Biostatistics -
II sem
Internal - I
M.SC. BIOTECHNOLOGY
QUESTION BANK

1. The term "Biostatistics" is the application of statistics to which field ( )

A) Economics B) Biology & Health Sciences C) Physics D) Sociology

2. Which of the following is a _qualitative_ variable ( )

A) Weight in kg B) Blood group C) Height in cm D) Number of children

3. Data collected by the investigator directly from the source is called: ( )

A) Secondary data B) Primary data C) Grouped data D) Raw data

4. The entire group of individuals about which we want information is called: ( )

A) Sample B) Variable C) Population D) Parameter

5. A characteristic that takes different values for different individuals is: ( )

A) Constant B) Variable C) Sample D) Data

6. Which of these is a _discrete_ variable. ( )

A) Temperature B) Age C) Number of hospital beds D) Blood pressure

7. A subset of the population selected for study is: ( )

A) Census B) Sample C) parameter D) Statistic

8. Blood pressure, weight, and height are examples of: ( )

A) Nominal data B) Ordinal data C) Continuous data D) Discrete data

9. Tally marks are used to prepare: ( )

A) Pie chart B) Frequency distribution C) Histogram D) Ogive

10. The difference between the upper and lower limits of a class is called: ( )

A) Class interval B) Class mark C) Frequency D) Range

11. Which graph is used to represent _continuous_ frequency distribution ( )

A) Bar diagram B) Pie chart C) Histogram D) Pictogram

12. In a pie chart, the total angle at the center is: ( )

A) 90° B) 180° C) 360° D) 100°

13. Cumulative frequency curve is also known as: ( )

A) Histogram B) Frequency polygon C) Ogive D) Line diagram

14. Which diagram is most suitable for showing proportions of a whole. ( )

A) Bar diagram B) Histogram C) Pie chart D) Scatter plot

15. For _discrete_ data, which graphical representation is most appropriate?

A) Histogram B) Frequency polygon C) Bar diagram D) Ogive

16. The mid-point of a class interval is called: ( )

A) Class limit B) Class mark C) Class frequency D) Class width

17. Which measure of central tendency is affected most by extreme values ( )

A) Median B) Mode C) Arithmetic Mean D) Geometric Mean

18. For an open-end class distribution, which average is most suitable ( )

A) Arithmetic Mean B) Median C) Geometric Mean D) Harmonic Mean

19. The value which divides the data into two equal halves when arranged in order is: ( )

A) Mean B) Mode C) Median D) Range

20. The most frequently occurring value in a data set is: ( )

A) Mean B) Median C) Mode D) Harmonic Mean

II. Filling the blanks

21. _____ average is most appropriate for averaging rates and ratios

A) Arithmetic Mean B) Geometric Mean C) Harmonic Mean D) Mode

22. The relationship between AM, GM, HM for positive values is _____

A) AM = GM = HM B) AM ≥ GM ≥ HM C) HM ≥ GM ≥ AM D) GM ≥ AM ≥ HM

23. If all observations are multiplied by 5, the arithmetic mean wil be _____

A) Increased by 5 B) Decreased by 5 C) Multiplied by 5 D) Divided by 5

24. Which of the following is NOT a mathematical average. _____

A) Arithmetic Mean B) Geometric Mean C) Median D) Harmonic Mean

25. For the data 2, 4, 8, 16, the geometric mean is _____

A) 7.5 B) 8 C) 6.32 D) 4

26. Harmonic mean is used to calculate average _____

A) Price B) Speed C) Height D) Weight

27. _____measure of dispersion is the simplest to calculate

A) Standard deviation B) Range C) Variance D) Mean deviation

28. The positive square root of variance is called. _____

A) Range B) Mean deviation C) Standard deviation D) Coefficient of variation

29. _____measure of dispersion is least affected by extreme values

A) Range B) Standard deviation C) Mean deviation D) Variance

30. If each observation is increased by 10, then standard deviation is _____

A) Increases by 10 B) Decreases by 10 C) Remains unchanged D) Becomes zero

31. Variance is expressed as _____

A) Same units as data B) Square of units of data C) No units D) Percentage

32. A distribution with a long tail to the right is _____

A) Negatively skewed B) Positivelyskewed C) Symmetrical D) Normal

33. For a symmetrical distribution _____

A) Mean > Median > Mode B) Mean < Median < Mode C) Mean = Median = Mode D) Mean ≠ Median

34. The sum of squares of deviations from mean divided by n or n-1 is _____

A) Range B) Mean deviation C) Variance D) Standard error

35. The hypothesis of "no difference" is called _____

A) Alternative hypothesis B) Null hypothesis C) Statistical hypothesis D) Research hypothesis

36. Alternative hypothesis is denoted by _____

A) H_0 B) H_1 or H_a C) H_2 D) H

37. If we reject H_0 when it is actually true, the error is. _____

A) Type I error B) Type II error C) Standard error D) Sampling error

38. Accepting null hypothesis when it is false is _____

A) Type I error B) Type II error C) Level of significance D) Power of test

39. The probability of Type I error is denoted by. _____

A) β B) α C) $1-\alpha$ D) $1-\beta$

40. In hypothesis testing, the statement we want to test is. _____

A) Alternative hypothesis B) Null hypothesis C) Both D) None

III. Descriptive Questions

1. Write about Null Hypothesis
2. Write about alternative Hypothesis
3. Explain about Graphical representation of data
4. Explsin about arithmetic mean,median,mode
5. Explain aboutHarmonic mean
