Class: FYBCOM Sem-I   Mathematical & Statistical Tech-I

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Module-I : Shares

1. For raising the capital through shares permission and consent from
   a) **Asset Management Company (AMC)**
   b) Stock Exchange (SE)
   c) Securities & Exchange Board of India (SEBI)
   d) National Stock Exchange (NSE)
2. IPO stands for
   a) Indian Public Offer
   b) **Initial Public Offer**
   c) Interested Public Offer
   d) Instant Public Offer
3. --------------- is for the new issues of shares, debentures etc.
   a) **Primary market**
   b) Secondary market
   c) both (a) and (b)
   d) None of these
4. ---------------deals with sales and purchase of existing shares.
   a) Primary market
   b) **Secondary market**
   c) both (a) and (b)
   d) None of these
5. DEMAT stands for
   a) **De materialised account**
   b) Dummy account
   c) Demonstrative account
   d) Directive account
6. AMC stands for
   a) **Asset Management Company**
   b) Asset Monetary Company
   c) Actual Monetary Company
   d) Amount Company
7. The price printed on a share certificate is known as
   a) Market Value
   b) **Face Value**
   c) Dividend
   d) Brokerage
8. The shares which are allotted on primary basis are-----
   a) Preference shares
   b) Right shares
   c) Bonus shares
   d) **Equity shares**

9. **----------**are additional shares given to shareholders without any additional based upon the number of shares that shareholder owns,
   a) Equity shares
   b) Preference shares
   c) Bonus shares
   d) Right shares

10. The trading of shares is done at a ----------price
    a) Market
    b) Face Value
    c) Premium
    d) Selling Price

11. Face value or nominal value is greater than by discount or below par market value then shares are at-----------
    a) premium or above par
    b) discount or below par
    c) par
    d) all of these

12. If market value of share is Rs 150 and FV. of share in 100 then the share is at ------
    a) 50% premium or above par
    b) 50% discount or below par
    c) Par
    d) at loss

13. If the face value or nominal value is less than market value then share is at------
    a) premium or above par
    b) discount or below par
    c) par
    d) all of these

14. If market value of a share is 80 and EV. of a share is Rs 100 then share is at ------
    a) 20% premium
    b) 20% discount
    c) Par
    d) Profit

15. Mr.Gaurav invested Rs.12,000 in 10% shares of market value Rs.250 and face value Rs.10. No. of shares purchase are _____.
    a) 50
    b) 48
    c) 45
    d) 25

16. Selling price per share sold through broker is _____.
    a) M.P + Brokerage
    b) M.P * Brokerage
    c) M.P / Brokerage
    d) M.P - Brokerage

17. If F.V of share is 100 and traded in a market at 100. then shares are at---------
    a) 100% premium
    b) 100% discount
    c) Par
    d) zero price

18. ---------is a part of profit distributed among the shareholders in proportion to shares held.
    a) Brokerage
    b) Dividend
    c) Equity shares
    d) Preference share
19. Dividend is calculated on---------
    a) Market value
    b) Brokerage
    c) Face Value
    d) Cost price
20. Rate of dividend is------------if total dividend is 1000 and face value of all shares
    a) 10,000.
    b) 10%
    c) 100%
    d) 1%
21. Brokerage is added to the market value at the time---------------shares.
    a) Selling
    b) Purchasing
    c) Dividend
    d) all of these
22. If rate of brokerage is 5% and M.V. is 200 then purchase price of a share is--------
    a) Rs 210
    b) Rs 205
    c) Rs 200
    d) Rs 180
23. If market value of a share it 300 and purchase price is 330, the rate of brokerage is ____
    a) 5%
    b) 10%
    c) 15%
    d) 30%
24. If market value of a share in Rs 50 and rate of brokerage is 10%, then amount received after sale of a share is-------------
    a) 40
    b) 45
    c) 50
    d) 60
25. If market value of a share is 300 and amount received after sale of share is Rs 276 then rate of brokerage is-------------
    a) 4%
    b) 8%
    c) 10%
    d) 24%
26. If face value of all shares is 1,000 and face value of one share as 50. Number of shares are _____.
    a) 20
    b) 200
    c) 500
    d) 50000

27. If the total dividend received is 1,200 and all dividend per share is 12. Number of shares are _____.
    a) 10
    b) 100
    c) 144
    d) 14,400

28. If market value of all shares is 15,500 and market value of one share is 50. Number of shares are _____.
    a) 155
    b) 300
    c) 310
    d) 1.550

29. If amount invested is Rs 4,000 and dividend received 400 and amount received after sale of shares is 4.600, Rate of return is _____.
    a) 10%
    b) 25%
    c) 50%
    d) 100%

30. Rate of return is _____, if amount invested in shares is 5,000 and amount received after sales 5,500
    a) 5%
    b) 10%
    c) 15%
    d) 20%

31. If a shareholder has 100 shares and bonus shares are declared as 3 shares for every 5 shares then number of bonus shares received are _____.
    a) 60
    b) 150
    c) 160
    d) 500

32. Shares of a closed –end fund are trading at 4% premium over NAV. If NAV is Rs 10 per share, what is the current market price of the fund's shares?
    a) 10.40
    b) 10.04
    c) 9.96
    d) 14

33. If the market value of all shares is Rs. 5400 and market price per share is Rs.90, Number of shares are _____.
    a) 50
    b) 60
    c) 55
    d) 58

34. If total dividend is Rs 512at the rate of 8% share and total number of shares are 64, Face value of share is _____.
    a) 100
    b) 8
    c) 40.96
    d) 64.8

35. Minal purchase 500 shares of a company at Rs 700 with the brokerage of 2%, the purchase price of one shares is _____.
    a) 686
    b) 714
    c) 510
    d) 490

36. The value printed on the share certificate or stated in its I.P.O. subscription form is known as ___.
    a) Market value
    b) Face value
    c) Purchase value
    d) Sale value

37. The shares which are paid a dividend at a fixed rate on a priority basis are called____.
    a) Equity shares
    b) Preference shares
    c) Bonus shares
    d) Stock

38. The shares which are paid a dividend at a rate which is decided by the Board of Directors of company are known as_____
    a) Equity shares
    b) **Preference shares**
    c) Bonus shares
    d) Stock

39. _____ shares are issued to existing equity share holders and represent dividend paid in the form of shares instead of cash payment.
    a) Equity shares
    b) Preference shares
    c) Bonus shares
    d) Stock

40. A group of fully paid shares put together is known as a _____
    a) Equity shares
    b) Preference shares
    c) Bonus shares
    d) Stock

41. The price at which a share is traded in the stock exchange is called____
    a) Market price
    b) Face value
    c) Par value
    d) Discounted value

42. A share of face value Rs.100 has a market price of Rs.10 above par means its market price is __
    a) Rs. 11
    b) Rs. 100
    c) Rs. 90
    d) Rs. 110

43. A share of face value Rs.100 has a market price of Rs.10 below par means its market price is __
    a) Rs. 11
    b) Rs. 100
    c) Rs.90
    d) Rs.110
44. If a share is sold at par of its face value, then its market price is _____its face value.
    a) Less than
    b) Same as
    c) Greater than
    d) Not same as

Module-I: Mutual Fund:

1. Mutual Fund is governed by an authorized body and it needs a permission from _____.
    a) Asset Management Company
    b) SEBI
    c) National Stock Exchange (NSE)
    d) Bombay Stock Exchange (BSE)
2. For a person with an inadequate knowledge of shares trading should invest in-------
    a) Mutual Funds
    b) Shares
    c) both (a) and (b)
    d) None of these
3. NAV stands for--------
    a) Net Asset Value
    b) Net Asset Value
    c) Net Acquired Value
    d) None of these
4. NAV is calculated and published daily for--------- mutual fund.
    a) open ended
    b) closed ended
    c) both open and closed ended
    d) none of these
5. In-------- mutual fund has no fixed date of maturity.
    a) open ended
    b) closed ended
    c) both of these
    d) none of the above
6. ---------------- mutual fund has fixed date of maturity
    a) open ended
    b) closed ended
    c) both of these
    d) none of the above

7. Charges paid by investor while trading in mutual fund are _____.
   - **a) Load**
   - b) Brokerage
   - c) dividend
   - d) none of these
8. _____ load is charged and added while purchasing units of mutual funds,
   - a) Exit load
   - **b) Entry load**
   - c) Brokerage
   - d) None of these
9. If entry load and exit load is 2% and NAV is 20, then purchase price of a unit of mutual fund is _____.
   - a) 18
   - b) 22
   - **c) 20.40**
   - d) 19.60
10. _____load is subtracted while selling the unit of mutual funds.
    - **a) Entry load**
    - b) Exit load
    - c) Both (a) and (b)
    - d) Dividend
11. If entry load and exit load is 2% and NAV is 20 then amount received after sales of one unit of mutual fund is _____.
    - a) 20.40
    - **b) 19.60**
    - c) 22
    - d) 18
12. Number of units of mutual fund allocated to investor are _____.
    - a) in integers
    - b) in decimals
    - **c) both (a) and (b)**
    - d) none of these
13. NAV of mutual fund on 4th Feb. 2013 was 50 and NAV of same mutual fund on 4 Feb 2015 Rs 60, then absolute change in NAV is _____.
    - a) -10
    - b) 110
    - **c) 10**
    - d) 50
14. NAV of mutual fund on 4th Feb. 2013 was 50 and NAV of same mutual fund on 4 Feb 2015 Rs 60, then ,The percentage change in NAV _____.
    - a) -20%
    - b) 220%
    - **c) 20%**
    - d) 100%
15. NAV of mutual fund on 4th Feb. 2013 was 50 and NAV of same mutual fund on 4 Feb 2015 Rs 60, then, Annualised change in NAV is _____.
    - a) – 10
    - **b) 10**
    - c) 50
    - d) 110

16. Accumulated revenue of mutual fund is given back to mutual fund unit holder of
    _____.
    a) profit
    b) dividend
    c) load
    d) brokerage
17. NAV is the ratio of _____.
    a) Net Assets of mutual fund to number of units outstanding
    b) Number of units outstanding to Net asset of mutual fund
    c) Percentage change in NAV to number of units outstanding
    d) None of these .
18. Investment plan in which a fixed amount is invested at regular interval of time is
    known as_____.
    a) sort out investment plan
    b) simple investment plan
    c) super investment plan
    d) systematic investment plan
19. Sale price is also known as _____.
    a) NAV
    b) Purchase price
    c) Repurchase price
    d) Offer price
20. **A fee le**vied on an investor at the time of purchasing units is called_____
    a)   Dividend
    b)   Entry load
    c)   Exit load
    d)   Discount
21. A fee levied on an investor at the time of selling units is called _____
    a)   Entry load
    b)   Exit load
    c)   Dividend
    d)   Discount
22. The ratio of net assets of a mutual fund scheme to number of units outstanding is
    called___
  a) Average value
  b) Rate of dividend
  c) Net asset value
  d) Rate of discount
23.   The actual price received by an investor while selling the units back to the mutual
    fund scheme is known as ____
  a) Market price
  b) Purchase price
  c) Redemption price
  d) List price

24. The investment plan in which a fixed amount is invested at regular intervals is known as ____

a) Growth plan

b) Distribution plan

c) SIP

d) Rights issue

25. The payments made by a mutual fund to its unit holders from the income generated by it is__

a) Dividend

b) Profit

c) Entry load

d) Exit load

26. A mutual fund with no entry or exit load is called____

a) Entry load fund

b) Exit load fund

c) Zero load fund

d) New load fund

27. In mutual funds, return on investment= ____

a) Capital gain - dividends

b) Dividends

c) Capital gain

d) Dividends + capital gain

28. Mr. Harshal purchased 1000 units of HDFC fund at Rs. 30000 on 1st February 2018. He sold all the units on 15th September 2018 at NAV Rs. 31.13. Net profit of Mr. Harshal is _____

a) 3113

b) 3000

c) 1130

d) 3011

29. Akash purchased some units in open end fund at Rs. 35 and its NAV after 15 months was Rs. 45. The absolute change in NAV is Rs.____

a) 150

b) 10

c) 100

d) 110

30. Surekha invested some amount in mutual fund scheme. The NAV on the purchase was Rs.141.85 with entry load of 2.25%. The purchase price per unit of fund is Rs. ____(up to two decimal places)

a) 145.04

b) 141.85

c) 138.66

d) 3.19

31. Atul sold some unites of mutual fund scheme. The NAV on the sale was Rs. 132.25 with exit load 0.5%. The selling price per unit of fund is Rs._____ (up to four decimal places)
    a) 130.5886
    b) 131.5886
    c) 132.9112
    d) 132.2525
32. If Total assets = 60 lakhs, Total liabilities = 6 lacks and number of units outstanding = 15000 then NAV = _____
    a) 400
    b) 40
    c) 360
    d) 440

33. Komal invested Rs. 5000 on 1st of every month for 5 months in a SIP of a Mutual Fund. There was no entry load charged. If the 613.82 number of units purchased, then the average price of units is _____
    a) 8.1457
    b) 40.73
    c) 1000
    d) 122.764

Module-II :LPP , Permutation and Combination

1. Feasible region is the set of points which satisfy
    a) The objective functions
    b) Some the given constraints
    c) All of the given constraints
    d) None of these
2. Objective function of a linear programming problem is
    a) a constraint
    b) function to be optimized
    c) A relation between the variables
    d) None of these
3. A set of values of decision variables which satisfies the linear constraints and non-negativity conditions of a L.P.P. is called its
    a) Unbounded solution
    b) Optimum solution
    c) Feasible solution
    d) None of these
4. The corner points of feasible region are A(0,4),B(3,2) and C(4,0) , The objective function is Maximise z = x+y, solution of LPP is
    a) x=0 ,y= 4
    b) x =3 , y = 2
    c) x = 4, y = 0
    d) x = 4, y=4

5. The decision variables in LPP are always ____.
    a) Negative
    b) Zero
    c) Positive
    d) Some positive and some negative

6. In the LPP the set of in equations stated as the conditions on the resources are termed as the --------------------.
    a) Objective function
    b) Mathematical formulation
    c) Constraints
    d) Feasible region

7. The region in which every point satisfy all the given inequalities is known as ____.
    a) Objective region
    b) Constraint region
    c) Feasible region
    d) None of above

8. A LPP has linear expression of variables which has to be maximizes/minimizes is called the _____.
    a) Inequalities
    b) Objective function
    c) Feasible solution
    d) Feasible region

9. The maximum value of Z = 11x + 8y, subject to x ≤ 4, y ≤ 6, x ≥ 0, y ≥ 0 is
    a) 44 at (4, 2)
    b) 60 at (4, 2)
    c) 62 at (4, 0)
    d) 48 at (4, 2)

10. The minimum value of z = 2x +y , subject to x≥ 3 , y ≥ 2, x≥0 , y ≥ 0 is
    a) 2
    b) 6
    c) 8
    d) 5

11. Region represented by x ≥ 0, y ≥ 0 is
    a) first quadrant
    b) second quadrant
    c) third quadrant
    d) fourth quadrant

12. _____ is mathematical technique to optimise the objective function subject to constraints.
    a) Feasible problem
    b) Linear programming problem
    c) Decision problem
    d) Non-negativity condition

13. For the constraints x+y ≤ 4, x + y ≥ 6 there exist _____.
    a) Feasible region
    b) No feasible region
    c) Solution
    d) None of above

14. How many different numbers of four digits can be formed with the digits 1,2,3,4,5,6 if the digits are repeated?
    a) 1296
    b) 360
    c) 21
    d) 720
    e) 45

15. How many different numbers of four digits can be formed with the digits 1,2,3,4,5,6 if the repetition of digits are not allowed?
    a) 720
    b) 360
    c) 1296
    d) 560

16. How many 3-digits even numbers can be formed from the digits 1, 2, 3, 4, 5, 6 if the digits can be repeated?
    a) 108
    b) 27
    c) 120
    d) 21

17. Six person including a couple are to be seated for a photograph in a row so that the couple is always together, the number of such arrangements are _____.
    a) 6!.2!
    b) 2!.5!
    c) 7!
    d) 8!

18. In how many ways can 5 boys and 3 girls be made to stand for a photograph?
    a) 5!
    b) 3!
    c) 8!
    d) 2!

19. The value of 8! /6! is ____.
    a) 48
    b) 56
    c) 24
    d) 42

20. How many words can be formed using all the letters of the word "COVID"?
    a) 20
    b) 120
    c) 240
    d) 24

21. In how many different ways can the letters of the word "FRIDAY" be arranged?
    a) 120
    b) 720
    c) 240
    d) 520

22. The value of $2 \times {}^7P_4$ is _____.
    a) 460
    b) 420
    c) 520
    d) 320

23. The value of $2 \times {}^7C_4$ is _____.
    a) 60
    b) 70
    c) 80
    d) 65

24. The value of ${}^nC_0$ is ___.
    a) *n*
    b) *0*
    c) *1*
    d) – 1

25. The value of ${}^nC_n$ is _____.
    a) 0
    b) 1
    c) n
    d) 2

26. There are 10 questions in question paper. In how many different ways can a students 7 questions from the paper?
    a) 320
    b) 120
    c) 220
    d) 70

27. A box contains 3 red and 4 blue balls. In how many ways one red and one blue balls can be selected?
    a) 3
    b) 4
    c) 7
    d) 12

28. There are 5 professors and 6 students. A committee of 5 persons is to be formed which includes 3 professors and 2 students. The number of possible committees are _____.
    a) ${}^5C_3 \times {}^6C_2$
    b) ${}^5C_2 \times {}^6C_3$
    c) ${}^5C_6 \times {}^6C_5$
    d) ${}^5C_1 \times {}^6C_3$

29. In how many possible a team of 11 players can be selected from the probable of 15 players?
   a) 1296
   b) 1365
   c) 1158
   d) 1368

30. If there are 5 members in family, numbers of different photographs of the family can be taken as _____.
   a) 5
   b) 25
   c) 120
   d) 24

31. There are 5 boys and 4 girls. In how many ways committee of 2 boys and one girl is formed?
   a) 40
   b) 20
   c) 22
   d) 18

32. A committee of two persons is to be selected from 10 persons of which there are 3 lawyers, 4 teachers and 3 doctors. Number of ways in which committee can be formed such that committee consist of 1 lawyer & 1 teacher.
   a) 17
   b) 12
   c) 10
   d) 7

33. $^n P_n$ is equal to _____.
   a) n!
   b) 1!
   c) 0!
   d) P !

34. The value of $^{10}P_3$ is _____.
   a) 30
   b) 480
   c) 720
   d) 120

35. The value of $^4P_4 + {}^5P_0$ is ____.
   a) 20
   b) 25
   c) 24
   d) 16

Module-III : Measures of central tendency

1. ____ is the sum of the values of all observation divided by total number of observations.
   a) A.M
   b) G.M
   c) Median
   d) Mode
2. _____ divides the distribution into two equal parts.
   a) Mean
   b) Median
   c) Mode
   d) Quartiles
3. The value which occurs most frequently is called _____.
   a) A.M
   b) G.M
   c) Median
   d) Mode
4. If the mean of 5,7,8,10 and x is 9, then the value of x is _____.
   a) 12
   b) 10
   c) 15
   d) 18
5. The median of 23,12,10,23,25 is _____.
   a) 12
   b) 23
   c) 10
   d) 3
6. The mean of 2,4,6,8,10 is _____.
   a) 30
   b) 6
   c) 8
   d) 10
7. The scores out of 50 of 9 students of a class are 49,45,37,43,42,40,49,41,29 is ____.
   a) 41
   b) 42
   c) 43
   d) 45
8. Median of the numbers 8,5,7,4,6,9 is _____.
   a) 6.5
   b) 5.5
   c) 6
   d) 5
9. Which of the following is not a measures of central tendency?
   a) Mean
   b) Median
   c) Q.D
   d) Mode
10. In continuous frequency distribution class mark of a class is 55 and upper limit is 57, then its lower limit is _____.

a) 52
b) 53
c) 54
d) 55

11. The mean of the numbers 12,10,15,13 is _____.
   a) 12
   b) 12.5
   c) 13
   d) 13.5

12. If the sum of 8 observation is 400, the Arithmetic Mean is _____.
   a) 40
   b) 50
   c) 60
   d) 55

13. The Arithmetic Mean is based on _____.
   a) All the values
   b) Some of the values
   c) Extreme values
   d) Middle values

14. For open end classes we cannot obtained the value of _____.
   a) Mean
   b) Median
   c) Mode
   d) Quartile

15. The A.M of some observation is 20 and the sum of all the observations is 240, number of observations are _____.
   a) 20
   b) 12
   c) 15
   d) 10

16. Which of the following is positional average _____.
   a) Mean
   b) Median
   c) Quartile
   d) Decile

17. The value of Mode can be located from _____.
   a) < c.f curve
   b) > c.f curve
   c) Histogram
   d) Line graph

18. Median of the values 25,32,18,20,40 is _____.
   a) 18
   b) 20
   c) 25
   d) 32

19. The marks obtained by Priya in 4 subjects are 52,60,40,56, the average marks are _____.
   a) 52

b) 60
c) 40
d) 56

20. Deciles divides distribution into _____ equal parts.
    a) 4
    b) 10
    c) 9
    d) 100

21. There are two groups of children having 50 an 70 children respectively. The average weights of the children in two groups are 30 kgs and 40 kgs. The combine mean is _____.
    a) 35
    b) 60
    c) 35.83
    d) 60.83

22. The mode of 9,5,10,5,9,6,8,9 is _____.
    a) 5
    b) 8
    c) 9
    d) 10

23. The median marks of 50 students in statistics are 58. It was afterwards found that marks of a students were wrongly considered as 86 instead of 68, the correct median would be _.
    a) 86
    b) 68
    c) 58
    d) 50

24. The median class is the class for which _____.
    a) Frequency is highest
    b) < c.f exceeds N/2
    c) > c.f exceeds N/2
    d) Frequency is lowest

25. The modal class is the class for which _____.
    a) Frequency is highest
    b) Less than c.f exceeds N/2
    c) More than c.f exceeds N/2
    d) Frequency is lowest

26. If N= 54 , L1=20, L2 = 30, f =12, < c.f = 27, the value of median is _____.
    a) 20
    b) 30
    c) 27
    d) 40

27. N= 60 , L1=25, L2 = 35, f =14, < c.f = 15, the value of Q1 is _____.
    a) 35
    b) 25
    c) 39
    d) 29

28. The less than cumulative frequencies can be obtained by _____.
    a) Adding frequencies

b) Adding frequencies from bottom to top
c) Adding frequencies from top to bottom
d) Subtracting frequency from total frequency

Module-III: Dispersion:

1. The mean and s.d of certain group of observation are 12 and 4.2 respectively, Coefficient of Variation is _____.
    a) 285.71
    b) 35
    c) 16.2
    d) 50.4
2. If n = 8, Maen of x = 13.25 and Σx^2 = 1524, S.D is _____.
    a) 3.86
    b) 2.86
    c) 14.94
    d) 14.55
3. The coefficient of variation of runs scored by batsman A and B are 3.39 and 4.63, which batsman to be selected for coming world cup?
    a) A
    b) B
    c) Both
    d) None of above
4. The suitable measure of dispersion to indicate extreme variation in the data is _____
    a) Mean deviation
    b) Quartile deviation
    c) Range
    d) Standard deviation
5. The measure of dispersion considers middle 50% of observations is _____
    a) Quartile deviation
    b) Range
    c) Mean deviation
    d) Standard deviation
6. If all values in set of 5 observations are identical then its standard deviation is _____
    a) 1
    b) 5
    c) 0
    d) 0.5
7. To compare two or more sets of variables with different units of measurement, the _____ measure of dispersion is best suited.
    a) Mean deviation
    b) Quartile deviation
    c) Standard deviation
    d) Coefficient of range
8. If the value of coefficient of variation is more, the consistency of the data is _____

a) **Less**
b) Same
c) More
d) More or equal

9. If mean and standard deviation of a group of 10 observations are 8 and 16 respectively, the coefficient of variation is____
   a) **200**
   b) 50
   c) 10.5
   d) 1.1428

10. The minimum and maximum values are 25 and 35, then coefficient of range is ___
    a) **0.1666**
    b) 1.2662
    c) 60
    d) 10

11. The highest value in a set of observations is 43.5 and coefficient of range is 0.2, then the lowest value in the set of observations is_____
    a) 43.3
    b) **29**
    c) 43
    d) 29.3

12. If the first and third quartiles are 40 and 55, the coefficient of quartile deviation is _____
    a) **0.1579**
    b) 1.375
    c) 137.5
    d) 0.7273

13. If the coefficient of Quartile Deviation and first quartile for a group of observations are 0.1613 and 34 respectively, then the third quartile is____
    a) 5.4842
    b) **47.08**
    c) 34.1613
    d) 210.79

14. If the coefficient of mean deviation and mean are 0.28571 and 10, then mean deviation is_
    a) 0.028571
    b) **2.8571**
    c) 285.71
    d) 28.571

15. If the mean and standard deviation of group of observations are 57.2 and 13.1970 respectively, then coefficient of variation is _____
    a) 4.3343
    b) 0.2307
    c) **23.0716**
    d) 70.397

16. If coefficient of variation for Group-I and Group-II are 22.183 and 7.6328 respectively, then ___group is more consistent.
    a) I
    b) II
    c) I and II
    d) Neither I nor II

17. If standard deviation and coefficient of variation of a distribution are 13.7568 and 2.0923, then mean is _____
    a) 657.4965
    b) 28.7834
    c) 6.5749
    d) 11.6645

Module-IV : Probability

1. Probability can be _____
   a) Greater than or equal to 10
   b) Greater than 1
   c) Less than 0
   d) Between 0 and 1

2. **Wh**en two dice are tossed, probability of getting six as uppermost face on both the dice is ___
   a) 1 /2
   b) 1 /6
   c) 1 /36
   d) 1 /3

3. If from a pack of 52 cards a card is drawn, the chances of getting a king is ___
   a) 1 /4
   b) 1 /52
   c) 1 /3
   d) 1 /13

4. A box contains 2 red marble balls, 3 white marble balls, 5 green marble balls. If 2 balls are drawn at random, the chances of getting both white is _____
   a) 2 /3
   b) 3/10
   c) 2 /10
   d) 3 /45

5. An occurrence of an outcome to any statistical experiment is called____
   a) Sample space
   b) Experiment
   c) Event
   d) Probability

6. A statistical experiment means _____
   a) Action which has reaction
   b) Action which has a certain outcome
   c) Action which has no outcome
   d) Action which has uncertain outcome

7. Two events are said to be mutually exclusive when_____
   a) Both of them occur together
   b) None of them occur
   c) Occurrence is uncertain
   d) Only one of them occurs

8. For a statistical experiment every possible outcome is called_____
   a) Sample
   b) Sample point
   c) Space
   d) Population

9. Two events are said to be exhaustive when _____
   a) Both of them occur together
   b) Occurrence of one avoids occurrence of other
   c) Occurrence or non-occurrence of one affect occurrence of other event
   d) Taken together constitute sample space

10. Two events are said to be independent if _____
    a) Occurrence of one prevents occurrence of other
    b) Occurrence or non- occurrence of one does not affect occurrence of other
    c) Both of them always occurs together
    d) Only one of them can occur at a time

11. Complementary events are_____
    a) Not mutually exclusive
    b) Independent
    c) Exhaustive
    d) Impossible events

12. An unbiased coin is tossed twice, if A denotes the event all tails then P(A)=_____
    a) 1 /4
    b) 1 /2
    c) 3 /4
    d) 4 /4

13. An unbiased coin is tossed twice, if A denotes the event all heads then P(A)=_____
    a) 1 /4
    b) 1 /2
    c) 3 /4
    d) 4 /4

14. If A and B are any two events associated with an experiment, then probability of occurrence of both A and B simultaneously is given by _____
    a) P(AUB)
    b) **P(A∩B)**
    c) P(A /B)
    d) P(B /A)

15. If A and B are any two events associated with an experiment, then probability of occurrence of event A or B or both A and B is expressed as _____
    a) **P(AUB)**
    b) P(A∩B)
    c) P(Aᶜ∩B)
    d) P(A∩Bᶜ)

16. If P(A) = 1/4 and P(B) = 1/3 and A and B are independent events then P(A ∩ B) is __.
    a) 1/4
    b) 1/3
    c) **1/12**
    d) 2/7

17. If P(A) = 2/7 then P($\bar{A}$) is ___.
    a) 2/9
    b) **5/7**
    c) 7/9
    d) 7/5

18. For the following probability distribution

X	1	2	3	4
P(X)	1 /5	2 /5	--	1 /5

    P(3) is_____
    a) 4 /5
    b) 3 /5
    c) 2 /5
    d) **1 /5**

19. For a variable x assuming values 0,1 and 2 the probability distribution _____
    a) P(0)= 0, P(1)= 1 /2, P(2)= 1 /3
    b) P(0)= 0, P(1)= 1, P(2)= 2
    c) **P(0)= 1 /3, P(1)= 1 /3, P(2)= 1/3**
    d) P(0)= 1 /0, P(1)= 1 /1, P(2)= 1 /2

20. A variable x can assume values 10 and 50 with probability 3 /4 and 1 /4 respectively then expected value of variable is_____
    a) **20***
    b) 30
    c) 40
    d) 50

21. A bag contains 3 copper coins and 7 silver coins. If a coin is drawn, then the chance to get a silver coin is _____
    a) 7 /3
    b) 3 /7
    c) 7 /10
    d) 3 /10

22. A box contains 2 red balls, 3 white balls, 5 green balls. If 2 red balls are drawn at random, then probability to get 2red balls is_____
    a) 1 /45
    b) 2 /45
    c) 3 /45
    d) 4 /45

23. If the probability distribution of X is,
    P(X) = 1 /16 ; X= -1,3
          =5 /8   ; X= 0
          =1 /4   ; X= 4
    Then P(X>2) is____
    a) 1/ 4
    b) 5 /8
    c) 1 /16
    d) 5 /16

24. If the following frequency distribution is known

X	1	2	3	4
P(x)	0.2	0.3	0.4	0.1

    Then P(X< 3) is equal to ____
    a) 0.9
    b) 0.3
    c) 0.5
    d) 0.4

25. If X is a number appearing on the uppermost face of a fair dice, the expected value of X is_____
    a) 3 /2
    b) 5 /2
    c) 7/2
    d) 9 /2

26. If E(X)=2 and E(X²) = 5.4 then V(X)= _____
    a) 3.4
    b) 1.4
    c) 7.4
    d) 2.4

27. If E(X) = 2.3 and E(X²) = 7.5 then V(X)= ____
    a) 2.21
    b) 2.5
    c) 9.8
    d) 5.2

28. Following is the probability distribution of number of smart phones sold in a shop per day

No. of smart phones	0	1	2	3	4	5
Probability	k	0.3	0.15	0.15	0.1	2k

The Value of K is ____.
   a) 0.1
   b) 0.2
   c) 0.15
   d) 0.3

Module-V: Decision Theory:

1. An analytic and systematic approach to the study of decision making is referred to as _____
   a) Decision making under risk.
   b) Decision making under uncertainty.
   c) Decision theory.
   d) Decision analysis.
2. The sequence of possible managerial decisions and their expected outcome under each set of circumstances can be represented and analyzed by using___.
   a) Minimax regret criterion.
   b) Decision tree
   c) Payoff matrix
   d) Simulation
3. The different alternative available to the decision maker is called _____.
   a) Payoff
   b) States of nature
   c) Courses of Action
   d) Opportunity loss
4. The amount corresponding to specific course of action and state of nature is _____.
   a) Expected profit
   b) Expected loss
   c) Payoff
   d) None of above
5. The events or situation which is beyond control of decision maker is _____.
   a) Payoff
   b) Course of action
   c) Pay-off table
   d) States of nature
6. **The dif**ference between payoff and the best payoff of states of nature is termed as _____.
   a) Payoff
   b) Opportunity loss
   c) Action
   d) EMV

7. Decision maker have optimistic approach in _____ criterion.
   a) Maximin
   b) Maximax
   c) Minimax
   d) Laplace
8. EOL stands for
   a) Expected Online Loss
   b) Expected Other Loss
   c) Expected Opportunity Loss
   d) Expected Off Loss
9. In Minimax Regret Criterion decision maker select course of action which ____.
   a) Maximises the minimum regret
   b) Minimises the minimum regret
   c) Minimises the maximum regret
   d) Maximises the maximum regret
10. EMV stands for
   a) Expected Mathematics Value
   b) Expected Monetary Value
   c) Expected Maximum Value
   d) Expected Minimum Value
11. EMV is also known as
   a) Expected pay-off
   b) Minimum pay-off
   c) Expected Loss
   d) Pay-off
12. If payoff of A1S1 = 25, Payoff of A1S2 =35 and P(S1)=0.4, P(S2)=0.6. EMV(A1) is ____.
   a) 21
   b) 31
   c) 10
   d) 25
13. A decision node in decision tree is represented by _____.
   a) Circle
   b) Triangle
   c) Square
   d) Rectangle
14. The optimum decision is one for which _____.
   a) EOL is maximum
   b) EOL is minimum
   c) EMV is minimum
   d) None of above
15. The states of nature in decision tree is represented by ___.
   a) Circle
   b) Triangle
   c) Square
   d) Rectangle

16. If EMV(A1)=420, EMV(A2) = 500, EMV(A3) = 436, the best decision is ____.
    a) A1
    b) A2
    c) A3
    d) None of above
17. If EOL(A1)=6.5 , EOL(A2)=5, EOL(A3)=8.4, the best decision is ____.
    a) A1
    b) A2
    c) A3
    d) None of above
18. If payoff of A1S1 = 300, Payoff of A1S2 =300 , Payoff of A3S3 =300 and P(S1)=0.4, P(S2)=0.3, P(S3) = 0.3 EMV(A1) is ____.
    a) 900
    b) 600
    c) 300
    d) 0
19. If the decision problem is represented by decision tree, Which of the following criterion is used to decide best course of action.
    a) EOL
    b) MaxiMax
    c) Maximin
    d) EMV
20. Which of the following is not decision making criterion.
    a) Decision making under risk.
    b) Decision making under uncertainty.
    c) Decision under control.
    d) Decision making under certainty.
21. If the cost price and selling price of a product are Rs. 40 and Rs. 70, the payoff if the stock is 12 and demand is 12 is _____.
    a) 40
    b) 360
    c) 280
    d) 144
22. If the cost price and selling price of a product are Rs. 50 and Rs.150, the payoff if the stock is 10 and demand is 12 is _____.
    a) 200
    b) 900
    c) 1000
    d) 1500
23. The minimum payoff of the course of action A1, A2 and A3 are 45,50,62. The best decision by Maximin criterion is _____.
    a) A1
    b) A2
    c) A3
    d) A1 and A3

24. The opportunity loss table is obtained by _____.
    a) Adding maximum payoff to each payoff of the event
    b) Subtracting payoff from the best payoff of course of action
    c) subtracting payoff from best payoff of each of the event
    d) Adding minimum payoff to each payoff of the event

25. If payoff of A1S1 = 20, Payoff of A1S2 =18 , Payoff of A3S3 =10 and P(S1)=0.35, P(S2)=0.3, P(S3) = 0.35 then EMV(A1) is _____.
    a) 15.9
    b) 20.35
    c) 18.3
    d) 10.35

26. A decision problem can be presented by _____.
    a) Histogram
    b) Bar
    c) Decision tree
    d) Decision free

27. If the opportunity loss of A1S1 =35 , A1S2 =30 and A3S3 =0 and P(S1)=0.35, P(S2)=0.45, P(S3) = 0.2 , EOL(A1) is _____.
    a) 25.75
    b) 30.35
    c) 65
    d) 26.75

28. If EOL(A1)= 47.2 , EOL(A2)= 65.5, EOL(A3)=26.8 and EOL(A4) = 54 the best decision is _____.
    a) A1
    b) A2
    c) A3
    d) A4

29. The average payoff by Laplace criterion for course of actions A1,A2,A3 and A4 are 56.25,61.25,72.5 and 60.0, the optimal decision is to select _____.
    a) A1
    b) A2
    c) A3
    d) A4

30. Laplace criterion of Decision making is based on the ------------- payoff.
    a) Maximum
    b) Minimum
    c) Average
    d) Moderate

31. _____ criterion is the sign of pessimistic approach to the Decision problem.
    a) EOL
    b) MaxiMax
    c) Maximin
    d) EMV

32. The decision maker with optimistic approach always prefers _____ criterion of Decision making.
   a) EOL
   b) MaxiMax
   c) Maximin
   d) EMV

33. Under the Laplace criterion the best decision is with _____ Average pay-off.
   a) Minimum
   b) Maximum
   c) EOL
   d) EMV

34. Decision making when probability values of States of nature are given is also called, Decision under _____.
   a) Certainty
   b) Uncertainty
   c) Risk
   d) Conflict

35. Decision making when probabilities of States of nature are not given is also called, Decision under ---------
   a) Certainty
   b) Uncertainty
   c) Risk
   d) Conflict

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