National Testing Agency

Question Paper Name :	Foundations of Mathematical Statistics 28th August 2021 Shift2
Subject Name :	Foundations of Mathematical Statistics
Creation Date :	2021-08-29 11:19:06
Duration :	180
Total Marks :	100
Display Marks:	Yes

Foundations of Mathematical Statistics

Group Number :	1
Group Id :	94091847
Group Maximum Duration :	0
Group Minimum Duration :	120
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	100
Is this Group for Examiner? :	No

Foundations of Mathematical Statistics-1

Section Id :	94091875
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory

Number of Questions :	100
Number of Questions to be attempted :	100
Section Marks :	100
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Sub-Section Number :	1
Sub-Section Id :	940918118
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 9409182920 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Which of the following is a method of collecting secondary data?

1. Direct personal investigation
2. Sending questionnaires
3. Indirect personal investigation
4. Making use of office records

Options :

94091810645. 1

94091810646. 2

94091810647. 3

94091810648. 4

Question Number : 2 Question Id : 9409182921 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Diagrams which involves shapes like rectangles, squares, circles, cubes, sphere etc. are called

1. None
2. Line graphs
3. Geometric graphs
4. pictographs

Options :

94091810649. 1

94091810650. 2

94091810651. 3

94091810652. 4

Question Number : 3 Question Id : 9409182922 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

The arrangement of data in rows and columns is called

1. Frequency distribution
2. Cumulative frequency distribution
3. Tabulation
4. Classification

Options :

94091810653. 1

94091810654. 2

94091810655. 3

94091810656. 4

Question Number : 4 Question Id : 9409182923 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Which of the following is a graphic representation of data

1. Simple bar diagram
2. Pie diagram
3. Both
4. None

Options :

94091810657. 1

94091810658. 2

94091810659. 3

94091810660. 4

Question Number : 5 Question Id : 9409182924 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

In a tabular presentation, the summary and presentation of data with different non-overlapping classes are defined as

1. Frequency distribution
2. Chronological distribution
3. Ordinal distribution
4. Nominal distribution

Options :

94091810661. 1

94091810662. 2

94091810663. 3

94091810664. 4

Question Number : 6 Question Id : 9409182925 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

____ refers to the method or process of presenting data in the form of rows and columns and ___ refers to the actual presentation of data on the form of rows and columns

1. tabulation, graph
2. table, tabulation
3. tabulation,table
4. graph, table

Options :

94091810665. 1

94091810666. 2

94091810667. 3

94091810668. 4

Question Number : 7 Question Id : 9409182926 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Which of the following is one dimensional diagram?

1. Cylinder
2. Bar diagram
3. Histogram
4. Pie diagram

Options :

94091810669. 1

94091810670. 2

94091810671. 3

94091810672. 4

Question Number : 8 Question Id : 9409182927 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

X- Coordinate of the point of intersection of ogive curves is the ----- of the data.

1. Mean
2. Median
3. Mode
4. Variance

Options :

94091810673. 1

94091810674. 2

94091810675. 3

94091810676. 4

Question Number : 9 Question Id : 9409182928 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Pie chart is

1. Any form of pictorial representation of data
2. Diagram with no dimension
3. A circle broken down into component sub-divisions
4. None

Options :

94091810677. 1

94091810678. 2

94091810679. 3

94091810680. 4

Question Number : 10 Question Id : 9409182929 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

A graphical representation of frequency distribution is called a

1. Histogram
2. Scatter diagram
3. Time series graph
4. frequency

Options :

94091810681. 1

94091810682. 2

94091810683. 3

94091810684. 4

Question Number : 11 Question Id : 9409182930 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

A distribution is positively skewed if Mean , Median , Mode are

1. equal
2. mean < median < mode
3. mean > median > mode
4. zeroes

Options :

94091810685. 1

94091810686. 2

94091810687. 3

94091810688. 4

Question Number : 12 Question Id : 9409182931 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

The _____ is that value obtained by summing all elements in a set and dividing by the number of elements.

1. Maxima
2. Median
3. Mean
4. Mode

Options :

94091810689. 1

94091810690. 2

94091810691. 3

94091810692. 4

Question Number : 13 Question Id : 9409182932 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Arithmetic mean of 20 observations is calculated as 12. Later on, it is found that an observation 46 was misread as 26. The corrected arithmetic mean is ....

1. 11
2. 12
3. 13
4. 14

Options :

94091810693. 1

94091810694. 2

94091810695. 3

94091810696. 4

Question Number : 14 Question Id : 9409182933 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

In case of symmetrical distribution, mean, median and mode are

1. same
2. having different values with equal interval
3. having different values with unequal interval
4. not identifiable

Options :

94091810697. 1

94091810698. 2

94091810699. 3

94091810700. 4

Question Number : 15 Question Id : 9409182934 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

According to the text, which of the following represents the highest peak of the distribution?

1. Median
2. Mean
3. Mode
4. Maxima

Options :

94091810701. 1

94091810702. 2

94091810703. 3

94091810704. 4

Question Number : 16 Question Id : 9409182935 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

The mean of 11 numbers is 7. One of the numbers, 13, is deleted. What is the mean of the remaining 10 numbers?

1. 5.8
2. 6
3. 6.4
4. 7.7

Options :

94091810705. 1

94091810706. 2

94091810707. 3

94091810708. 4

Question Number : 17 Question Id : 9409182936 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

A measure of central tendency, given as the value above which half of the values fall and below which half of the values fall is the _____.

1. Maxima
2. Mode
3. Median
4. Mean

Options :

94091810709. 1

94091810710. 2

94091810711. 3

94091810712. 4

Question Number : 18 Question Id : 9409182937 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

The mean of ten numbers is 58. If one of the numbers is 40, what is the mean of the other nine?

1. 540
2. 60
3. 18
4. 162

Options :

94091810713. 1

94091810714. 2

94091810715. 3

94091810716. 4

Question Number : 19 Question Id : 9409182938 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Extreme value have no effect on

1. Average
2. Median
3. Geometric mean
4. Harmonic mean

Options :

94091810717. 1

94091810718. 2

94091810719. 3

94091810720. 4

Question Number : 20 Question Id : 9409182939 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

The number of partition values in case of quartiles is

1. 4
2. 3
3. 2
4. 1

Options :

94091810721. 1

94091810722. 2

94091810723. 3

94091810724. 4

Question Number : 21 Question Id : 9409182940 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Graphically partition values can be determined with the help of

1. Frequency polygon
2. Bar diagram
3. Line diagram
4. Ogive curve

Options :

94091810725. 1

94091810726. 2

94091810727. 3

94091810728. 4

Question Number : 22 Question Id : 9409182941 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

According to percentiles values, the median is ---------- percentile value.

1. 80th
2. 40th
3. 50th
4. 100th

Options :

94091810729. 1

94091810730. 2

94091810731. 3

94091810732. 4

Question Number : 23 Question Id : 9409182942 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

For a set of data, the 3rd quartile is .....

1. 7thdecile
2. 75th percentile
3. 25th percentile
4. 3rddecile

Options :

94091810733. 1

94091810734. 2

94091810735. 3

94091810736. 4

Question Number : 24 Question Id : 9409182943 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Standard deviation is ---------

1. A measure of central tendency
2. Always non-negative
3. Square of variance
4. Same to mean deviation about mean

Options :

94091810737. 1

94091810738. 2

94091810739. 3

94091810740. 4

Question Number : 25 Question Id : 9409182944 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

The numerical value of the standard deviation can never be

1. One
2. Zero
3. Negative
4. Larger than variance

Options :

94091810741. 1

94091810742. 2

94091810743. 3

94091810744. 4

Question Number : 26 Question Id : 9409182945 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Calculate mean deviation from median and its coefficient from the following data : 100, 150, 80, 90, 160, 200, 140

1. 34.28
2. 32.14
3. 33.65
4. 35.74

Options :

94091810745. 1

94091810746. 2

94091810747. 3

94091810748. 4

Question Number : 27 Question Id : 9409182946 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Absolute measures of dispersion are

1. Expressed in terms of original unit of series
2. Expressed in ratios or percentage, also known as coefficients of dispersion
3. Both
4. None

Options :

94091810749. 1

94091810750. 2

94091810751. 3

94091810752. 4

Question Number : 28 Question Id : 9409182947 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

What would happen to the variance of a data set if we multiply every observation by 5?

1. Variance is multiplied by 5
2. Variance is multiplied by 25
3. Variance is divided by 5
4. Variance is divided by 25

Options :

94091810753. 1

94091810754. 2

94091810755. 3

94091810756. 4

Question Number : 29 Question Id : 9409182948 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Find the range of the group of numbers -10, -8, 1, 11, 19.

1. 29
2. 22
3. 24
4. 25

Options :

94091810757. 1

94091810758. 2

94091810759. 3

94091810760. 4

Question Number : 30 Question Id : 9409182949 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Which of the following is a unit less measure of dispersion?

1. Standard deviation
2. Mean deviation
3. Coefficient of variation
4. Range

Options :

94091810761. 1

94091810762. 2

94091810763. 3

94091810764. 4

Question Number : 31 Question Id : 9409182950 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Coefficient of quartile deviation is given by the formula

1. Coefficient of QD= Q3+Q1/ Q3-Q1
2. Coefficient of QD= Q3+Q1/ Q1-Q3
3. Coefficient of QD= Q3-Q1/ Q1-Q3
4. Coefficient of QD= Q3-Q1/ Q3+Q1

Options :

94091810765. 1

94091810766. 2

94091810767. 3

94091810768. 4

Question Number : 32 Question Id : 9409182951 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Mean deviation is minimum when deviations are taken about the --------

1. Mean
2. Median
3. Mode
4. Zero

Options :

94091810769. 1

94091810770. 2

94091810771. 3

94091810772. 4

Question Number : 33 Question Id : 9409182952 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

If a constant value 5 is subtracted from each observations of set, the variance is

1. Reduced by 5
2. Reduced by 25
3. Unaltered
4. increased by 25

Options :

94091810773. 1

94091810774. 2

94091810775. 3

94091810776. 4

Question Number : 34 Question Id : 9409182953 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

An empirical relationship between standard deviation, mean deviation about mean and quartile deviation is

1. 4S.D=6M.D=5Q.D
2. 4S.D=5M.D=6Q.D
3. 6S.D=5M.D=4Q.D
4. 5S.D=4M.D=6Q.D

Options :

94091810777. 1

94091810778. 2

94091810779. 3

94091810780. 4

Question Number : 35 Question Id : 9409182954 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Which measure of dispersion ensures highest degree of reliability?

1. Range
2. Mean deviation
3. Quartile deviation
4. Standard deviation

Options :

94091810781. 1

94091810782. 2

94091810783. 3

94091810784. 4

Question Number : 36 Question Id : 9409182955 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

For a negatively skewed distribution, which of the following inequality holds?

1. Median>mode
2. Mean
3. Mean
4. Mean>mode

Options :

94091810785. 1

94091810786. 2

94091810787. 3

94091810788. 4

Question Number : 37 Question Id : 9409182956 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

For a leptokurtic frequency curve, the measure of kurtosis

1. $\beta_2=0$
2. $\beta_2=-3$
3. $\beta_2<1$
4. $\beta_2>3$

Options :

94091810789. 1

94091810790. 2

94091810791. 3

94091810792. 4

Question Number : 38 Question Id : 9409182957 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

If a moderately skewed distribution has mean =30 and mode=36, the median of the distribution is

1. 30
2. 28
3. 32
4. None of the above

Options :

94091810793. 1

94091810794. 2

94091810795. 3

94091810796. 4

Question Number : 39 Question Id : 9409182958 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

First and third quartiles of a frequency distribution are 30 and 75. Also its coefficient of skewness is 0.6. The median of the frequency distribution is

1. 40
2. 39
3. 38
4. 41

Options :

94091810797. 1

94091810798. 2

94091810799. 3

94091810800. 4

Question Number : 40 Question Id : 9409182959 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

If r_{xy}= 0, the variables X and Y are

1. Linearly related
2. Independent
3. Not linearly related
4. None of the above

Options :

94091810801. 1

94091810802. 2

94091810803. 3

94091810804. 4

Question Number : 41 Question Id : 9409182960 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

In a scatter diagram if all dots lie on a line falling from left hand top to right hand bottom, then the value of r is

1. +1
2. 0
3. -1
4. ±1

Options :

94091810805. 1

94091810806. 2

94091810807. 3

94091810808. 4

Question Number : 42 Question Id : 9409182961 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

When the ranks of the two groups are the same, then the rank correlation coefficient is

1. 0
2. -1
3. +1
4. $1- 6 \sum d^2$

Options :

94091810809. 1

94091810810. 2

94091810811. 3

94091810812. 4

Question Number : 43 Question Id : 9409182962 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

In a regression line of y on x, the variable x is known as

1. Independent variable
2. Regressor
3. Explanatory variable
4. All the above

Options :

94091810813. 1

94091810814. 2

94091810815. 3

94091810816. 4

Question Number : 44 Question Id : 9409182963 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

If byx and bxy are two regression coefficients, they have

1. Same sign
2. Opposite sign
3. Either same or opposite signs
4. Nothing can be said

Options :

94091810817. 1

94091810818. 2

94091810819. 3

94091810820. 4

Question Number : 45 Question Id : 9409182964 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

If rxy = -1, the relation between the two variables X and Y is

1. When Y increases, X also increases
2. When Y decreases, X also decreases
3. X is equal to –Y
4. When Y increases, X proportionately decreases

Options :

94091810821. 1

94091810822. 2

94091810823. 3

94091810824. 4

Question Number : 46 Question Id : 9409182965 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

If X and Y values strictly obey the relation X+5Y=0, then Pearson's coefficient of correlation between X and Y is --------

1. 1
2. -1
3. 0
4. > 0

Options :

94091810825. 1

94091810826. 2

94091810827. 3

94091810828. 4

Question Number : 47 Question Id : 9409182966 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

A and B are two events such that $P(\bar{A}) = 0.4$ and $P(A \cap B) = 0.2$ Then $P(A \cap \bar{B})$ is equal to _____

1. 0.4
2. 0.2
3. 0.6
4. 0.8

Options :

94091810829. 1

94091810830. 2

94091810831. 3

94091810832. 4

Question Number : 48 Question Id : 9409182967 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

A problem in mathematics is given to three students A, B and C. If the probability of A solving the problem is ½ and B not solving it is ¼. The whole probability of the problem being solved is $^{63}/_{64}$ then what is the probability of C to solve it?

1. 1/8
2. 1/64
3. 7/8
4. ½

Options :

94091810833. 1

94091810834. 2

94091810835. 3

94091810836. 4

Question Number : 49 Question Id : 9409182968 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Let A and B be two events such that P(A) = ⅕ While P(A or B) = ½. Let P(B) = P. For what values of P are A and B independent?

1. 1/10 and 3/10
2. 3/10 and 4/5
3. 3/8 only
4. 3/10

Options :

94091810837. 1

94091810838. 2

94091810839. 3

94091810840. 4

Question Number : 50 Question Id : 9409182969 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Let A and B be two events such that the occurrence of A implies occurrence of B, But not vice-versa, then the correct relation between P(A) and P(B) is?

1. $P(A) < P(B)$
2. $P(B) \geq P(A)$
3. $P(A) = P(B)$
4. $P(A) \geq P(B)$

Options :

94091810841. 1

94091810842. 2

94091810843. 3

94091810844. 4

Question Number : 51 Question Id : 9409182970 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

What will be the probability of getting odd numbers if an unbiased dice is thrown?

1. 1/2
2. 2
3. 3/2
4. 5/2

Options :

94091810845. 1

94091810846. 2

94091810847. 3

94091810848. 4

Question Number : 52 Question Id : 9409182971 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

What is the probability of getting at least one head if three unbiased coins are tossed?

1. 7/8
2. 1/2
3. 5/8
4. 8/9

Options :

94091810849. 1

94091810850. 2

94091810851. 3

94091810852. 4

Question Number : 53 Question Id : 9409182972 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

If a number is selected at random from the first 50 natural numbers, what will be the probability that the selected number is a multiple of 3 and 4?

1. 7/50
2. 4/25
3. 2/25
4. None of the above

Options :

94091810853. 1

94091810854. 2

94091810855. 3

94091810856. 4

Question Number : 54 Question Id : 9409182973 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

If E and F are two events associated with the same sample space of a random experiment then P (E|F) is given by _____

1. P(E∩F) / P(F), provided P(F) ≠ 0
2. P(E∩F) / P(F), provided P(F) = 0
3. P(E∩F) / P(F)
4. P(E∩F) / P(E)

Options :

94091810857. 1

94091810858. 2

94091810859. 3

94091810860. 4

Question Number : 55 Question Id : 9409182974 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Given that E and F are events such that P(E) = 0.6, P(F) = 0.3 and P(E∩F) = 0.2, then P(E|F) ?

1. 2/3
2. 1/3
3. 3/4
4. 1/4

Options :

94091810861. 1

94091810862. 2

94091810863. 3

94091810864. 4

Question Number : 56 Question Id : 9409182975 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

If P(A) = 7/11, P(B) = 6/11 and P(A∪B) = 8/11, then P(A|B) = -------

1. 3/5
2. 2/3
3. 1/2
4. 5/6

Options :

94091810865. 1

94091810866. 2

94091810867. 3

94091810868. 4

Question Number : 57 Question Id : 9409182976 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

An unbiased dice is thrown twice, what is the probability of getting two 3's?

1. 1/66
2. 1/16
3. 1/26
4. 1/36

Options :

94091810869. 1

94091810870. 2

94091810871. 3

94091810872. 4

Question Number : 58 Question Id : 9409182977 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

A card is chosen at random from a deck of cards and then replaced, and then a second card is chosen. What is the probability of choosing first a four and then a queen?

1. 7/11
2. 7/100
3. 1/169
4. 9/11

Options :

94091810873. 1

94091810874. 2

94091810875. 3

94091810876. 4

Question Number : 59 Question Id : 9409182978 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

A bag contains 3 red, 2 white and 4 green balls. If two balls are drawn from the bag what is the probability of drawing the second ball to be white and the first ball drawn is green?

1. 1/9
2. 2/9
3. 8/81
4. 2/81

Options :

94091810877. 1

94091810878. 2

94091810879. 3

94091810880. 4

Question Number : 60 Question Id : 9409182979 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

A meeting has 12 employees. 8 of them are women and the rest are men. If two of them are selected at random and forming a subcommittee, find the probability of two men are to be selected?

1. 1/11
2. 2/12
3. 2/4
4. 1/8

Options :

94091810881. 1

94091810882. 2

94091810883. 3

94091810884. 4

Question Number : 61 Question Id : 9409182980 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

If A and B are two independent events with P (A) =0.3 and P (B) =0.5. Find the probability of at least one of the events to occur.

1. 0.15
2. 0.8
3. 0.2
4. 0.65

Options :

94091810885. 1

94091810886. 2

94091810887. 3

94091810888. 4

Question Number : 62 Question Id : 9409182981 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

A jar containing 8 marbles of which 4 red and 4 blue marbles. Find the probability of getting a red ball second line after picking out a red ball at the first time.

1. 4/13
2. 2/11
3. 3/7
4. 8/15

Options :

94091810889. 1

94091810890. 2

94091810891. 3

94091810892. 4

Question Number : 63 Question Id : 9409182982 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Let X denotes the weight of a randomly selected person in a country. Then what type of random variable is X?

1. Discrete
2. Continuous
3. Neither 1 nor 2
4. Both 1 and 2

Options :

94091810893. 1

94091810894. 2

94091810895. 3

94091810896. 4

Question Number : 64 Question Id : 9409182983 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

A discrete r.v has probability mass function $p(x)=kqxp$, $p+q = 1$,
$x= 2,3,4,....$ The value of k should be equal to

1. 1/q2
2. 1/p
3. 1/q
4. 1/pq

Options :

94091810897. 1

94091810898. 2

94091810899. 3

94091810900. 4

Question Number : 65 Question Id : 9409182984 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

For the distribution function of a r.v. X, F(4) – F(2) is equal to

1. $P(2< X<4)$
2. $P(2\leq X<4)$
3. $P(2\leq X\leq 4)$
4. $P(2< X\leq 4)$

Options :

94091810901. 1

94091810902. 2

94091810903. 3

94091810904. 4

Question Number : 66 Question Id : 9409182985 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

The possible values of a discrete r. v are always -------.

1. Finite
2. Infinite
3. Uncountable
4. Finite or countably infinite

Options :

94091810905. 1

94091810906. 2

94091810907. 3

94091810908. 4

Question Number : 67 Question Id : 9409182986 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

The distribution function of a r.v X , F(x)= ...

1. P(X=x)
2. P(X≤x)
3. P(X
4. P(X ≥x)

Options :

94091810909. 1

94091810910. 2

94091810911. 3

94091810912. 4

Question Number : 68 Question Id : 9409182987 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

The value of distribution function F(x), for any x comes in the range....

1. 0 to 1
2. 0 to ∞
3. -∞ to ∞
4. -1 to 1

Options :

94091810913. 1

94091810914. 2

94091810915. 3

94091810916. 4

Question Number : 69 Question Id : 9409182988 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Expected value of a constant 'a' is _____

1. 0
2. a
3. a/2
4. 1

Options :

94091810917. 1

94091810918. 2

94091810919. 3

94091810920. 4

Question Number : 70 Question Id : 9409182989 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Find the expectation of a random variable X if f(x) = e-x for x>0 and 0 otherwise.

1. 0
2. 1
3. 2
4. 3

Options :

94091810921. 1

94091810922. 2

94091810923. 3

94091810924. 4

Question Number : 71 Question Id : 9409182990 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Find the mean of a random variable X if f(x) = x – ½ for 0 < x < 1 and f(x) = 2x for 1 < x < 2 and 0 otherwise

1. 3.5
2. 3.75
3. 2.5
4. 2.75

Options :

94091810925. 1

94091810926. 2

94091810927. 3

94091810928. 4

Question Number : 72 Question Id : 9409182991 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Two unbiased dice are thrown, then, the expected value of the sum of the numbers shown is ....

1. 3.5
2. 6
3. 7
4. 12

Options :

94091810929. 1

94091810930. 2

94091810931. 3

94091810932. 4

Question Number : 73 Question Id : 9409182992 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

First moment about the value 5 of a variable is 2. The mean of the variable is

1. 3
2. 5
3. 7
4. 9

Options :

94091810933. 1

94091810934. 2

94091810935. 3

94091810936. 4

Question Number : 74 Question Id : 9409182993 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Mgf of the sum of two independent random variables X and Y is

1. The sum of the mgfs of X and Y
2. The product of the mgfs of X and Y
3. The difference of the mgfs of X and Y
4. The ratio of the mgfs of X and Y

Options :

94091810937. 1

94091810938. 2

94091810939. 3

94091810940. 4

Question Number : 75 Question Id : 9409182994 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

The moments of a variable, taken about ....are called the central moments

1. Mean
2. Median
3. Mode
4. zero

Options :

94091810941. 1

94091810942. 2

94091810943. 3

94091810944. 4

Question Number : 76 Question Id : 9409182995 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

In a binomial distribution with parameters n and p, the relationship between mean and variance is

1. mean = variance
2. mean < variance
3. mean > variance
4. none of these

Options :

94091810945. 1

94091810946. 2

94091810947. 3

94091810948. 4

Question Number : 77 Question Id : 9409182996 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

The mean and variance of binomial distribution are 16 and 8 respectively. Then P(X = 1) is equal to

1. $1-\frac{1}{2^{32}}$
2. $2-\frac{1}{2^{16}}$
3. $3-\frac{1}{2^{8}}$
4. $4-\frac{1}{2^{27}}$

Options :

94091810949. 1

94091810950. 2

94091810951. 3

94091810952. 4

Question Number : 78 Question Id : 9409182997 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

If X and Y are independent Poisson variables such that P(X = 1) = P(X =2) and P(Y = 2) = P(Y = 3), then the variance of X − 2Y is

1. 9
2. 10
3. 12
4. 14

Options :

94091810953. 1

94091810954. 2

94091810955. 3

94091810956. 4

Question Number : 79 Question Id : 9409182998 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Mgf of a Poisson distribution is

1. $e^t (e^\lambda-1)$
2. $e^\lambda(e^t-1)$
3. $e^\lambda (e^t-1)$
4. $e^t(e^\lambda-1))$

Options :

94091810957. 1

94091810958. 2

94091810959. 3

94091810960. 4

Question Number : 80 Question Id : 9409182999 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

If X and Y are independent Poisson variables, then the conditional distribution of X given X + Y follows

1. Poisson
2. Geometric
3. Binomial
4. Bernoulli

Options :

94091810961. 1

94091810962. 2

94091810963. 3

94091810964. 4

Question Number : 81 Question Id : 9409183000 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Which of the following real life situations follow Poisson distribution?

1. The number of printing mistakes per page of a book published by a reputed publication.
2. The number of defects per lot produced by a good firm.
3. None of the above
4. Both of the above

Options :

94091810965. 1

94091810966. 2

94091810967. 3

94091810968. 4

Question Number : 82 Question Id : 9409183001 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

For which of the following distribution, mean is equal to variance?

1. Binomial distribution
2. Uniform distribution
3. Poisson distribution
4. Geometric distribution

Options :

94091810969. 1

94091810970. 2

94091810971. 3

94091810972. 4

Question Number : 83 Question Id : 9409183002 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Binomial distribution with parameters q and p is said to be symmetric if

1. q< p
2. q=p
3. q>p
4. q≠ p

Options :

94091810973. 1

94091810974. 2

94091810975. 3

94091810976. 4

Question Number : 84 Question Id : 9409183003 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

The discrete distribution possessing the memory less property is

1. Poisson distribution
2. Geometric distribution
3. Hyper geometric distribution
4. All the above

Options :

94091810977. 1

94091810978. 2

94091810979. 3

94091810980. 4

Question Number : 85 Question Id : 9409183004 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

If X~ exp(4), the probability density function of X is

1. 4e-4x,x>0
2. e-4x,x>0
3. 4e-x,x>0
4. (1/4)e-4x,x>0

Options :

94091810981. 1

94091810982. 2

94091810983. 3

94091810984. 4

Question Number : 86 Question Id : 9409183005 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

If X~ N(5, 2) and Y~ N(7, 3) and if X and Y are independent X+Y is distributed as

1. N(12,5)
2. N(12, √13)
3. N(5, 5)
4. N(12,√5)

Options :

94091810985. 1

94091810986. 2

94091810987. 3

94091810988. 4

Question Number : 87 Question Id : 9409183006 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

The mean of gamma distribution with parameters m and p is

1. p/m
2. m/p
3. mp
4. p

Options :

94091810989. 1

94091810990. 2

94091810991. 3

94091810992. 4

Question Number : 88 Question Id : 9409183007 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Sum of n independent Exponential random variables (λ) results in _____

1. Uniform random variable
2. Binomial random variable
3. Gamma random variable
4. Normal random variable

Options :

94091810993. 1

94091810994. 2

94091810995. 3

94091810996. 4

Question Number : 89 Question Id : 9409183008 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

A random variable X has an exponential distribution with probability distribution function is given by
f(x)= 3e-3x for x>0 = 0 otherwise
Find probability that X is not less than 2.

1. e-3
2. e-6 – 3
3. e-6
4. e-6 – 1

Options :

94091810997. 1

94091810998. 2

94091810999. 3

94091811000. 4

Question Number : 90 Question Id : 9409183009 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Normal Distribution is symmetric about _____

1. Variance
2. Mean
3. Standard deviation
4. Covariance

Options :

94091811001. 1

94091811002. 2

94091811003. 3

94091811004. 4

Question Number : 91 Question Id : 9409183010 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

For a standard normal random variable, the value of mean is?

1. ∞
2. 1
3. 0
4. Not defined

Options :

94091811005. 1

94091811006. 2

94091811007. 3

94091811008. 4

Question Number : 92 Question Id : 9409183011 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Normal Distribution is also known as _____

1. Cauchy's Distribution
2. Laplacian Distribution
3. Gaussian Distribution
4. Lagrangian Distribution

Options :

94091811009. 1

94091811010. 2

94091811011. 3

94091811012. 4

Question Number : 93 Question Id : 9409183012 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

In Normal distribution, the highest value of ordinate occurs at _____

1. Mean
2. Variance
3. Extremes
4. Same value occurs at all points

Options :

94091811013. 1

94091811014. 2

94091811015. 3

94091811016. 4

Question Number : 94 Question Id : 9409183013 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Indicate which of the statements below does not correctly apply to normal probability distributions

1. they are all unimodal
2. they are all symmetrical
3. they all have the same mean and standard deviation
4. the area under the probability curve is always equal to 1

Options :

94091811017. 1

94091811018. 2

94091811019. 3

94091811020. 4

Question Number : 95 Question Id : 9409183014 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Which probability distribution is appropriate for a count of events when the events of interest occur randomly, independently of one another and rarely?

1. normal distribution
2. exponential distribution
3. uniform distribution
4. Poisson distribution

Options :

94091811021. 1

94091811022. 2

94091811023. 3

94091811024. 4

Question Number : 96 Question Id : 9409183015 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

If the mgf of a r.v X is $\frac{1}{3}+\frac{2}{3}e^{t}$, then X is a

1. Geometric variate
2. Poisson variate
3. Bernoulli variate
4. Negative binomial variate

Options :

94091811025. 1

94091811026. 2

94091811027. 3

94091811028. 4

Question Number : 97 Question Id : 9409183016 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

For an exponential distribution with pdff(x)=$\frac{1}{3}e_3^x$,x≥0, its mean and variance are

1. (1/3,3)
2. (3,1/9)
3. (1/3,1/9)
4. (3, 9)

Options :

94091811029. 1

94091811030. 2

94091811031. 3

94091811032. 4

Question Number : 98 Question Id : 9409183017 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

The distribution function of a rectangular distribution of a variable X lying in the interval (a, b) is

1. 1/(b-a)
2. (x-a)/(b-a)
3. (b-a)/(x-a)
4. (x-b)/(b-a)

Options :

94091811033. 1

94091811034. 2

94091811035. 3

94091811036. 4

Question Number : 99 Question Id : 9409183018 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

The p.d.f. at the point of inflation of normal curve is

1. $-\frac{1}{\sqrt{2\pi}}e_2^1$
2. $-\frac{1}{\sigma\sqrt{2\pi}}e-\frac{1}{2}$
3. $-\frac{1}{\sqrt{2\pi}}$
4. $\frac{1}{\sigma\sqrt{2\pi}}$

Options :

94091811037. 1

94091811038. 2

94091811039. 3

94091811040. 4

Question Number : 100 Question Id : 9409183019 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

If X ~N(8, 64), the standard normal variable Z will be

1. Z = (X-64)/8
2. Z = (X-8)/64
3. Z = (X-8)/8
4. Z = (8-X)/8

Options :

94091811041. 1

94091811042. 2

94091811043. 3

94091811044. 4