the range is\_\_\_\_\_\_\_ (where L and S stands for the largest and smallest observation respectively)
    1. None of the above
11. Choose correct combination from Group A and B

Group A Group B

(1) Quartile deviation (QD) (i)

(2) Co-efficient of QD (ii)

(3) (iii)

* 1. (1) and (i), (2) and (ii), (3) and (iii)
  2. (1) and (ii), (2) and (iii), (3) and (i)
  3. (1) and (i), (2) and (iii), (3) and (ii)
  4. None of the above

1. Which one of the following statement is not true in regard to Mean Deviation?
   1. It does not take into account the algebraic sign(+ or -)
   2. It can be computed from median or mode or mean
   3. (a) and (b)
   4. None of the above
2. If 12 stands for combined mean of series 1 and 2. Then, 12is equal to\_\_\_\_
   1. None of the above
3. The standard deviation (σ) of N natural numbers is represented by the formula
   1. None of the above
4. Coefficient of variation (CV) is equal to
   1. x100
   2. x100
   3. x100
   4. x100
5. From the following table, calculate which series is having more variability

|  |  |  |
| --- | --- | --- |
|  | Standard deviation | Arithmetic mean |
| Series 1 | 15 | 30 |
| Series 2 | 30 | 60 |

* 1. Series 1
  2. Series 2
  3. Both have the same variability
  4. Cannot be calculated

1. If a distribution is characterized by \_\_\_\_\_\_\_, then it is apositively skewed distribution
   1. Mean >Median > Mode
   2. Mean <Median< Mode
   3. Mean = Median = Mode
   4. None of the above
2. The information Mean = 46, Median = 48 and Mode = 53 describe a
   1. Positively skewed distribution
   2. Negatively skewed distribution
   3. Leptokurtic distribution
   4. None of the above
3. In case of a symmetrical distribution,
   1. Mean >Median > Mode
   2. Mean <Median< Mode
   3. Mean = Median = Mode
   4. None of the above
4. Choose correct combination from Group A and B

Group A Group B

(1) Mesokurtic (i) The slender, higher than the normal curve

(2) Platykurtic (ii) The Normal distribution

(3) Leptokurtic (iii) The flat-topped, broader than the normal curve

* 1. (1) and (i), (2) and (ii), (3) and (iii)
  2. (1) and (ii), (2) and (i), (3) and (iii)
  3. (1) and (ii), (2) and (iii), (3) and (i)
  4. None of the above

1. Which one of the following statement is/are true for the standard deviation?
   1. It is independent on change of scale
   2. It is independent on change of origin
   3. It is the minimum root-mean-square deviation
   4. (1) only
   5. (1) and (2) only
   6. (2) and (3) only
   7. All of them
2. The algebraic sum of the deviations of a set of values from their arithmetic mean is\_\_\_\_\_\_
   1. Always one
   2. Always positive
   3. Always zero
   4. Always negative
3. A measure of dispersion gives some idea about \_\_\_\_\_\_
   1. The size of average mean
   2. The size of the median
   3. The size of the modal class
   4. None of the above
4. Standard deviation is the square root of the arithmetic average of the squares of the deviations measured from the\_\_\_\_\_\_\_
   1. Mean
   2. Mode
   3. Median
   4. All of the above
5. Quartile deviation ignores \_\_\_\_ of the data
   1. 75%
   2. 60%
   3. 55%
   4. 50%
6. The variance is
   1. Same as standard deviation
   2. Square root of the standard deviation
   3. Square of the standard deviation
   4. None of the above
7. 50% of the values in a distribution are
   1. Above the median value
   2. Below the mode value
   3. Above mean value
   4. Below mean value
8. If any of the observations is zero, then the Geometric mean is equal to
   1. Mean
   2. Median
   3. Mode
   4. Zero
9. A person drives for 200kms at a speed of 30km/hour. He drives another 200kms at a speed of 20km/hour. The appropriate measure for calculating average mean is\_\_\_
   1. Mean
   2. Harmonic mean
   3. Geometric mean
   4. All of the above
10. Quartile deviation is\_\_\_\_\_\_ of the Standard deviation
    1. 0.6745
    2. 0.7979
    3. 0.50
    4. None of the above

Key answer:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Question | Key Answer |  | Question | Key Answer |
| 1 | a |  | 21 | c |
| 2 | b |  | 22 | c |
| 3 | a |  | 23 | a |
| 4 | c |  | 24 | b |
| 5 | c |  | 25 | a |
| 6 | d |  | 26 | c |
| 7 | d |  | 27 | a |
| 8 | b |  | 28 | b |
| 9 | b |  | 29 | c |
| 10 | a |  | 30 | c |
| 11 | b |  | 31 | c |
| 12 | d |  | 32 | c |
| 13 | c |  | 33 | d |
| 14 | b |  | 34 | a |
| 15 | b |  | 35 | d |
| 16 | c |  | 36 | c |
| 17 | b |  | 37 | a |
| 18 | d |  | 38 | d |
| 19 | d |  | 39 | b |
| 20 | a |  | 40 | a |

**Fill in the blank**

1. If µ4= 32.0 and µ2 = 3.2, then is equal to\_\_\_\_\_
2. The standard deviation of the series 2, 5, 7 and 6 is equal to \_\_\_\_\_\_\_\_
3. Median of the observations 82, 98, 73, 71, 43, 82 and 90 is equal to\_\_\_\_\_\_\_
4. Inter-quartile range excludes \_\_\_\_% of the observations
5. If σ = 10 and = 20, the Coefficient of variation is equal to\_\_\_\_\_\_
6. Variance of the values 15, 25, 5, 10 and 30 is equal to\_\_\_\_\_\_\_
7. The standard deviation of the distribution

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Class | 1-3 | 3-5 | 5-7 | 7-9 |
| frequency | 40 | 30 | 20 | 10 |

is equal to\_\_\_\_\_\_

1. Arithmetic mean of the following data

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Marks obtained by students | 10 | 12 | 15 | 16 | 20 |
| No. of students | 2 | 3 | 5 | 2 | 1 |

is equal to\_\_\_\_\_

1. If the mean marks of one class of 50 students is 30 and of another class of 100 students is 40. Then, mean of all the 150 students is equal to\_\_\_\_\_\_
2. If the weight of 10 babies are (in kg) 5, 6, 7, 5, 6, 7, 5, 6, 5 and 9. The modal weight is \_\_\_\_
3. In a moderately skewed distribution, Arithmetic mean = 24.6 and Mode = 26.1. Then, the value of median is equal to\_\_\_\_\_
4. The lower and upper quartiles of a symmetrical distribution are 40 and 60 respectively. The value of median is \_\_\_\_\_\_\_\_
5. If 5 and 10 are the smallest and largest observation among a group of observations, the Co-efficient of Range is equal to\_\_\_\_\_\_\_
6. If 2 and = 6, the Co-efficient of Quartile Deviation is \_\_\_\_\_\_\_
7. The combine mean of the data

|  |  |  |
| --- | --- | --- |
|  | No. of observation | Arithmetic mean |
| Series 1 | 20 | 30 |
| Series 2 | 20 | 25 |

is equal to\_\_\_\_

1. If Mean = 147.2, Mode = 146.69 and standard deviation = 7.21 for a particular distribution. The Karl Pearsons’ coefficient of Skewness is equal to\_\_\_\_
2. If the mean weight of 20 boys is 40kg. Then, the total weight is equal to\_\_\_\_
3. In a class of 50 students 10 have failed and their average mark is 2.5. The total marks secured by the entire class were 281. Then, the average mark of those who passed is\_\_\_\_
4. Given the data

|  |  |  |
| --- | --- | --- |
|  | Series A | Series B |
| No. of items | 100 | 500 |
| Mean | 50 | 60 |
| Standard deviation | 10 | 11 |

Then, the combined standard deviation is equal to\_\_\_

1. The mean and standard deviation of 20 items was found to be 10 and 2 respectively. Later it was found that 12 was misread as 8. Then, the corrected mean is equal to\_\_\_\_\_

Key Answer:

|  |  |
| --- | --- |
| Question No | Answer |
| 1. | 3.125 |
| 2 | 1.87 |
| 3 | 82 |
| 4 | 50% |
| 5 | 50 |
| 6 | 86 |
| 7 | 2 |
| 8 | 14.07 |
| 9 | 36.7 |
| 10 | 5 kg |
| 11 | 25.1 |
| 12 | 50 |
| 13 | 0.33 |
| 14 | 0.50 |
| 15 | 27.50 |
| 16 | 0.07 |
| 17 | 800 kg |
| 18 | 6.4 |
| 19 | 11.5 |
| 20 | 10.2 |

Economics Paper –X ( Quantitative Technique-II)

Unit-3

SECTION – A

Tick the correct answer:

1. The outcome of tossing a coin is a
2. Simple event
3. Mutually exclusive event
4. Compound event
5. Complementary event
6. What is the probability of getting exactly one head in a single throw of two unbiased coins?
7. 1/2
8. 1/4
9. 3/4
10. 1
11. What is the probability of getting a black king from a standard pack of 52 cards?
12. 1/52
13. 2/52
14. 4/52
15. None of the above
16. What is the probability of getting exactly two tails in a single throw of 3 coins?
17. 1/8
18. 2/8
19. 3/8
20. 2/6
21. The value of probability lies between
22. 0 and ∞
23. -1 and +1
24. 0 and 1
25. 1 and 100
26. If a ball is drawn at random from a bag containing 4 white, 7 green and 10 black balls, what is the probability that it is a green ball?
27. 7/21
28. 4/21
29. 7/7
30. 1/21
31. The probability of the simultaneous occurrence of two events A and B is
32. P(A) + P(B)
33. P(A) + P(B) – P(A∩B)
34. P(A) – P(B)
35. P(A) P(B/A), P(A) ≠0
36. \_\_\_\_\_\_\_\_\_ is calculated on the basis of past experience and on experiment conducted.
37. Classical probability
38. Empirical probability
39. Modern approach to probability
40. None of the above
41. Permutation refers to
42. Arrangements
43. Groups
44. Outcomes
45. Events
46. In probability theories, events which can never occur together are called
47. Dependent events
48. Independent events
49. Mutually exclusive events
50. Non-mutually exclusive events
51. If the happening of an event is not affected by the happening of other events, it is said to be
52. A dependent events
53. An independent events
54. Mutually exclusive events
55. Exhaustive cases
56. If it is known that an event A has occurred, the probability of an event B given A is called
57. Classical probability
58. Statistical probability
59. Posteriori probability
60. Conditional probability
61. In a discrete probability distribution, the random variables are
62. Natural numbers
63. Whole numbers
64. Imaginary numbers
65. Rational numbers
66. Binomial distribution is a \_\_\_\_\_\_\_\_ distribution.
67. Discrete probability
68. Continuous probability
69. Nonparametric discrete probability
70. None of the above
71. The probability of r success in n trials given by

P (X=r) = nCrpr q n-r ,is the general form of

1. Normal distribution
2. Poisson distribution
3. Binomial distribution
4. None of the above
5. The parameters involved in binomial distribution is/are
6. n
7. p and q
8. n, p and q
9. n and p
10. It is suitable to use binomial distribution for
11. Large value of ‘n’
12. Small value of ‘n’
13. Fractional value of ‘n’
14. Any value of ‘n’
15. In a binomial distribution, if p=q, then P(X=r) is given by
16. nCr(0.5)n
17. nCn(0.5)n
18. nCr(0.5)r
19. nCn(0.5)r
20. In a binomial distribution, if ‘n’ is the number of trials and ‘p’ is the probability of success, then the mean value is given by
21. n
22. √np
23. np
24. npq
25. The variance of binomial distribution can be express as
26. pqr
27. np
28. npq
29. none of the above.
30. The standard deviation of binomial distribution is express as
31. npq
32. √np
33. Pq
34. Variance of binomial distribution is maximum when
35. p < q
36. p = q
37. p > q
38. none of the above
39. Poisson distribution is a \_\_\_\_\_\_\_\_ distribution.
40. Discrete probability
41. Continuous probability
42. Bi-parametric discrete probability
43. None of the above
44. \_\_\_\_ is a discrete probability distribution with probability mass function given by

P ( X = r) = p (r) =

1. Binomial distribution
2. Normal distribution
3. Poisson distribution
4. Geometric distribution
5. A family of parametric distributions in which mean is equal to variance is
6. Binomial distribution
7. Poisson distribution
8. Normal distribution
9. All of the above.
10. Poisson distribution is
11. Positively skewed distribution
12. Negatively skewed distribution
13. Not skewed distribution
14. All of the above
15. Poisson distribution has only one parameter which is the
16. Mean
17. Variance
18. Standard variation
19. Mode
20. If ‘m’ is the mean of a Poisson distribution, the variance is given by
21. m2
22. m
23. √m
24. m/2
25. Poisson distribution with regard to peakedness is
26. Platykurtic
27. Mesokurtic
28. Leptokurtic
29. Depends on value of its parameter
30. The outcomes of tossing a coin five times are a variable of the type
31. Continuous random variable
32. Discrete random variable
33. Neither discrete nor continuous random variable
34. Discrete as well as continuous random variable
35. Which of the following is a continuous distribution
36. Poisson distribution
37. Binomial distribution
38. Normal distribution
39. All of the above
40. Normal distribution is also known as
41. Bernoulli distribution
42. Gaussian distribution
43. Laplacian distribution
44. Cauchy’s distribution
45. The value of constant ‘e’ appearing in normal distribution is
46. 3.1416
47. 2.1783
48. 2.7183
49. 2.8317
50. In normal distribution
51. Mean < median < mode
52. Mean = median = mode
53. Mean > median > mode
54. Mean = median > mode
55. The normal distribution curve is
56. Positively skewed
57. not skewed
58. negatively skewed
59. None of the above
60. The shape of the normal curve is
61. Bell shaped
62. Flat
63. Circular
64. Spiked
65. The area under a standard normal curve is
66. 0
67. ∞
68. 1
69. Not defined
70. The standard normal curve is symmetric about the value
71. 0
72. ∞
73. 1
74. 1.5
75. For a normal curve, the QD, MD and SD are in the ratio
76. 1:2:3
77. 5:6:7
78. 9:10:11
79. 10:12:15
80. Under normal curve, the area enclosed by ‘ mean ± 2σ ’ is
81. 68.26%
82. 95.44%
83. 99.73%
84. 100%

Key answer:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Question | Key Answer |  | Question | Key Answer |
| 1 | a |  | 21 | c |
| 2 | a |  | 22 | b |
| 3 | b |  | 23 | a |
| 4 | c |  | 24 | c |
| 5 | c |  | 25 | b |
| 6 | a |  | 26 | a |
| 7 | a |  | 27 | a |
| 8 | b |  | 28 | b |
| 9 | a |  | 29 | c |
| 10 | c |  | 30 | b |
| 11 | b |  | 31 | c |
| 12 | d |  | 32 | b |
| 13 | b |  | 33 | c |
| 14 | a |  | 34 | b |
| 15 | c |  | 35 | b |
| 16 | d |  | 36 | a |
| 17 | b |  | 37 | c |
| 18 | a |  | 38 | a |
| 19 | c |  | 39 | d |
| 20 | c |  | 40 | b |

FILL IN THE BLANKS

1. \_\_\_\_\_\_ is defined as the ratio of the number of favorable cases to the total number of equally likely cases. ( Classical probability)
2. In probability, a particular event may be simple or \_\_\_\_\_\_\_ (compound or composite)
3. The probability based on the concept of relative frequency is called \_\_\_\_\_ probability ( empirical)
4. An event consisting of only one point is called a/an \_\_\_\_\_\_\_\_ event. (elementary)
5. Probability of the sample space Ω is equal to \_\_\_\_\_\_\_\_ (one)
6. If two events are independent, the probability that both will occur together is equal to the \_\_\_\_ of their individual probabilities. (product)
7. Events are said to be equally likely if they are \_\_\_\_\_\_ (homogenous)
8. Two events are mutually exclusive if P(AUB) = \_\_\_\_. [P(A) + P(B)]
9. Addition theorem will be applicable only when the various events belong to the \_\_\_\_\_ (same sample space).
10. P (A U B) can be express by the \_\_\_\_\_\_ law of probability. ( additive)
11. A discrete variable can take a \_\_\_ number of values within its range. (finite)
12. A continuous variable can take any value within its \_\_\_\_\_ (domain)
13. In binomial distribution trial should be finite and \_\_\_\_\_\_\_ . (independent)
14. The mean of the binomial distribution is \_\_\_\_\_\_ than its variance. (greater)
15. In a binomial distribution trials are neither certain nor \_\_\_\_\_ (impossible)
16. Poisson distribution is applied in a situation where the probability of success is very small and that of failure is very \_\_\_ (high).
17. The sum of independent normal variates is also a \_\_\_\_ variate. (normal)
18. The probability density function f(x) cannot exceed \_\_\_ (unity/one)
19. Normal distribution is a limiting case of Poisson distribution when its mean ‘m’ is \_\_\_(large)
20. In a Normal distribution, the points of inflexion are ± S.D from the \_\_\_\_ (mean).

Key answer:

|  |  |
| --- | --- |
| Question No | Answer |
| 1. | Classical probability |
| 2 | Compound or composite |
| 3 | empirical |
| 4 | elementary |
| 5 | one |
| 6 | product |
| 7 | homogenous |
| 8 | [P(A) + P(B)] |
| 9 | Same sample space |
| 10 | additive |
| 11 | finite |
| 12 | domain |
| 13 | independent |
| 14 | greater |
| 15 | impossible |
| 16 | high |
| 17 | normal |
| 18 | Unity/ one |
| 19 | large |
| 20 | mean |

**QUANTITATIVE TECHNIQUES – II (Paper X)**

**UNIT IV - CORRELATION AND REGRESSION**

**Multiple Choice Questions**

Tick the correct answer:

1. If the Pearson correlation co-efficient R is equal to 1, then:

(a) there is a positive relationship between the two variables.

(b) there is a negative relationship between the two variables.

© There is a perfect positive relationship between the two variables.

(d) there is no relationship between the two variables.

2. The study of the relationship between one variables and the combined effect of all other variables is called

(a) Multiple correlation

(b) Total correlation

(c) Partial correlation

(d) Simple correlation

3. The estimation of correlation between yield of wheat and chemical fertilizers eliminating the effect of pesticides and manures is an example of

(a) Simple correlation

(b) Partial correlation

(c) Total correlation

(d) Multiple correlation

4. In regression analysis, the variable that is being predicted is the

(a) Dependent variable

(b) Independent variable

© Indeterminate variable

(d) Combine variable

5. If two variables, x and y, have a very strong linear relationship, then

(a) there is evidence that x causes a change in y

(b) there is evidence that y causes a change in x

© there might not be any causal relationship between x and y

(d) None of the above

6. A process by which we estimate the value of dependent variable on the basis of one or more independent variables is called:

(a) Correlation

(b) Regression

(c) Residual

(d) Deviation

7. When all data points are falling along a straight line it is called:

(a) Linear relationship

(b) Non-linear relationship

(c) Scatter diagram

(d) Multiple relationship

8. The value we would predict for the dependent variable when the independent variables are all equal to zero is called:

(a) Slope

(b) Sum of residual

(c) Intercept

(d) Origin

9. The predicted rate of change of the dependent variable to changes in the independent variable is called:

(a) Slope

(b) Intercept

(c) Error

(d) Constant

10. To measure ranked variables the following correlation coefficient is used

(a) Pearson’s

(b) Spearman’s

© Fisher’s

(d) Marshall-Edgeward

11. Which of the following equation is used to describe linear relationship

(a) *y = a + bx2*

(b) *y = ax2 + b*

© *y = ax3 + b*

*(d) y = a + bx*

12. The geometric mean of the two regression coefficient βyx and βxy is equal to:

(a) r

(b) r2

© 1

(d) 2

13. The estimate of β in the regression equation Y=α+βx+e by the method of least square is:

(a) Biased

(b) Unbiased

© Consistent

(d) Constant

14. Regression coefficient is independent of

(a) Value

(b) Scale

© Both Origin and Scale

(d) Origin

15. If the two lines of regression are perpendicular to each other, the correlation coefficient r is:

(a) 0

(b) 1

© -1

(d) 2

16. The range of a partial correlation coefficient is:

(a) 0 to 1

(b) -1 to 0

© 0 to ∞

(d) -1 to 1

17. Regression analysis:

(a) Measures the demand for goods

(b) Measures growth

© Established the relationship between two variables

(d) Estimate the value of variables

18. R2 is the mathematical notation for

(a) The coefficient of variation

(b) Pearson’s co-efficient of correlation

© The coefficient of determination

(d) The coefficient of Alienation

19. Let the coefficient of determination computed to be 0.39 in a problem involving one independent variable and one dependent variable. This result means that

(a) The correlation coefficient is 0.39 also

(b) 39% of the total variation is explained by the independent variable

© 39% of the total variation is explained by the dependent variable

(d) Rank correlation coefficient is 0.61

20. The relationship between correlation coefficient and coefficient of determination is that

(a) Both are unrelated

(b) Coefficient of correlation is the square root of the coefficient of determination

© The coefficient of determination is the square root of the coefficient of correlation

(d) The coefficient of determination is the coefficient of correlation squared

21. Which of the following values could not represent a correlation coefficient?

(a) r = 0.99

(b) r = 0.02

© r = -0.73

(d) r = 1.09

22. In the regression equation Y = 21 – 3x, the slope is

(a) 21

(b) 3

© -3

(d) 18

23. If covariance of X and Y is 20, the standard deviation of X is 8

and standard deviation of Y is 5 then the value of coefficient

of correlation is

(a) 1.5

(b) 1

(c) 0.5

(d) 0.25

24. In regression analysis, R is also called the

(a) residual

(b) coefficient of correlation

© Coefficient of variation

(d) coefficient of determination

25. The coefficient of determination must be

(a) between -1 and +1

(b) between -1 and 0

© between 0 and 1

(d) Between 1 and 2

26. The correlation coefficient is the of two regression coefficients:

(a) Median

(b) Arithmetic mean

(c) Harmonic mean

(d) Geometric mean

27. The coefficient of correlation for a problem was calculated to be 0.36. The coefficient of determination for this would be

(a) 0.72

(b) 0.13

© 0.36

(d) 1

28. If X and Y in a regression model are totally unrelated, then

(a) The correlation coefficient would be -1

(b) The coefficient of determination would be o

© The coefficient of determination would be 1

(d) The coefficient of coefficient would be 1

29. If the value of correlation coefficient between X and Y is ‘0’ then

(a) Positive correlation between X and Y

(b) Negative correlation between X and Y

(c) Absence of Correlation between X and Y

(d) Perfectly positive correlation between X and Y

30. In simple linear regression, the numbers of unknown constants are:

(a) two

(b) three

© four

(d) five

31. In simple regression equation, the numbers of variables involved are:

(a) 1

(b) 2

© 3

(d) 4

32. If the value of any regression coefficient is zero, then two variables are:

(a) Correlation

(b) Dependent

© Determinant

(d) Independent

33. The straight line graph of the linear equation Y=a+ bX, will slope upward if:

(a) b=0

(b) b<0

© b>0

(d) b = -1

34. The straight line graph of the linear equation Y*=*a+bX will slope downward if:

(a) b > 0

(b) b<0

© b = 0

(d) b = 1

35. If Y= 2 - 0.2X, then the value of Y intercept is equal to:

(a) -0.2

(b) 2

(c) 0.2X

(d) 1.08

36. The dependent variable in a regression is also called:

(a) Regressor

(b) Constant variable

(c) Continuous variable

(d) Regressand

37. The independent variable in a regression is also called:

(a) Regressor

(b) Regressand

(c) Predictand

(d) Determinat

38. In the regression equation Y=a+bX, the Y is called:

(a) Independent variable

(b) Dependent variable

(c) Continuous variable

(d) Constant variable

39. If the points on the scatter diagram show no tendency either

to increase together or decrease together the value of r will be close to:

(a) -1

(b) +1

(c) 0

(d) 2

40. In the straight line graph of the linear equation Y=a+bX, the slope is horizontal if:

(a) b=-1

(b) b≠0

(c) b=1

(d) b =0

Key answer:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Question | Key Answer |  | Question | Key Answer |
| 1 | c |  | 21 | d |
| 2 | a |  | 22 | c |
| 3 | b |  | 23 | c |
| 4 | a |  | 24 | d |
| 5 | c |  | 25 | c |
| 6 | b |  | 26 | a |
| 7 | d |  | 27 | b |
| 8 | c |  | 28 | d |
| 9 | a |  | 29 | c |
| 10 | b |  | 30 | a |
| 11 | d |  | 31 | b |
| 12 | a |  | 32 | c |
| 13 | b |  | 33 | c |
| 14 | a |  | 34 | d |
| 15 | a |  | 35 | b |
| 16 | d |  | 36 | d |
| 17 | c |  | 37 | a |
| 18 | c |  | 38 | b |
| 19 | b |  | 39 | c |
| 20 | b |  | 40 | d |

GROUP – B FILL IN THE BLANK

1. If correlation coefficient (r) equal to +1 it shows a -----------------------------
2. If correlation coefficient (r) equal to -1 it shows a …………………………….
3. If observations on two variables are given in the form of ranks and not numerical values, we compute ……………………………… between the two series.
4. The square of the correlation coefficient is called the …………………….
5. If coefficient of correlation ‘r’ = 0.8, the coefficient of Alienation is -----------------
6. Regression is the estimation of unknown values of one variable from the known value of ……………
7. Simple linear regression involves a relationship between ………………. Only.
8. To obtain the line of best fit, we use the method of …………………….
9. The regression equation Y= a + bx, pass through the origin and b= 0.5 then the regression equation will be written as ……………….
10. Under partial correlation the relationship of two variables is estimated by eliminating the effect of others……………
11. Under simple correlation the relationship is confined to ……………….variables only.
12. If the two series are ranked according to two attributes, the correlation coefficient between their ranks is called the …………………….
13. The line of regression of Y on X is used to estimate the value of dependent variable of Y for any given value of independent ……………………
14. In regression equation Y = a + bx, Y is dependent variable and x is ---------------------
15. In the equation of a straight line, Y = mx + c the term, m is the……………..
16. The value of the coefficient of correlation r lies between………….
17. Negative regression coefficient indicates that the movement of the variables is in…………………………direction
18. The correlation between two variables eliminating the linear effect of other variables in them is called……………………..
19. When regression line passes through the origin, then intercept is …………………………………
20. In the regression equation Y = 75.65 +0.50x, the intercept is……………….

ANSWER KEY

|  |  |
| --- | --- |
| Question No | Answer |
| 1. | perfect positive correlation |
| 2 | Perfect negative correlation |
| 3 | Rank correlation |
| 4 | Coefficient of determination |
| 5 | 0.6 |
| 6 | Other variables |
| 7 | Two variables |
| 8 | Least square |
| 9 | Y=0.5x |
| 10 | variables |
| 11 | two |
| 12 | Rank corellation |
| 13 | Variable X |
| 14 | Independent variable |
| 15 | slop |
| 16 | -1 and +1 |
| 17 | opposite |
| 18 | Partial correlation |
| 19 | zero |
| 20 | 75.65 |

**QUANTITATIVE TECHNIQUES – II (Paper X)**

**UNIT V –TIME SERIES AND INDEX NUMBER**

**Multiple Choice Questions**

1. Fisher's index number is the

(a) Arithmetic mean of Paasche's index number and Laspeyres' index number

(b) Harmonic mean of Paasche's index number and Laspeyres' index number

(c) Average mean of Paasche’s index number and Laspeyres’ index number

(d) Geometric mean of Paasche's index number and Laspeyres' index number

2. Which of the following is not a measurement of trend?

(a) Graphic method

(b) Method of moving averages

(c) Method of composite straight lines

(d) Method of semi-averages

3. Which of the following is not a component of time series?

(a) Regular variations

(b) Seasonal variations

(c) Irregular variations

(d) Cyclical variations

4. Which of the following is an ideal index number?

(a) Paasche's index number

(b) Fisher's index number

(c) Laspeyres' index number

(d) Marshall-Edgeworth index number

5. Laspeyres' index number may be said to give

(a) Upper limit to the price change

(b) Lower limit to the price change

(c) Demand limit to the price change

(d) Supply limit to the price change

6. In the measurement of trend, semi-average method is desired to be applied only when the trend is

(a) Convex and semi-convex

(b) Non-linear

(c) Quadratic and concave

(d) Linear or approximately linear

7. Laspeyres' index formula uses the weight of the

(a) Previous year

(b) Current year

(c) Base year

(d) Next year

8. P0 indicates

(a) Price of the current year

(b) Price of the base year

(c) Price of the last year

(d) Price of previous year

9. Base period for an index number should be a

(a) Normal period

(b) Year only

(c) Period at distant past

(d) Next year

10. Index numbers are expressed in:

(a) Ratios

(b) Squares

(c) Percentages

(d) Margin

11. Index for base period is always taken as:

(a) One

(b) 100

(c) Zero

(d) 1000

12. When index number is calculated for several variables, it is called:

(a) Composite index

(b) Whole sale price index

(c) Simple index

(d) Price index

13. Purchasing power of money can be assessed through:

(a) Simple index

(b) Fisher’s index

(c) Composite index

(d) Consumer price index

14. The most appropriate average in averaging the price relatives is:

(a) Harmonic mean

(b) Arithmetic mean

(c) Geometric mean

(d) Median

15. What type of index number can help the government to formulate its price policies and to take appropriate economic measures to control prices?

(a) Wholesale Price Index

(b) Consumer's Price Index

(c) Volume Index Number

(d) Composite index

16. Fisher's ideal index number is the geometric mean of the:

(a) Laspeyre's and Marshall Edgeworth indices

(b) Laspeyre's and Paasche's indices

(c) Paasche's and Marshal Edgeworth indices

(d) Square root of Laspeyre’s

17. An orderly set of data arranged in accordance with their time of occurrence is called:

(a) Arithmetic series

(b) Geometric series

(c) Time series

(d) Random series

18. The graph of time series is called:

(a) Polygon

(b) Frequency curve

(c) Ogive

(d) Histogram

19. The secular trend is measured by the method of semi-averages when:

(a) Time series based on yearly values

(b) Trend is linear

(c) Time series consists of even number of values

(d) Trend is non-linear

20. Increase in the number of patients in the hospital due to heat stroke is:

(a) Secular trend

(b) Irregular variation

(c) Seasonal variation

(d) Regular variation

21. The method of moving average is used to find the:

(a) Secular trend

(b) Seasonal variation

(c) Cyclical variation

(d) Irregular variation

22. Moving average method is used for measurement of trend when:

(a) Trend is linear

(b) Trend is non linear

(c) Trend is curvilinear

(d) Trend is irregular

23. The long term trend of a time series graph appears to be:

(a) Straight-line

(b) Upward

(c) Parabolic curve or third degree curve

(d) Downward

24. Which of the following is an example of seasonal variations?

(a) Death rate decreased due to advance in science

(b) Birth rate increased due to invention of new medicine

(c) Sudden increase in death rates caused by wars

(d) The sale of air condition increases during summer

25. The best fitting trend is one in which the sum of squares of residuals is:

(a) Negative

(b) Least

(c) Zero

(d) high

26. The rise and fall of a time series over periods longer than one year is called:

(a) Seasonal variation

(b) Irregular variation

(c) Cyclical variation

(d) Moving average

27. The difference between the actual value of the time series and the forecasted value is called:

(a) Residual

(b) Sum of variation

(c) Sum of squares of residual

(d) Total of square variation

28. The second degree parabola is fitted to the time series when the variations are:

(a) Linear

(b) Nonlinear

(c) Random

(d) Semi-linear

29. The production of goods is decreasing, this stage is called:

(a) Recovery

(b) Boom

(c) Prosperity

(d) Recession

30. A business cycle has:

(a) Two stages

(b) Three stages

(c) Four stages

(d)

31. The four components of a time series are not necessarily

(a) Mutually dependent

(b) Mutually independent

(c) Equilibrium

(d) Not equilibrium

32. If the period of moving average is equal to the period of the cycle, the smoothing is perfect and we have

(a) A straight line trend

(b) A reverse trend

(c) A circle line trend

(d) A curvature line trend

33. A price relative is

(a) An imaginary number

(b) A complex number

(c) A pure number

(d) None of these

34. The product of the index number by another index number based on the same data with price and quantity interchanged should be equal to the ratio of aggregate value in the current to the aggregate value in the base year is

(a) Time reversal test

(b) Circular test

(c) Factor Reversal Test

(d) Test of proportionality

35. Index numbers are useful only when data can be expressed in

(a) Qualitative terms

(b) Quantitative terms

© Percentage

(d) Descending order

36. Most of the time series relating to economic and business phenomena conform to the

(a) Additive model

(b) Mixed model

© Percentage model

(d) Multiplicative model

37. In a multiplicative model the seasonal effects are expressed as

(a) Percentage or Ratio

(b) Percentage or Square root

© Square root or Ratio

(d) Ratio or Variation

38. Which show the changes in the general price level of the country?

(a) Retail price index numbers

(b) Wholesale price index numbers

(c) Agricultural price index

(d) Industrial price index

39. The cost of living index number is essentially a

(a) Simple index number

(b) Weighted index number

(c) Cross index number

(d) Retail price index number

40. Time Reversal Test was developed by

(a) J.M Keynes

(b) Laspeyre

(c) Irving Fisher

(d) Paasche

Key answer:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Question | Key Answer |  | Question | Key Answer |
| 1 | d |  | 21 | a |
| 2 | c |  | 22 | a |
| 3 | a |  | 23 | c |
| 4 | b |  | 24 | d |
| 5 | a |  | 25 | b |
| 6 | d |  | 26 | c |
| 7 | c |  | 27 | a |
| 8 | b |  | 28 | a |
| 9 | a |  | 29 | d |
| 10 | c |  | 30 | c |
| 11 | b |  | 31 | b |
| 12 | a |  | 32 | a |
| 13 | d |  | 33 | c |
| 14 | c |  | 34 | c |
| 15 | b |  | 35 | b |
| 16 | b |  | 36 | d |
| 17 | c |  | 37 | a |
| 18 | d |  | 38 | b |
| 19 | b |  | 39 | d |
| 20 | c |  | 40 | c |

GROUP – B FILL IN THE BLANK

1. A time series is a sequence of observation on a variable made at regular interval of time and arranged in ……………….
2. The fluctuation in the time series are usually due to a number of forces known as ………………….. of the time series.
3. There are ………………….. major types of variation or components of a time series.
4. In time series ananlysis, if the period of cycle is not fixed because of fluctuations, the trend will be a ………………….
5. A price index number measures changes in the general level of prices of a group of …………………………….
6. Price relative is usually calculated as a percentage of the price of a commodity in any year as compared with the …………………….. price.
7. Laspeyre’s Index Number uses base year quantities as ………………………….
8. In time reversal test the product of the index number by another index number based on the same data with time interchange equal to ……………….
9. If ∑ p1q0 = 42 and ∑ p0q0 = 20 then Laspeyre’s Index Number is…………………….
10. In a certain data if Lasperye’s Index Number is 20 and Paasche’s Index Number is 5, then Fisher’s Ideal Index number will be………………………
11. Fisher’s index number is called an ideal index number because it satisfies both the time reversal and ……………………………… tests.
12. Price index of year 2 with base year 1 is written as P12, then price index of year 1 with base year 0 is written as ………………………..
13. Paasche’s Index Number uses ……… ………………… quantity as weights.
14. Laspeyre’s Index has ………………………… bias
15. Time series analysis are mostly divided into two model, multiplicative model and ………………….
16. The variation which occurs regularly and periodically within a period of less than one year is **……………..**
17. The index number of prices helps us to compare changes in prices in a particular year or month with the prices in a --------------------------
18. In analysis of a sample data it was found that , Paasche’s and Laspeyre’s index numbers are 5 and 8 respectively, then Fisher’s index number will be-------------
19. A simple average of price relative is an index obtained by taking the average of the price relatives of all the items in the series. The average normally used is the -------------------------
20. In economics, an explanation of the forces of inflation and depression is sought to be given with the help of -------------------------

Key answer:

|  |  |
| --- | --- |
| Question No | Answer |
| 1. | Chronological order |
| 2 | Components |
| 3 | Four |
| 4 | Curve |
| 5 | Commodities |
| 6 | Base year |
| 7 | Weights |
| 8 | One |
| 9 | 210 |
| 10 | 10 |
| 11 | Factor reversal |
| 12 | P01 |
| 13 | Current year |
| 14 | Up ward |
| 15 | Additive model |
| 16 | Seasonal variation |
| 17 | Base year |
| 18 | 6.32 |
| 19 | Arithmetic mean |
| 20 | Time series analysis |

**PRE-CBCS**

**VI SEMESTER;**

**DEPARTMENT OF ECONOMICS;**

**OBJECTIVES**

**NAME OF THE PAPER: QUANTITATIVE TECHNIQUES -II**

PAPER – X

SECTION –A

**MULTIPLE CHOICE QUESTIONS**

**(Vital Statistics – Unit 5)**

***Choose the most appropriate answer from the following alternatives***

1. Vital events mean such events of human life as

(a) birth

(b) divorce

(c) morbidity

**(d) all of the above**

2. Data concerning births, deaths, marriages and divorce are considered as

(a) ordinal data

(b) nominal data

**(c) vital statistics**

(d) descriptive statistics

3. Vital index is a

**(a) short term measure**

(b) medium term measure

(c) long term measure

(d) lifetime term measure

4. Vital rates are customarily expressed as

(a) percentages

**(b) per thousand**

(c) per lakh

(d) per million

5. The crude death rate usually lies between

(a) 2 and 10 per 1,000.

(b) 4 and 15 per 1,000

**(c) 8 and 30 per 1,000**

(d) 10 and 45 per 1,000

6. The level of the crude death rate is determined by

(a) the economy of the population

(b) the fertility of the population

**(c) the mortality of the population**

(d) the fecundity of the population

7. The death rate used for comparing the mortality situations of two or more places is

(a) Crude death rate

(b) Specific death rate

(c) Projected death rate

**(d) Standardised death rate**

8. Infant mortality rate varies in different countries according to

(a) age and sex

(b) age and place

**(c) time and place**

(d) time and scale

9. If infant mortality rate (IMR) = 20 per 1000 and the total number of life births is 200 in a

year, the number of infants dying before attaining age one is

(a) 2

**(b) 4**

(c) 5

(d) 10

10. Infant mortality rate is defined as age-specific death rate for infants under

(a) 1 month

(b) 6 months

**(c) 1 year of age**

(d) 2 years of age

11. Infant mortality rate is defined as

(a) No. of mother death x 1000

Total live birth

(b) No. of mother x1000

No. of child death at birth

(c) Death of infants within one year of birth x1000

Total number of mother

**(d) Death of infants within one year of birth x1000**

**Total number of live birth**

12. If maternal mortality rate (MMR) is 16 per 1000 and total number of live birth is 250 in a

year, then the number of mother die at the birth of child is

(a) 1

(b) 3

**(c) 4**

(d) 6

13. With the help of maternal mortality rates, it is possible to find out the probability of

**(a) a women dying from child birth**

(b) a women dying from reproduction age

(c) a widow dying during the fertility period

(d) None of the above

14. When fertility rate is calculated on the basis of age distribution, it is called

(a) Age fertility rate

(b) Total fertility rate

(c) General fertility rate

**(d) Age-specific fertility rate**

15. In the computation of total fertility rate, we take into account

(a) only male babies

(b) only female babies

**(c) both male and female babies**

(d) only the child-bearing age

16. The crude birth rate reveals the proportion by which the population is increased through

**(a) the addition of new members**

(b) the subtraction of new members

(c) the high standards of infant welfare

(d) the high standards of maternal welfare

17. The crude birth rate usually lies between

(a) 5 and 20 per 1,000

**(b) 10 and 55 per 1,000**

(c) 15 and 60 per 1,000

(d) 20 and 75 per 1,000

18. The crude birth rate is the ratio of number of life birth during a year to the

**(a) mid year population**

(b) total number of women

(c) total number of births in a year

(d) total number of married women

19. The crude birth rate of a given year tells us at what rate births have augmented

(a)the fertility of the population

(b) the population at a point of time

**(c)**  **the population over the course of the year**

(d) the age distribution over the course of the year

20. The risk of dying from causes associated with child-birth is measured by the

(a) specific rate

(b) corrected rate

(c) infant mortality rate

**(d) maternal mortality rate**

21. Population censuses are generally undertaken at

(a) 1 year interval

(b) 5 years interval

**(c)10 years interval**

(d)15 years interval

22. If the majority of births are those of boys the population is bound to

(a) increase

**(b) decrease**

(c) amplify

(d) remain the same

23. A population with constant size and age composition or constant age and sex composition

over time is called

(a) stable population

**(b) stationary population**

(c) standardised population

(d) life table population

24. Which of the following is also known as ‘biometer of population’?

**(a) Life table**

(b) Total fertility rate

(c) Force of Morbidity

(d) Net reproduction rate

25. Which of the following assumptions is not the property required for a stationary

population?

(a) constant size

(b) constant age composition

**(c) constant sex composition**

(d) constant rate of emigration and immigration

26. Reproduction rates are of

**(a) two types**

(b) three types

(c) four types

(d) six types

27. The Gross Reproduction rate is used as a measure of

(a) the female population

**(b) the fertility in a population**

(c) the age composition of a population

(d) the newly born children in a population

28. Theoretically the gross reproduction rate can range from

**(a) 0-5**

(b) 10-15

(c) 15-20

(d) 20-50

29. The accuracy of gross reproduction rate depends on the accuracy with which

**(a) age specific fertility rates can be computed**

(b) age standardised fertility rates can be computed

(c) age of a mother at registration can be estimated

(d) age of a widow at registration can be estimated

30. The rates for reproductive span of life is from

(a) 13 to 38 years of age

(b) 14 to 45years of age

**(c) 15 t0 49 years of age**

(d) 18 to 55 years of age

31. Gross reproduction rate adjusted for the effects of mortality is called

(a) specific fertility rate

(b) general fertility rate

(c) the reproduction rate

**(d) the net reproduction rate**

32. If the gross reproduction rate of a population is exactly 1, it indicates that

(a) the population would decline

(b) the population would increase

**(c) the sex under consideration is exactly replacing itself**

(d) it inflates the number of potential mothers

33. The simplest measure of population growth is

(a) the crude birth rate

(b**)** the adjusted birth rate

(c) the general fertility rate

**(d) the crude rate of natural increase**

34. The annual rate of natural increase can be computed by

(a) adding the crude death rate from the crude birth rate

**(b) subtracting the crude death rate from the crude birth rate**

(c) dividing the crude birth rate from the crude death rate

(d) multiplying the crude birth rate from the crude death rate

35. If net reproduction rate (NRR) = 1, it indicates a tendency to

(a) increase in population

(b) decrease in population

**(c) constant in Population**

(d) none of the above

36. If the value of net reproduction rate (NRR) > 1, the population will in general tend to

**(a) increase**

(b) decrease

(c) constant

(d) none of the above

37. The value of net reproduction rate (NRR) < 1 will result into

(a) increase in population

**(b) decrease in population**

(c) constant in Population

(d) none of the above

38. The annual crude birth rate is defined as

**(a) Annual births x 1000**

**Annual mean population**

(b) Number of life births x 100

Annual mean population

(c) Specific birth rate x 1000

Mid-year total population

(d) Standard population x 100

Mid-year total population

39. If annual death is 1040 per 1000 and the annual mean population is 45000 in Narang

Locality, the crude death rate in that locality is

(a) 0.023

(b) 2.311

**(c) 23.11**

(d)1040

40. If total number of female children born is 2520 in a year and number of female children

survived is 2074.08, the gross reproduction rate (GRR) per women is

(a) 1.25 per women

**(b) 2.52 per women**

(c) 25.2 per women

(d) 252 per women

**FILL IN THE BLANKS :**

1. Vital statistics have to do with  rather than things. (**people**)

2.  deals with mankind in the aggregate. (**Vital statistics**)

3. Vital statistics is the science of applied to the life history of communities and nations. **(numbers**)

4. The female rate is generally  than the male rate in crude death rate. (**lower**)

5. The crude death rate measures the  in the population due to deaths.(**decrease**)

6. An old population can exhibit a relatively crude death rate even if longevity is high. (**high**)

7. Death rate are made specific only with respect to  and sex. (**age**)

8. The infant mortality rate serves as an excellent index of the general of the

society. (**healthiness**)

9. The specific death rate are the true and best measure of  **(mortality)**

10. The infant mortality rate has been called the most  of all measures of mortality. (**sensitive**)

11. The risk of dying from puerperal causes is measured by the  mortality rate. (**maternal**)

12. Both fertility and  are taken into account while calculating net reproduction

rate. (**mortality**)

13. In demography the term  refers to the actual production of children. (**fertility**)

14. Still birth are not included in the  deaths. (**infant**)

15. All the girls born do not  till they reach the child bearing age. (**survive**)

16. The crude birth rate is the  method of measuring fertility. (**simplest**)

17. The crude birth rate shows the rate at which the population  through births. (**increases**)

18. The gross reproduction rate is used as a measure of the  in a population. (**fertility**)

19. Standardised death rate is also called  death rate. (**adjusted**)

20. The gross reproduction rate differs from total fertility rate only in the  **--------------**

(**numerator**)

21. In gross reproduction rate only the babies are taken into account. (**female**)

22. If the gross reproduction rate of population is more than 1, the population would

(**increase**)

23. A third population is called a population. (**standard**)

24. An old population can exhibit a relatively  crude death rate even if longevity is high. (**high**)

25. companies are interested in deaths occurring at different ages of the

population. (**insurance**)

26. Data on births and deaths can be obtained from the  record. (**hospital**)

27. It is only a  birth that signifies an addition to the existing population. (**live**)

28. Net reproduction rate can never  gross reproduction rate. (**exceed**)

29.  reproduction rate is the best measure of population growth. (**Net**)

30. Net reproduction rate could in theory range from zero to  **(five)**