ST. LAWRENCE HIGH SCHOOL

27, BALLYGUNGE CIRCULAR ROAD

Class : 11 **Subject : STATISTICS** **Term : 2nd Term** **Max Marks : 80**

Q 1 : Find the maximum value of $24x-8-9x^2$ for real x **Marks :** 1

1 . 6

2 . 8 (This Answer is Correct)

3 . 9

4 . 4

Q 2 : Find the minimum value of $x^2-12x+40$ for real x **Marks :** 1

1 . 4 (This Answer is Correct)

2 . 6

3 . 8

4 . 12

Q 3 : If a> b> 0 and x <0 then a^x **Marks :** 1

1 . $a^x > b^x$

2 . $a^x = b^x$

3 . $a^x < b^x$ (This Answer is Correct)

4 . none of these

Q 4 : If 0< a <1 and x>y>0 then **Marks :** 1

1 . $a^x = b^x$

2 . $a^x > b^x$

3 . $a^x < b^x$ (This Answer is Correct)

4 . none of these

Q 5 : Find the remainder when $x^3 + 5x^2 +3x +2$ is divided by x-1 **Marks :** 1

1 . 13

2 . 7

3 . 8

4 . 11 (This Answer is Correct)

Q 6 : Find the remainder when $x^4 + 2x^3 - 13x^2 - 14x + 24$ is divided by $x+4$ **Marks :** 1

1 . 0 (This Answer is Correct)

2 . 1

3 . 4

4 . 7

Q 7 : Find the remainder when $4x^3 + 4x^2 - x - 1$ is divided by $2x+1$ **Marks :** 1

1 . 4

2 . 5

3 . 8

4 . 0 (This Answer is Correct)

Q 8 : Suppose each value of variable x lies between p and q, both values inclusive. Then **Marks :** 1

1 . $q \leq$ mean of $x \leq p$

2 . $p <$ mean of $x < q$

3 . $p >$ mean of $> q$

4 . $p \leq$ mean of $x \leq q$ (This Answer is Correct)

Q 9 : The number of observations are 30 and the value of arithmetic mean is 15 then sum of all the values is **Marks :** 1

1 . 450 (This Answer is Correct)

2 . 400

3 . 350

4 . 300

Q 10 : In arithmetic mean the sum of deviations of all the recorded observations must always be **Marks :** 1

1 . 1

2 . (-1)

3 . 2

4 . 0 (This Answer is Correct)

Q 11 : The arithmetic mean is 25 and the sum of all observations is 350 then the number of observations are **Marks :** 1

1 . 14

2 . 10

3 . 15 (This Answer is Correct)

4 . none of these

Q 12 : The arithmetic mean of a set of 10 number is 20. If each number is first multiplied by 2 and then increased by 5 , then what is the mean of new number? **Marks :** 1

1 . 40

2 . 45 (This Answer is Correct)

3 . 50

4 . 20

Q 13 : Sum of mode and median of the data 12 , 15 , 11, 13 , 18, 11, 13, 12 ,13 is **Marks :** 1

1 . 31

2 . 36

3 . 25

4 . 26 (This Answer is Correct)

Q 14 : The arithmetic mean of first 10 whole numbers is **Marks :** 1

1 . 4.5 (This Answer is Correct)

2 . 4

3 . 5

4 . none of these

Q 15 : If the relation between 2 variables x and y is 2x + 3y=7 and the mode of y is 2, find the mode of x **Marks :** 1

1 . 1.5

2 . 2.5

3 . 0.5 (This Answer is Correct)

4 . none of these

Q 16 : Two variables x and u are related as x=1.5 u +2.5 and u has median 20, calculate the median x **Marks :** 1

1 . 32.5 (This Answer is Correct)

2 . 32

3 . 35.5

4 . none of these

Q 17 : P(A/B)= 1/3 , P(B)= 1/4 and P(A)= 1/2.find the probability that exactly one of the events occur. **Marks :** 1

1 . (5/12)

2 . (7/12) (This Answer is Correct)

3 . (8/12)

4 . none of these

Q 18 : If 2 unbiased dice are thrown , find the probability that sum of the numbers of dots on the topmost face of the dice is a prime number? **Marks :** 1

1 . (5/12) (This Answer is Correct)

2 . (7/12)

3 . (5/24)

4 . none of these

Q 19 : If 2 unbiased dice are thrown , find the probability that sum of the numbers of dots on the topmost face of the dice is a perfect square? **Marks :** 1

1 . (5/36)

2 . (8/36)

3 . (4/36)

4 . (7/36) (This Answer is Correct)

Q 20 : If 2 unbiased dice are thrown , find the probability that sum of the numbers of dots on the topmost face of the dice is divisible by 5? **Marks :** 1

1 . (7/36) (This Answer is Correct)

2 . (5/36)

3 . (8/36)

4 . none of these

Q 21 : If 2 unbiased dice are thrown , find the probability that sum of the numbers of dots on the topmost face of the dice is neither 6 nor 10? **Marks :** 1

1 . (7/8)

2 . (7/15)

3 . (7/9) (This Answer is Correct)

4 . none of these

Q 22 : If P(A)= 1/3 , P(B)=1/2 and P(AUB)=7/12.Find P(A/B) **Marks :** 1

1 . (1/3)

2 . (1/2) (This Answer is Correct)

3 . (1/5)

4 . none of these

Q 23 : If P(A)= 1/3 , P(B)=1/2 and P(AUB)=7/12.Find P(B/A) **Marks :** 1

1 . (3/4) (This Answer is Correct)

2 . (1/4)

3 . (4/7)

4 . none of these

Q 24 : If a fair coin is tossed , find the probability that there are at most one tail. **Marks :** 1

1 . (1/3)

2 . (1/2) (This Answer is Correct)

3 . (2/5)

4 . none of these

Q 25 : If a fair coin is tossed , find the probability that there is atleast one head. **Marks :** 1

1 . (1/4)

2 . (5/9)

3 . (7/8) (This Answer is Correct)

4 . none of these

Q 26 : If two dice are rolled find the probability that the sum is less than 13 **Marks :** 1

1 . 0

2 . 1 (This Answer is Correct)

3 . 0-Jan

4 . none of these

Q 27 : A card is drawn from a full pack of cards. Find the probability of getting an ace? **Marks :** 1

1 . (1/13) (This Answer is Correct)

2 . (1/26)

3 . (3/52)

4 . none of these

Q 28 : A jar contains 3 red marbles, 7 green marbles and 10 white marbles. If a marble is drawn from the jar at random. What is the probability that the marble is white? **Marks :** 1

1 . (1/4)

2 . (1/2) (This Answer is Correct)

3 . (3/7)

4 . none of these

Q 29 : For a set of positive quantities we have **Marks :** 1

1 . A.M=GM=HM

(This Answer is Correct)

2 . AM≥ GM≥ HM

3 . AM≤ GM≤HM

4 . none of these

Q 30 : If a,b,c and x,y ,z are positive quantities then which one is correct? **Marks :** 1

1 . 1/3(a/x + b/y+c/z)≥ (a/x .b/y .c/z)^⅓

(This Answer is Correct)

2 . 1/3(a/x + b/y+c/z)= (a/x .b/y .c/z)^⅓

3 . 1/3(a/x + b/y+c/z)≤ (a/x .b/y .c/z)^⅓

4 . none of these

Q 31 : Find out the Fermat number when n=2 **Marks :** 1

1 . 5

2 . 3

3 . 17

(This Answer is Correct)

4 . none of these

Q 32 : With exception of F_o and F_1 ,the last digit of fermat number is always **Marks :** 1

1 . 5

2 . 3

3 . 9

4 . 7

(This Answer is Correct)

Q 33 : Which of the folowing is not correct? **Marks :** 1

1 . 58Ξ20 (mod 19)

2 . 5Ξ-2 (mod 4)

(This Answer is Correct)

3 . 5Ξ-3(mod 4)

4 . 3Ξ-11 (mod 7)

Q 34 : Greatest common divisor (na,nb)= _____ **Marks :** 1

1 . n. gcd (a,b)

(This Answer is Correct)

2 . 1/n [gcd (a,b)]

3 . both 1 and 2

4 . none of these

Q 35 : Greatest common divisor (a/n,b/n)=_____ **Marks :** 1

1 . n. gcd (a,b)

2 . 1/n [gcd (a,b)] (This Answer is Correct)

3 . both 1 and 2

4 . none of these

Q 36 : one of the merits of diagramatic representation is **Marks :** 1

1 . diagram fails to represent details

2 . it is capable of creating lasting impression (This Answer is Correct)

3 . only limited information can be presented

4 . none of these

Q 37 : Brief statement of the contents of the table is known as **Marks :** 1

1 . stub

2 . caption

3 . title (This Answer is Correct)

4 . none of these

Q 38 : One of the demerits of tabular representation is **Marks :** 1

1 . it fails to create lasting impression (This Answer is Correct)

2 . the numerical data can be presented accurately

3 . errors and omissions can be easily detected

4 . none of these

Q 39 : The main component of the table is known as **Marks :** 1

1 . caption

2 . stub

3 . title

4 . body (This Answer is Correct)

Q 40 : Class width is **Marks :** 1

1 . difference between upper and lower boundary (This Answer is Correct)

2 . class frequency / class size

3 . class frequency / total frequency

4 . none of these

Q 41 : Class mark is **Marks :** 1

1 . class frequency / total frequency

2 . class frequency / class size

3 . 1/2(upper boundary+lower boundary) (This Answer is Correct)

4 . none of these

Q 42 : What are limitations of statistics? **Marks :** 1

1 . statistics mainly deals with quantitative data

2 . the ideas of statistics are usually not concerned with individual items

3 . statistical laws are true only on average

4 . all of the above (This Answer is Correct)

Q 43 : which type of data are original in nature and can be used with greater confidence? **Marks :** 1

1 . primary data (This Answer is Correct)

2 . secondary data

3 . continuous data

4 . none of these

Q 44 : When values of a variable are recorded for different point or interval of time for an individual or a population,then it is known as **Marks :** 1

1 . spatial series data

2 . frequency data

3 . time series data (This Answer is Correct)

4 . none of these

Q 45 : Qualitative character that can not be expressed numerically is known as **Marks :** 1

1 . variable

2 . quantitative data

3 . attribute (This Answer is Correct)

4 . none of these

Q 46 : An example of attribute is **Marks :** 1

1 . salary of a person

2 . mother tongue of people (This Answer is Correct)

3 . height of different students

4 . none of these

Q 47 : Family size is an example of **Marks :** 1

1 . discrete data (This Answer is Correct)

2 . ordinal data

3 . continuous data

4 . none of these

Q 48 : Religions of people is an example of **Marks :** 1

1 . nominal data (This Answer is Correct)

2 . ordinal data

3 . discreata data

4 . none of these

Q 49 : Height of people is example of **Marks :** 1

1 . discrete data

2 . nominal data

3 . ordinal data

4 . continuous data (This Answer is Correct)

Q 50 : Grades obtained by students is example of **Marks :** 1

1 . discrete variable

2 . continuous variable

3 . attribute (This Answer is Correct)

4 . none of these

Q 51 : one of the characteristics of good questionnaire is **Marks :** 1

1 . questions should be relevant to the subject

2 . questions should not be dubious in meaning

3 . questions which may hurt the sentiment should be avoided

4 . all of the above (This Answer is Correct)

Q 52 : conducting a small scale survey before the main survey is known as **Marks :** 1

1 . schedule

2 . pilot survey (This Answer is Correct)

3 . interview method

4 . none of these

Q 53 : one of the disadvantages of interview method is **Marks :** 1

1 . It is a time consuming method

2 . this method is highly expensive

3 . both (1) and (2) (This Answer is Correct)

4 . none of these

Q 54 : one of the advantages of mail questionnaire method is **Marks :** 1

1 . It is not a costly method

2 . it is not a time consuming method

3 . both (1) and (2) (This Answer is Correct)

4 . none of these

Q 55 : One of the disadvantages of mail questuionnaire method is **Marks :** 1

1 . this method is costly

2 . this method is applicable only for people who have enough education (This Answer is Correct)

3 . both (1) and (2)

4 . none of these

Q 56 : One of the advantages direct personal observation method **Marks :** 1

1 . it is possible to collect genuine information (This Answer is Correct)

2 . it is not time consuming

3 . it is not an expensive method

4 . none of these

Q 57 : State one merit of interview method **Marks :** 1

1 . It is not a costly method

2 . it is not a time consuming method

3 . it can be used even if the informants are illiterate (This Answer is Correct)

4 . none of these

Q 58 : One disadvantage of direct personal obsrvation is **Marks :** 1

1 . It is not an expensive method

2 . It is not possible to collect genuine information

3 . This procedure is not appropiate for a large area (This Answer is Correct)

4 . none of these

Q 59 : If x= 3y -20 , then find mean of x if mean of y is 35 **Marks :** 1

1 . 95

2 . 85 (This Answer is Correct)

3 . 105

4 . 75

Q 60 : Mode depends on change of **Marks :** 1

1 . origin only

2 . scale only

3 . both (1) and (2) (This Answer is Correct)

4 . neither origin and nor scale

Q 61 : The geometric mean of the observations 5,1 ,0 ,2 and 4 is **Marks :** 1

1 . 2

2 . 1

3 . 6

4 . 0 (This Answer is Correct)

Q 62 : According to theorem of total probability if A_1, A_2…...are mutually exclusive events. Then $P(A_1 U A_2 U…....)$ is equal to **Marks :** 1

1 . $P(A_1) + P(A_2)+….$ (This Answer is Correct)

2 . $P(A_1) \times P(A_2) x....$

3 . $P(A_1) - P(A_2)-$

4 . none of these

Q 63 : The probability of an impossible event is **Marks :** 1

1 . 0 (This Answer is Correct)

2 . 1

3 . 0.5

4 . none of these

Q 64 : Composite events **Marks :** 1

1 . can not be decomposed into elementary events

2 . can be decomposed into elementary events (This Answer is Correct)

3 . are equally probable

4 . none of these

Q 65 : Several events are said to be _____if at least one of them necessarily occurs whenever the random experiment is performed **Marks :** 1

1 . exhaustive (This Answer is Correct)

2 . mutually exclusive

3 . equally probable

4 . none of these

Q 66 : several events are said to be _____when no two events of them can occur simultaneously **Marks :** 1

1 . exhaustive

2 . mutually exclusive (This Answer is Correct)

3 . equally probable

4 . none of these

Q 67 : Probability that 2 heads are obtained when 2 coins are tossed is _____. **Marks :** 1

1 . (1/5)

2 . (1/3)

3 . (1/2)

4 . (1/4) (This Answer is Correct)

Q 68 : Which of these numbers can not be a probability? **Marks :** 1

1 . -0.0001

2 . 0.5

3 . 1.001

4 . both (1) and (3) (This Answer is Correct)

Q 69 : The mean of 25 obsrvation is 36. The mean of first 13 observations is 32 and that of last 13 observatios is 39. What is the value of 13th observaion? **Marks :** 1

1 . 23 (This Answer is Correct)

2 . 25

3 . 20

4 . 24

Q 70 : An elevator has 6 persons and stops at 8 floors of a building . What is the probability that no 2 persons can get down at the same floor? **Marks :** 1

1 . 4096/315

2 . 315/4096 (This Answer is Correct)

3 . 314/4096

4 . none of these

Q 71 : A club consisting of 15 married couples chooses a president and then a secretary by random selection.what is the probability that both are men? **Marks :** 1

1 . (7/29) (This Answer is Correct)

2 . (5/29)

3 . (6/29)

4 . none of these

Q 72 : A box contains 7 white and 5 black balls. 3 balls are drawn at random. Find the probability that they are not of same colour when the balls are drawn one by one without replacement? **Marks :** 1

1 . 31/44

2 . 37/44

3 . 35/44 (This Answer is Correct)

4 . none of these

Q 73 : A box contains 7 white and 5 black balls. 3 balls are drawn at random. Find the probability that they are not of same colour when the balls are drawn one by one with replacement? **Marks :** 1

1 . 31/48

2 . 35/48 (This Answer is Correct)

3 . 33/48

4 . none of these

Q 74 : If the letters of the word INDEPENDENT are arranged at random . What is the probability that N's appear together? **Marks :** 1

1 . (3/55) (This Answer is Correct)

2 . (4/55)

3 . (7/55)

4 . none of these

Q 75 : If the letters of the word INDEPENDENT are arranged at random . What is the probability that N's appear together and D's appear together? **Marks :** 1

1 . (1/165)

2 . (2/165) (This Answer is Correct)

3 . (4/165)

4 . none of these

Q 76 : If P(A)= 1/3 , P(B)= 1/2 , P(AUB)= 7/12.Find P(B^c/ A^c) **Marks :** 1

1 . (3/4)

2 . (5/8) ☑ (This Answer is Correct)

3 . (1/2)

4 . none of these

Q 77 : 3 cards are drawn at random from a full pack of cards . Find the probability that at least one of them is queen. **Marks :** 1

1 . 0.314

2 . 1.217

3 . 0.417

4 . 0.217 ☑ (This Answer is Correct)

Q 78 : If letters of the word MOTHER are arranged at random, then find the probability that vowels will be next to each other **Marks :** 1

1 . (1/4)

2 . (2/5)

3 . (1/3) ☑ (This Answer is Correct)

4 . none of these

Q 79 : 2 unbised dice is rolled.Find out the probability of obtaining a total of 8 points . **Marks :** 1

1 . (5/36) ☑ (This Answer is Correct)

2 . (1/36)

3 . (7/36)

4 . none of these

Q 80 : 2 unbised dice is rolled.Find out the probability of obtaining at least one ace. **Marks :** 1

1 . (2/9)

2 . (3/8)

3 . (11/36) ☑ (This Answer is Correct)

4 . none of these
