TELANGANA UNIVERSITY
S.S.R. DEGREE COLLEGE, NIZAMABAD (C.C:5029)
II SEMESTER INTERNAL ASSESSMENT II EXAMINATIONS
BUSINESS STATISTICS QUESTION BANK

I. Multiple choice questions.

1. Indices calculated by the chain base method are free from [a]
(a) Seasonal variations   (b) Errors   (c) Percentages   (d) Ratios

2. The chain base indices are not suitable for [a]
(a) Long range comparisons   (b) Short range comparisons   (c) Percentages   (d) Ratios

3. An index number that can serve many purposes is called [a]
(a) General purpose index   (b) Special purpose index   (c) Cost of living Index   (d) None of them

4. Another name of consumer's price index number is [b]
(a) Whole-sale price index number   (b) Cost of living index   (c) Sensitive   (d) Composite

5. Consumer price index Indicates [c]
(a) Rise   (b) Fall   (c) Both a and b   (d) Neither a and b

6. Purchasing power of money can be accessed through [c]
(a) Simple index   (b) Fisher's index   (c) Consumer price index   (d) Volume Index

7. Cost of living at two different cities can be compared with the help of [a]
(a) Value index   (b) Consumer price index   (c) Volume index   (d) Un-weighted index

8. Consumer price index numbers are obtained by [a]
(a) Laspeyre's formula   (b) Fisher ideal formula
(c) Marshall Edgeworth formula   (d) Paasche's formula

9. Laspeyre's index = 110, Paasche's index = 108, then Fisher's Ideal index is equal to [d]
(a) 110   (b) 108   (c) 100   (d) 109

10. Most commonly used Index number is [c]
(a) Volume index number   (b) Value Index number
(c) Price index number   (d) Simple Index number

11. Most of the women in this sample felt that their actual weight was [c]
(a) about the same as their ideal weight   (b) less than their ideal weight.
(c) greater than their ideal weight   (d) no more than 2 pounds different from their ideal weight.

12. A chi-square test of the relationship between personal perception of emotional health and marital status led to rejection of the null hypothesis, indicating that there is a relationship between these two variables. One conclusion that can be drawn is [d]
(a) Marriage leads to better emotional health.   (b) Better emotional health leads to marriage.
(c) The more emotionally healthy someone is, the more likely they are to be marrie(d)
(d) There are likely to be confounding variables related to both emotional health and marital status.

13. A chi-square test involves a set of counts called "expected counts." What are the expected counts? [b]
(a) Hypothetical counts that would occur of the alternative hypothesis were true.
(b) Hypothetical counts that would occur if the null hypothesis were true.
(c) The actual counts that did occur in the observed dat(a)
(d) The long-run counts that would be expected if the observed counts are representative.

14. Pick the choice that best completes the following sentence. If a relationship between two variables is called statistically significant, it means the investigators think the variables are [a]
(a) related in the population represented by the sample.
(b) not related in the population represented by the sample.
(c) related in the sample due to chance alone.
(d) very Important.

15. Simpson's Paradox occurs when [c]
(a) No baseline risk is given, so it is not know whether or not a high relative risk has practical importance
(b) A confounding variable rather than the explanatory variable is responsible for a change in the response variable.
(c) The direction of the relationship between two variables changes when the categories of a confounding variable are taken into account.
(d) The results of a test are statistically significant but are really due to chance

16. What is the approximate shape of the distribution? [c]
(a) Nearly symmetric   (b) Skewed to the left.
(c) Skewed to the right   (d) Bimodal (has more than one peak)

17. Of the following, which is the most important additional information that would be useful before making a decision about participation in school sports? [c]
(a) Where was the study conducted?
(b) How many students in the study participated in after-school sports?
(c) What is the baseline risk for getting asthma?
(d) Who funded the study?

18. One use of a regression line is [d]
(a) to determine if any x-values are outliers.
(b) to determine if any y-values are outliers.
(c) to determine if a change in x causes a change in y.
(d) to estimate the change in y for a one-unit change in x

19. Which of the following would indicate that a dataset is not bell-shaped? [c]
(e) The range is equal to 5 standard deviations.
(b) The range is larger than the inter quartile range.
(c) The mean is much smaller than the median.
(d) There are no outliers.

20. The value of a correlation is reported by a researcher to be r = 0.5. Which of the following statements is correct? [a]
(a) The x-variable explains 25% of the variability in the y-variable.
(b) The x-variable explains 25% of the variability in the y-variable.
(c) The x-variable explains 50% of the variability in the y-variable.
(d) The x-variable explains 50% of the variability in the y-variable.

21. The strength (degree) of the correlation between a set of independent variables X and a dependent variable Y is measured by [d]
(a) Coefficient of Correlation   (b) Coefficient of Determination
(c) Standard error of estimate   (d) All of the above

22. The percent of total variation of the dependent variable Y explained by the set of Independent variables X is measured by [c]
(a) Coefficient of Correlation   (b) Coefficient of Skewness
(c) Coefficient of Determination   (d) Standard Error or Estimate

23. A coefficient of correlation is computed to be -0.95 means that [c]
(a) The relationship between two variables is weak
(b) The relationship between two variables is strong and positive
(c) The relationship between two variables is strong and but negative
(d) Correlation coefficient cannot have this value

24. 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 [c]
(a) The relationship between two variables is negative
(b) The correlation coefficient is 0.39 also
(c) 39% of the total variation is explained by the independent variable
(d) 39% of the total variation is explained by the dependent variable

25. Relationship between correlation coefficient and coefficient of determination is that [b]
(a) both are unrelated
(b) The coefficient of determination is the coefficient of correlation squared
(c) The coefficient of determination is the square root of the coefficient of correlation
(d) both are equal
26. Multicollinearity exists when [a]
(a) Independent variables are correlated less than -0.70 or more than 0.70
(b) An independent variables is strongly correlated with a dependent variable
(c) There is only one Independent variable
(d) The relationship between dependent and independent variable is non-linear
27. If "time" is used as the Independent variable in a simple linear regression analysis, then which of the following assumption could be violated [d]
(a) There is a linear relationship between the independent and dependent variables
(b) The residual variation is the same for all fitted values of Y
(c) The residuals are normally distributed
(d) Successive observations of the dependent variable are uncorrelated
28. In multiple regressions, when the global test of significance is rejected, we can conclude that [c]
(a) All of the net sample regression coefficient are equal to zero
(b) All of the sample regression coefficient are not equal to zero
(c) At least one sample regression coefficient is not equal to zero
(d) The regression equation Intersects the Y-axis at zero.
29. A residual is defined as [a]
(a) Y-Y   (b) Error sum of square   (c) Regression sum of squares   (d) Type 1 Error
30. What test statistic is used for a global test of significance? [d]
(a) Z test   (b) t test   (c) Chi-square test   (d) F test

II. Fill in the Blanks
1. An Index number is called a simple Index when it is computed from single variable
2. Index numbers are expressed in percentages
3. If all the values are of equal Importance, the Index numbers are called unweighted
4. Index numbers can be used for forecasting
5. Index for base period is always taken as 100
6. When the prices of rice are to be compared, we compute price index
7. When Index number is calculated for several variables, it is called composite index
8. How many types are used for the calculation of Index numbers 2
9. In chain base method, the base period is not fixed
10. Price relatives are a percentage ratio of current year price and base year price
11. Which of the following is the explanatory variable in this study occupation
12. Which of the following is a confounding variable in this study exercise
13. A magazine printed a survey in its monthly issue and asked readers to fill it out and send it in. Over 1000 readers did so. This type of sample is called a self selected sample
14. A polling agency conducted a survey of 100 doctors on the question "Are you willing to to treat women patients with the recently approved pill RU-486"? The conservative margin of error associated with the 95% confidence interval for the percent who say 'yes' is 10%
15. Which one of these statistics is unaffected by outliers interquartile range
16. A list of 5 pulse rates is: 70, 64, 80, 74, 92, What is the median for this list 74
17. Among people with age over 30, what's the "risk" of always exceeding the speed limit 0.20.
18. Among people with age under 30 what are the odds that they always exceed the speed limit 1 to 1
19. What is the relative risk of always exceeding the speed limit for people under 30 compared to people over 30 2.5
20. The median of the distribution is approximately 10 pounds
21. An orderly set of data arranged in accordance with their time of occurrence is called time series
22. A time series consists of all of the above

23. The graph of time series is called <u>historigram</u>
24. Secular trend can be measured by <u>four methods</u>
25. The secular trend is measured by the method of semi-averages when <u>trend is linear</u>
26. Increase in the number of patients in the hospital due to heat stroke is <u>seasonal variation</u>
27. The systematic components of time series which follow regular pattern of variations are called <u>signal</u>
28. The unsystematic sequence which follows irregular pattern of variations is called <u>noise</u>
29. In time series seasonal variations can occur within a period of <u>one year</u>
30. Wheat crops badly damaged on account of rains is <u>random movement</u>

Short Answers.
1. Define QD. MD & SD ?
2. Define grouped & ungrouped?
3. Variation?
4. Co-efficient of variation?
5. Formula of skewness & Kurtosis?
6. Index number?
7. Factor reversal test?
8. Weighted and un weighted index numbers?
9. Time reversal test meaning?
10. Sampling?