SHRI GURU NANAK DEGREE COLLEGE
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B.B.A 1ST SEMESTER

Business Statistics (BBA 103)

Section A: Long Answer Questions

Unit I

1. Define statistics. Discuss its significance and limitations in business decision-making.
2. Explain the types of data with examples.
3. Describe the process of classification and tabulation of data.
4. Explain the methods of frequency distribution with examples.
5. Discuss different types of graphical representation techniques.
6. Distinguish between primary and secondary data with examples.
7. What are the uses and misuses of statistics in business?
8. Explain the characteristics of statistical data.
9. Discuss various types of classification of data.
10. Explain the significance of tabulation and its components.

Unit II

11. What are the measures of central tendency? Explain their merits and demerits.
12. Explain mean, median, and mode with formula.
13. Define and explain measures of variation. How are they important?
14. Differentiate between quartile deviation and standard deviation with examples.
15. Explain skewness and kurtosis. How do they help in analyzing data?
16. What is the significance of standard deviation in decision-making?
17. Calculate variance and explain its importance.
18. Explain mean deviation with an example.
19. Discuss properties of a good measure of central tendency.
20. Differentiate between absolute and relative measures of dispersion.

Unit III

21. Define correlation. Explain different types with examples.
22. Explain Karl Pearson's method of calculating correlation.
23. Describe the significance of correlation in business statistics.
24. Explain the concept of regression with its types and examples.
25. Derive regression equations using the least squares method.
26. What is scatter diagram? How is it useful in correlation analysis?
27. Distinguish between correlation and regression.
28. Explain regression lines with a suitable example.
29. What are regression coefficients? Explain their properties.
30. Discuss the application of regression analysis in business decisions.

Unit IV

31. Explain the laws of probability with suitable examples.
32. Solve a numerical based on conditional probability.

33. What is the addition and multiplication theorem of probability?
34. Define and explain binomial and Poisson distribution with examples.
35. Discuss the sampling method and differentiate between sampling and non-sampling errors.
36. Explain Normal distribution and its characteristics.
37. What is hypothesis testing? Explain steps involved.
38. Differentiate between Type-I and Type-II errors with examples.
39. Explain Baye's theorem with a solved example.
40. What are large sample tests? Discuss their applications.

Section B: Short Answer Questions

Unit I
1. Define statistics.
2. What is classification of data?
3. Differentiate between qualitative and quantitative data.
4. What is tabulation? Mention its advantages.
5. What is frequency distribution?
6. State two limitations of statistics.
7. What are the features of statistical data?
8. What is graphical representation of data?
9. Give two examples of primary data.
10. What is the purpose of a histogram?

Unit II
11. Define mean and give its formula.
12. What is the mode?
13. Write two merits of median.
14. Define range as a measure of dispersion.
15. What is quartile deviation?
16. Define standard deviation.
17. State two uses of mean deviation.
18. What is the coefficient of variation?
19. Give the formula of variance.
20. Define skewness with an example.

Unit III
21. What is correlation?
22. Name two types of correlation.
23. Define Karl Pearson's coefficient of correlation.
24. What is a scatter diagram?
25. State the range of correlation coefficient.
26. What is regression?
27. State the difference between correlation and regression.

28. Write the formula of regression equation of Y on X.
29. What is regression coefficient?
30. What is the use of regression in forecasting?

Unit IV
31. Define probability.
32. What is an event in probability?
33. State the addition law of probability.
34. What is conditional probability?
35. Give an example of independent events.
36. State Baye's theorem.
37. What is binomial distribution?
38. Give one example of normal distribution.
39. What is sampling error?
40. What is hypothesis testing?
41. Define Type-I error.
42. Define Type-II error.
43. What is the purpose of large sample tests?
44. What is the difference between sampling and non-sampling error?
45. Give an example of Poisson distribution.

Section C: Objective Type Questions

Unit I

1. Statistics is a branch of:
   A. Chemistry
   B. Physics
   C. Mathematics
   D. Biology

2. Which is not a type of data?
   A. Primary
   B. Secondary
   C. Tertiary
   D. None

3. Tabulation of data is:
   A. Pictorial
   B. Graphical
   C. Systematic
   D. Descriptive

4. Frequency distribution is related to:
   A. Mean
   B. Tabulation
   C. Graph

   D. Classification

5. Histogram is used for:
   A. Qualitative data
   B. Continuous data
   C. Discrete data
   D. Nominal data

6. Classification of data helps in:
   A. Confusion
   B. Disorganization
   C. Data arrangement
   D. Irregularity

7. A bar diagram is a:
   A. 1D diagram
   B. 2D diagram
   C. 3D diagram
   D. None

8. Cumulative frequency helps in finding:
   A. Mode
   B. Median
   C. Mean

D. Range

9. Tabulation presents data in:
   A. Pictures
   B. Text
   C. Table form
   D. List

10. Ogive curve is used to find:
    A. Mean
    B. Mode
    C. Median
    D. Range

Unit II

11. Mean is also known as:
    A. Middle value
    B. Average
    C. Range
    D. Standard deviation

12. Mode refers to:
    A. Largest value
    B. Most frequent value
    C. Middle value
    D. Least value

13. Median is the:
    A. Lowest value
    B. Middle value
    C. Highest value
    D. Mean value

14. Range is:
    A. Q3 - Q1
    B. Highest - Lowest
    C. Mean - Median
    D. Mode - Median

15. Standard deviation measures:
    A. Skewness
    B. Central tendency

C. Dispersion
D. None

16. Kurtosis is related to:
    A. Mean
    B. Median
    C. Peakness
    D. Range

17. Variance is:
    A. Square of mean
    B. Square of standard deviation
    C. Product of mode
    D. None

18. Quartile deviation is:
    A. Q1 + Q3
    B. Q3 - Q1
    C. Q1 - Q3
    D. Mean of Q1 and Q3

19. Skewness refers to:
    A. Spread
    B. Symmetry
    C. Frequency
    D. Median

20. Mean deviation is:
    A. Negative
    B. Zero
    C. Absolute
    D. Infinite

Unit III

21. Correlation indicates:
    A. Difference
    B. Similarity
    C. Relationship
    D. Error

22. Positive correlation means:
    A. Both increase
    B. Both decrease
    C. One increases, other decreases
    D. No change

23. Karl Pearson's coefficient lies between:
    A. 0 to 1
    B. -1 to 1
    C. 0 to 100
    D. -2 to 2

24. A regression line shows:
    A. Dispersion
    B. Correlation
    C. Relationship
    D. Forecasting

25. Regression coefficient of X on Y is denoted as:
    A. bxy
    B. byx
    C. rxy
    D. xy

26. Scatter diagram shows:
    A. Tabular data
    B. Graphical data
    C. Plot of variables
    D. Histogram

27. Regression is used for:
    A. Classification
    B. Forecasting
    C. Sampling
    D. Skewness

28. Correlation coefficient value of 0 indicates:
    A. Positive
    B. Negative
    C. No correlation
    D. Perfect correlation

29. Regression equation is:
    A. Linear
    B. Non-linear
    C. Both
    D. None

30. Perfect negative correlation is:
    A. 0
    B. -1
    C. 1
    D. ∞

Unit IV

31. Probability value lies between:
    A. 0 and 1
    B. 0 and ∞
    C. -1 and 1
    D. $-\infty$ and ∞

32. Bayes' Theorem deals with:
    A. Independent events
    B. Conditional probability
    C. Joint events
    D. Mutually exclusive events

33. Poisson distribution is used for:
    A. Rare events
    B. Common events
    C. Continuous data
    D. Normal data

34. A binomial distribution is:
    A. Continuous
    B. Discrete
    C. Negative
    D. Skewed

35. Normal distribution is:
    A. Symmetrical
    B. Asymmetrical
    C. Right-skewed
    D. Left-skewed

36. Addition law is used when events are:
    A. Dependent
    B. Independent
    C. Mutually exclusive
    D. Repeated

37. Multiplication law is used for:
    A. Independent events
    B. Exclusive events
    C. Simple events
    D. Random variables

38. Type-I error is:
    A. Accepting true H0
    B. Rejecting false H0
    C. Rejecting true H0
    D. Accepting false H1

39. Type-II error is:
    A. Rejecting false H0
    B. Accepting false H0
    C. Accepting true H1
    D. Rejecting true H1

40. Sampling is used to:
    A. Study population
    B. Study sample
    C. Reduce data
    D. Increase population