



**PUNE VIDYARTHI GRIHA'S
COLLEGE OF SCIENCE AND TECHNOLOGY
Affiliated to University of Mumbai**

Question Bank

Class: F.Y.B. Sc.CS

Semester: I

Subject: Descriptive Statistics and Introduction to Probability

Unit 1

- 1) The ratio of summation of all objects to the total number of observation is called
 - a) mean
 - b) median
 - c) probability
 - d) mode

- 2) Mean for ungrouped frequency distribution :
 - a) $x_1+x_2+x_3+\dots+x_n/x_n$
 - b) $x_1+x_2+x_3+\dots x_n/n$
 - c) $\sum f_{ixi}/\sum f_i$
 - d) $\sum f_{ixi}'/\sum f_i$

- 3) Mean for grouped frequency distribution (discrete) :
 - a) $x_1+x_2+x_3+\dots+x_n/x_n$
 - b) $x_1+x_2+x_3+\dots x_n/n$
 - c) $\sum f_{ixi}/\sum f_i$
 - d) $\sum f_{ixi}'/\sum f_i$

- 4) Mean for grouped frequency distribution (continuous) :
 - a) $x_1+x_2+x_3+\dots+x_n/x_n$
 - b) $x_1+x_2+x_3+\dots x_n/n$
 - c) $\sum f_{ixi}/\sum f_i$
 - d) $\sum f_{ixi}'/\sum f_i$

- 5) let, $X= 30,35,30,19,26,20,31,22,18,23$ $AM(X)$:
 - a) 24.7
 - b) 25.4
 - c) 30.6
 - d) 13.5

6) If x_1 & x_2 are the of two set of value contain n_1 and n_2 observation respectively then it is called

- a) weighted mean
- b) discrete random variable mean
- c) combined mean
- d) mean

7) Formula of combined mean is

- a) $\bar{x} = \frac{n_1x_1 + n_2x_2}{n_1 + n_2}$
- b) $\bar{x} = \frac{x_1 + x_2 + x_3 + \dots + x_n}{n}$
- c) $\bar{x} = \frac{x_1 + x_2 + x_3 + \dots + x_n}{x_n}$
- d) $\bar{x} = \frac{\sum f_i x_i}{\sum f_i}$

8) if x_1, x_2, \dots, x_n are given value with corresponding weight w_1, w_2, \dots, w_n then it is called

- a) weighted mean
- b) discrete random variable mean
- c) combined mean
- d) mean

9) Find arithmetic mean of the following question: $X = 18, 20, 22, 24, 26, 28, 30, 32$

$F = 2, 5, 12, 17, 14, 6, 3, 1$

- a) 3.33
- b) 25.4
- c) 30.6
- d) 13.5

10) Find arithmetic mean of the following question: $X = 0-10, 10-20, 20-30, 30-40, 40-50$

$F = 5, 20, 22, 18, 15$

- a) 3.33
- b) 25.4
- c) 30.6
- d) 27.25

11) is the middle value of the observation.

- a) mean
- b) mode
- c) median
- d) probability

12) For ungrouped frequency distribution in median , if N is even then median is arithmetic mean & of observation.

- a) $(N/2)$ th & $(N/2 + 1)$ th
- b) $(N/2)$ th
- c) $(N/2 + 1)$ th
- d) (N) th & $(N+1)$ th

13) For ungrouped frequency distribution in median , if N is odd then median is arithmetic mean of observation.

- a) $(N/2)$ th & $(N/2 + 1)$ th
- b) $(N/2)$ th
- c) $(N+1/2)$ th
- d) (N) th & $(N+1)$ th

14) Find the median of the following data: 26,30,45,34,56,60,66,68,73,27,25

- a) 45
- b) 25.4
- c) 30.6
- d) 27.25

15) Find the median of the following data: 28,76,55,67,89,34,45,65,36,58,26,60

- a) 45
- b) 25.4
- c) 30.6
- d) 56.5

16) For grouped frequency distribution in discrete random variable where $N = \sum f$ then median is

- a) $(N/2)$
- b) $(N/2)$
- c) $(N/2 + 1)$
- d) (N)

17) Formula of median in continuous frequency distribution is

- a) $(l_1 + l_2)/2$
- b) $l_1 + (l_2 - l_1)(N/2 - CF)$
- c) $l_1 + (l_2 - l_1)(N/2 - CF) / f$
- d) $(l_1 + l_2)/2 / f$

18) The value which is represent as repeated maximum number of times with highest frequency is called

- a) mean

- b) median
- c) probability
- d) mode

19) Find the mode of the following questions : 1) 1,2,3,5 2) 1,2,2,3,3,3,4,3,5,3,5,6

- a) 5,3
- b) 3,5
- c) 2,4
- d) 3,4

20) The mode can be obtained as value of variable with maximum frequency in the

- a) discrete variate case
- b) random variate case
- c) continuous variate case
- d) both a and b

21) Formula of mode in continuous random variable is

- a) $(l_1+l_2)/2$
- b) $l_1 + (l_2 - l_1)(N/2 - CF)$
- c) $l_1 + (l_2 - l_1)(N/2 - CF) / f$
- d) $l_1 + (l_2-l_1)(f_1-f_0) / (f_1-f_0)+(f_1-f_2)$

22) Measure of spread or scatter of data is called

- a) measure of dispersion
- b) measure of Central tendency
- c) range
- d) coefficient of range

23) Can be defined as difference between maximum value and minimum value.

- a) measure of dispersion
- b) measure of Central tendency
- c) range
- d) coefficient of range

24) is the ratio of difference between maximum value and minimum value to the the sum of maximum value and minimum value.

- a) measure of dispersion
- b) measure of Central tendency
- c) range

d) coefficient of range

25) Find the range of following numbers : 17850, 16990, 17500, 19850, 16650, 19300

- a) 3200
- b) 3467
- c) 4567
- d) 7843

26) Find the coefficient range of following numbers : 17850, 16990, 17500, 19850, 16650, 19300

- a) 32.000
- b) 3.4676
- c) 45.673
- d) 0.08767

27) is defined as the arithmetic mean of its absolute deviation of the observation from any suitable concept.

- a) measure of dispersion
- b) measure of Central tendency
- c) range
- d) mean deviation

28) choose correct source

- a) data - information - facts - knowledge
- b) facts - information - knowledge - data
- c) knowledge - data - information - facts
- d) information - data - facts - knowledge

29) $Q_3 - Q_1 / Q_3 + Q_1$ is _____

- a) coefficient of Quartile deviation
- b) coefficient of Mean deviation
- c) coefficient of standard deviation
- d) coefficient of mode

30) Grouped frequency distribution can be divided into _____ types

- a) 1
- b) 4
- c) 2
- d) 3

31) The characteristics of unit which can't be measured numerically but can be classified into different groups is called

- a) time series

- b) information
- c) quantitative data
- d) qualitative data

32) Ungrouped frequency distribution can be divided into _____ types

- a) 1
- b) 2
- c) 3
- d) 0

33) The process of arranging data into sequence and group according to their common character or separate them into different but related parts is called

- a) classification
- b) information
- c) quantitative data
- d) qualitative data

34) is table that display frequency, number of times a specific value or variable is repeated in excess

- a) range
- b) coefficient of range
- c) frequency distribution
- d) classification

35) Difference between upper and lower boundaries of a class magnitude or length or width of class is called

- a) magnitude of class interval
- b) class interval
- c) class mark
- d) frequency distribution

36) A frequency distribution can be represented graphically by

- a) graphical representation
- b) circular representation
- c) triangular representation
- d) tables

37) $Q_3 - Q_1/2$ is _____

- a) Quartile deviation
- b) Mean deviation
- c) standard deviation
- d) mode

- 38) There are _____ types of measure of dispersion
- 1
 - 2
 - 3
 - 4
- 39) is the graphical representation in which both ends of the curve are join to the the x-axis.
- frequency polygon
 - frequency curve
 - table
 - histogram
- 40) To construct frequency curve variable along and frequency along
- x axis and y axis
 - y axis and x axis
 - z axis and y axis
 - x axis and z axis
- 41) is represented in the form of rectangle.
- frequency polygon
 - frequency curve
 - table
 - histogram
- 42) Class mark =
- lower limit + upper limit / 2
 - lower limit
 - upper limit
 - mean
- 43) is used for qualitative classification.
- nominant scale
 - frequency scale
 - ordinanat scale
 - ratio scale
- 44) There are _____ types of cumulative frequency
- 2
 - 5
 - 3
 - 4
- 45) Cumulative frequency is also known as _____ gives

- a) O
- b) S
- c) R
- d) t

46) $(SD/mean)*100$ is _____

- a) coefficient of mean deviation
- b) coefficient of standard deviation
- c) mean
- d) median

47) Standard deviation is _____ of variance

- a) square root
- b) square
- c) cube
- d) cube root

48) There are _____ types of class interval

- a) 1
- b) 2
- c) 3
- d) 4

49) In exclusive class interval, we exclude the _____ limit

- a) Upper
- b) Lower
- c) Middle
- d) top

50) In inclusive class interval, we include the _____ limit

- a) Upper
- b) Lower
- c) Middle
- d) Top

UNIT-2

- 1) If the value of any regression coefficient is zero, then two variables are:
 - a) Qualitative
 - b) Correlation
 - c) Dependent
 - d) Independent

- 2) The straight line graph of the linear equation $Y = a + bX$, slope will be upward if:
 - a) $b = 0$
 - b) $b < 0$
 - c) $b > 0$
 - d) $b \neq 0$

- 3) The straight line graph of the linear equation $Y = a + bX$, slope will be downward If:
 - a) $b > 0$
 - b) $b < 0$
 - c) $b = 0$
 - d) $b \neq 0$

- 4) If one regression coefficient is greater than one, then other will be:
 - a) More than one
 - b) Equal to one
 - c) Less than one
 - d) Equal to minus one

- 5) The correlation coefficient lies between:
 - a) 0 or 1
 - b) -2 or +2
 - c) -1 or +1
 - d) 1 or 2

- 6) The independent variable is also called:

- a) Regressor
- b) Regressand
- c) Predictand
- d) Estimated

7) In the regression equation $X = a + bY$, the X is called:

- a) Independent variable
- b) Dependent variable
- c) Qualitative variable
- d) None of the above

8) In the regression equation $Y = a + bX$, a is called:

- a) X-intercept
- b) Y-intercept
- c) Dependent variable
- d) None of the above

9) The regression equation always passes through:

- a) (X, Y)
- b) (a, b)
- c) (\bar{x}, \bar{y})
- d) (\bar{x}, Y)

10) There are _____ types of moment

- a) 2
- b) 3
- c) 4
- d) 5

11) _____ moment is calculated about origin

- a) raw
- b) mean
- c) positive
- d) central

12) Regression coefficient is independent of:

- a) Units of measurement
- b) Scale and origin
- c) Both (a) and (b)
- d) None of them

13) The purpose of simple linear regression analysis is to:

- a) Predict one variable from another variable
- b) Replace points on a scatter diagram by a straight-line
- c) Measure the degree to which two variables are linearly associated
- d) Obtain the expected value of the independent random variable for a given value of the dependent variable

- 14) The range of regression coefficient is:
- 1 to +1
 - 0 to 1
 - $-\infty$ to $+\infty$
 - 0 to ∞
- 15) If the value of regression coefficient is zero, then the two variable are called:
- Independent
 - Dependent
 - Both (a) and (b)
 - Difficult to tell
- 16) percentile calculation in which data is divided into 4 equal parts is known to be
- decile
 - tercile
 - quartile
 - quintile
- 17) The graph showing the paired points of (X_i, Y_i) is called:
- Scatter diagram
 - Histogram
 - Bar chart
 - Pie diagram
- 18) The graph  represents the relationship that is:
- Linear
 - Non linear
 - Curvilinear
 - No relation
- 19) The graph  represents the relationship that is.:
- Linear positive
 - Linear negative
 - Non-linear
 - Curvilinear
- 20) When regression line passes through the origin, then:
- Intercept is zero
 - Regression coefficient is zero
 - Correlation is zero
 - Association is zero
- 21) when b_{XY} is positive, then b_{YX} will be:
- Negative
 - Positive
 - Zero
 - One
- 22) In the regression line $Y = a + bX$
- $\sum X = \sum \hat{X}$
 - $\sum Y = \sum \hat{Y}$
 - $\sum X = \sum Y$
 - $X = Y$
- 23) In the regression line $Y = a + bX$, the following is always true:
- $\sum(X - \hat{X}) = 0$

- b) $\sum(Y - \hat{Y})=0$
 c) $\sum(X - \hat{X})=\sum(Y - \hat{Y})$
 d) $\sum(Y - \hat{Y})^2$
- 24) If both variables X and Y increase or decrease simultaneously, then the coefficient of correlation will be:
 a) Positive
 b) Negative
 c) Zero
 d) One
- 25) 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) 0.5
 d) 0
- 26) In scatter diagram, if most of the points lie in the first and third quadrants, then coefficient of correlation is:
 a) Negative
 b) Positive
 c) Zero
 d) All of the above
- 27) _____ moment is calculated about origin
 a) raw
 b) mean
 c) positive
 d) central
- 28) The statistical measures such as deciles, percentiles, median and quartiles are classified as part of
 a) Percentile system
 b) Quartile system
 c) Deciles system
 d) Moment system
- 29) For the ungrouped data in calculation of moments from mean, the formula to calculate this measure is
 a) $\frac{1}{n} \sum(x - mean)^r$
 b) $\frac{1}{n} \sum(x - mean)^r$
 c) $\frac{2}{n} \sum(x + mean)^r$
 d) $\frac{2}{n} \sum(x + mean)^x$
- 30) Raw moments refer to the.....
 a) Actual moment
 b) Assumed moment
 c) Central moment
 d) Distributed moment

31) Raw moments refer to the.....

- a) Actual moment
- b) Assumed moment
- c) Central moment
- d) Distributed moment

32) Moment is denoted by:

- a) Γ
- b) B
- c) μ
- d) α

33) the coefficient of correlation is theof two regression coefficients.

- a) Arithmetic mean
- b) Geometric mean
- c) Mean
- d) Independent mean

34) Karl Pearson's coefficient of correlation is:

- a) $r = \frac{cov(X,Y)}{\sigma_x \cdot \sigma_y}$
- b) $r = \frac{cov(y,x)}{\sigma_x \cdot \sigma_y}$
- c) $r = \frac{(X,Y)cov}{\sigma_x \cdot \sigma_y}$
- d) $r = \frac{cov(X,Y)}{\sigma_y \cdot \sigma_x}$

35) Empirical relation between mean ,median , mode is:

- a) $\bar{X} - M_m = 3(\bar{X} - M_d)$
- b) $\bar{X} - M_0 = 4(\bar{X} - M_d)$
- c) $\bar{X} - M_0 = 3(\bar{X} - M_0)$
- d) $\bar{X} - M_0 = 3(\bar{X} - M_d)$

36) Bowley's coefficient of skewness is

- a) $\frac{Q_1 + Q_3 - 3Med}{Q_3 - Q_1}$
- b) $\frac{Q_3 + Q_1 - 3Mod}{Q_3 - Q_1}$
- c) $\frac{Q_3 + Q_1 - 2Med}{Q_3 - Q_1}$
- d) $\frac{Q_3 + Q_1 - 4Med}{Q_3 - Q_1}$

37) Absolute skewness based on Quartile:

- a) $Q_3 + Q_1 - 2 \text{ Median}$
- b) $Q_3 + Q_1 - 3 \text{ Median}$
- c) $Q_1 + Q_3 - 2 \text{ Median}$
- d) $Q_3 - Q_1 - 2 \text{ Median}$

38) Positive correlation between the variables :

- a) $r = +1$
- b) $r = -1$
- c) $r = 0.5$
- d) $r = 0.05$

39) If X is measured in years and Y is measured in minutes, then correlation coefficient has the unit:

- a) Hours
 - b) Minutes
 - c) Both (a) and (b)
 - d) No unit
- 40) Coefficient of determination is:
- a) $r = r^2$
 - b) $r = -r^2$
 - c) $r = +r^2$
 - d) $r_2 = r^2$
- 41) If for a distribution the difference of first quartile and median is greater than difference of median and third quartile then the distribution is classified as
- a) Absolute open ended
 - b) Positively skewed
 - c) Negatively skewed
 - d) Not skewed at all
- 42) The measurement techniques used to measure the extent of skewness in data set values are called
- a) Measure of distribution width
 - b) Measure of median tail
 - c) Measure of tail distribution
 - d) Measure of skewness
- 43) If $r > 0$ then the co relation is _____
- a) positive
 - b) negative
 - c) neither positive nor negative
 - d) both positive nor negative
- 44) If $r < 0$ then the co relation is _____
- a) positive
 - b) negative
 - c) neither positive nor negative
 - d) both positive nor negative
- 45) All data points falling along a straight line is called:
- a) Linear relationship
 - b) Non linear relationship
 - c) Residual
 - d) Scatter diagram
- 46) The slope of the regression line of Y on X is also called the
- a) Correlation coefficient of X on Y
 - b) Correlation coefficient of Y on X
 - c) Regression coefficient of X on Y
 - d) Regression coefficient of Y on X
- 47) In simple regression equation, the numbers of variables involved are:
- a) 0
 - b) 1
 - c) 2
 - d) 3

48)..... is a statistical technique for osmatically change in dependent variable due to change in one or more independent variable based on mathematical relationship between two or more variable.

- a) regression analysis
- b) mathematical induction
- c) coefficient of regression analysis
- d) co-relation

49)..... is used to represent the linear relationship between two variable.

- a) regression analysis
- b) mathematical induction
- c) coefficient of regression analysis
- d) co-relation

50) is used to fix the best line and estimate variable of regression between another variable.

- a) regression
- b) mathematical induction
- c) coefficient of regression analysis
- d) co-relation

UNIT 3

1. When the possible outcomes of an experiment are equally likely to occur, this we apply:

- a) Relative probability
- b) Subjective probability
- c) Conditional probability
- d) Classical probability

2. A number between 0 and 1 that is use to measure uncertainty is called:

- a) Random variable
- b) Trial
- c) Simple event
- d) Probability

3. Probability lies between:

- a) -1 and +1
- b) 0 and 1
- c) 0 and n
- d) 0 and ∞

4. Thereare _____ types of Probability

- a) 1
- b) 2
- c) 3

d) 4

5. The probability based on the concept of relative frequency is called:

- a) Empirical probability
- b) Statistical probability
- c) Both (a) and (b)
- d) Neither (a) nor (b)

6. The probability of an event cannot be:

- a) Equal to zero
- b) Greater than zero
- c) Equal to one
- d) Less than zero

7. A measure of the chance that an uncertain event will occur:

- a) An experiment
- b) An event
- c) A probability
- d) A trial

8. A graphical device used to list all possibilities of a sequence of outcomes in systematic way is called:

- a) Probability histogram
- b) Venn diagram
- c) Pie diagram
- d) Tree diagram

9. A random experiment contains:

- a) At least one outcome
- b) At least two outcomes
- c) At most one outcome
- d) At most two outcomes

10. The probability of all possible outcomes of a random experiment is always equal to:

- a) One
- b) Zero
- c) Infinity
- d) All of the above

11. The outcome of tossing a coin is a:

- a) Mutually exclusive event
- b) Compound event
- c) Certain event
- d) Simple event

12. The result of no interest of an experiment is called:

- a) Constant

- b) Event
- c) Failure
- d) Success

13. A set of all possible outcomes of an experiment is called:

- a) Combination
- b) Sample point
- c) Sample space
- d) Compound event

14. The numbers of counting rules that are useful in determining the number of outcomes in an experiment are:

- a) One
- b) Two
- c) Three
- d) Four

15. The events having no experimental outcomes in common is called:

- a) Equally likely events
- b) Exhaustive events
- c) Mutually exclusive events
- d) Independent events

16. The value of $C(4,2)$ is _____:

- a) 4
- b) 6
- c) 12
- d) 18

17. The probability associated with the reduced sample space is called:

- a) Conditional probability
- b) Statistical probability
- c) Mathematical probability
- (d) Subjective probability

18. An arrangement of objects without regard to order is called:

- a) Permutation
- b) Combination
- c) Random experiment
- d) Sample point

19. If A and B are two independent events, then:

- a) $P(A/B) = P(A)$
- b) $P(A) = P(B)$
- c) $P(A) < P(B)$
- d) $P(A/B) = P(B/A)$

20. If three candidates are selected to attend a course from the ten candidates, the

number of ways of selecting the candidates is an example of:

- a) Combination
- b) Permutation
- c) Reduced sample space
- d) event

21. When each outcome of a sample space is as likely to occur as any other, the outcomes are called:

- a) Exhaustive
- b) Mutually exclusive
- c) Equally likely
- d) Not mutually exclusive

22. If A is any event in S and \bar{A} its complement, then $P(\bar{A})$ is equal to:

- a) 1
- b) 0
- c) $1 - A$
- d) $1 - P(A)$

23. When certainty is involved in a situation, its probability is equal to:

- a) Zero
- b) Between -1 and + 1
- c) Between 0 and 1
- d) One

24. Which of the following cannot be taken as probability of an event?

- a) 0
- b) 0.5
- c) 1
- d) -1

25. If an event contains more than one sample points, it is called a:

- a) Simple event
- b) Compound event
- c) Impossible event
- d) Certain event

26. When the occurrence of one event has no effect on the probability of the occurrence of another event, the events are called:

- a) Independent
- b) Dependent
- c) Mutually exclusive
- d) Equally likely

27. A particular result of an experiment is called:

- a) Trial
- b) Simple event
- c) Compound event
- d) Outcome

28. A collection of one or more outcomes of an experiment is called:

- a) Event
- b) Outcome
- c) Sample point
- d) None of the above

29. A process that leads to the occurrence of one and only one of several possible observations is called:

- a) Random experiment
- b) Random variable
- c) Experiment
- d) Probability distribution

30. Experiment is also called _____

- a) outcome
- b) sample space
- c) event
- d) trial

31. The term 'sample space' is used for:

- a) All possible outcomes
- b) All possible coins
- c) Probability
- d) Sample

32. The term 'event' is used for:

- a) Time
- b) A sub-set of the sample space
- c) Probability
- d) Total number of outcomes.

33. The six faces of the die are called equally likely if the die is:

- a) Small
- b) Fair
- c) Six-faced
- d) Round

34. An arrangement in which the order of the objects selected from a specific pool of objects is important called:

- a) Combination
- b) Permutation
- c) Factorial
- d) Sample space

35. A letter is chosen at random from the word "Statistics". The probability of getting a vowel is:

- a) $1/10$
- b) $2/10$
- c) $3/10$
- d) $4/10$

36. When a die and a coin are rolled together, all possible outcomes are:

- a) 6
- b) 2
- c) 36
- d) 12

37. If n coins are tossed, the possible outcomes are:

- a) n
- b) 2
- c) $2n$
- d) $n/2$

38. Given $P(A) = 0.4$, $P(B) = 0.5$ and $P(A \cup B) = 0.9$, then:

- a) A and B are not mutually exclusive events
- b) A and B are equally likely events
- c) A and B are independent events
- d) A and B are mutually exclusive events

39. If $P(A/B) = P(A)$ and $P(B/A) = P(B)$, then A and B are:

- a) Mutually exclusive
- b) Dependent
- c) Equally likely
- d) Independent

40. A fair coin is tossed 100 times, the expected number of heads is:

- a) 100
- b) 50
- c) 30
- d) 60

41. Two events A and B are called mutually exclusive if:

- a) $A \cup B = \Phi$
- b) $A \cap B = \Phi$
- c) $A \cap B = S$
- d) $A \cap B = 1$

42. If A and B are two mutually exclusive events, then:

- a) $P(A \cap B) = 0$

- b) $P(A \cap B) = 1$
- c) $P(A \cup B) = 0$
- d) $P(A \cap B) = S$

43. When A and B are two non-empty and mutually exclusive events, then:

- a) $P(A \cup B) = P(A).P(B)$
- b) $P(A \cup B) = P(A) + P(B)$
- c) $P(A \cap B) = P(A).P(B)$
- d) $P(A \cap B) = P(A)+P(B)$

44. The two events A and B are called not mutually exclusive events if

- a) $A \cap B = \Phi$
- b) $A \cap B \neq \Phi$
- c) $A \cup B = \Phi$
- d) $A \cap B = \text{zero}$

45. If A and B are disjoint events then the statement which is always true is:

- a) $P(A/B) = 0$
- b) $P(A \cup B) = 0$
- c) $P(A \cap B) = 1$
- d) $P(A) = P(B)$

46. The events A, B and C are called exhaustive events if:

- a) $A \cup B \cup C = S$
- b) $A \cap B \cap C = S$
- c) $A \cup B \cup C = \Phi$
- d) $A \cup B \cup C = \text{Zero}$

47. If A and B are not-mutually exclusive events, then:

- a) $P(A \cup B) + P(A \cap B) = P(A) + P(B)$
- b) $P(A \cup B) = P(A) + P(B)$
- c) $P(A \cup B) = P(A).P(B)$
- d) $P(A \cap B) = P(A) + P(B)$

48. The conditional probability of the event A when event B has occurred is denoted by:

- a) $P(A + B)$
- b) $P(A - B)$
- c) $P(A/B)$
- d) $P(\bar{A})$

49. If A and B are any two events, then $P(A/B) + P(\bar{A}/B)$ is equal to:

- a) 0
- b) 0.25
- c) 0.5
- d) 1

50. $P(A)+P(A^c)=$ _____

- a) Zero
- b) One
- c) Infinity
- d) Less than