STT211
A set consisting of only one element is called a _____ set

Singleton
A set consisting of all element of a universal set which are in A or B is called
_____ set

Union
In a class 40% of the students enrolled for Math and 70% enrolled for Economics.
If 15% of the students enrolled for both Math and Economics, what % of the
students of the class did not enroll for either of the two subjects?
_____ %

5
Of the 200 candidates who were interviewed for a position at a call centre, 100
had a two-wheeler, 70 had a credit card and 140 had a mobile phone. 40 of them
had both, a two-wheeler and a credit card, 30 had both, a credit card and a
mobile phone and 60 had both, a two-wheeler and mobile phone and 10 had all
three. How many candidates had none of the three? _____

10
In a class of 40 students, 12 enrolled for both English and German. 22 enrolled
for German. If the students of the class enrolled for at least one of the two
subjects, then how many students enrolled for only English and not German?
_____

18
In a class of 120 students numbered 1 to 120, all even numbered students opt for
Physics, those whose numbers are divisible by 5 opt for Chemistry and those
whose numbers are divisible by 7 opt for Math. How many opt for none of the
three subjects? _____

41
How many permutation of three letters can be formed from the letters a, b, c, d,
e. _____

60
A group of students consist of 5 men and 3 women. The students are ranked
according to their performance in a quiz competition. Assuming no two students
obtain the same score. How many different rankings are possible?

40320
Assume two events A and B are mutually exclusive and, furthermore, P(A) = 0.2
and P(B) = 0.4, P(A n B) is _____

0
We want to find the smallest integer n > 0 such that, for every permutation f on
4, the function f n is the identity function on 4. Value of n is
_____

24
A card is drawn at random from a well shuffled pack of cards. The probability
that it is heart or a queen is _____ %

31
Probability that a man will be alive 25 years hence is 0.3 and the probability
that his wife will be alive 25 years hence is 0.4. The probability that 25 years
hence only the man will be alive will be _____ %

18
What is the probability that the position in which the consonants appear remain
unchanged when the letters of the word "Math" are re-arranged? _____
%

25
The set of all possible outcomes of a random experiment is known as
_____

Sample space
A box of nine golf gloves contains two left-handed and seven right handed
gloves. If three gloves are selected without replacement, what is the
probability that all of them are left handed?

0
A piece of electronic equipment has two essential parts A and B. In the past,
part A failed 30% of the times, part B failed 20% of the times and both failed
simultaneously 5% of the times. Assuming that both parts must operate to enable
the equipment to function, the probability that the equipment will function is
_____ %

55
In a certain college, the students engage in sports in the following proportion
Football (F): 60% of all students Basketball (B): 50% of all students. Both
football and basketball: 30% of all students. If a student is selected at random
the probability that he will play neither sports is _____ %

20
Discrete probability distribution in which outcome is very small with a very
small period of time is classified as _____ distribution

Poisson
If number of trials are 8 and probability of success are 0.65 then mean of
negative probability distribution is _____ (to 2 decimal places)

12.31
If a bag contains three fruits, 16 percent are apples, 30 percent are oranges
and 20 percent some other fruit that is neither oranges nor apples then
probability of selecting an orange randomly is _____%

30
Probability without any conditions of occurrence of an event is considered as
_____ probability

Marginal
Tail or head, one or zero and girl or boy are examples of _____
events

Complimentary
Probability distribution having shape of bell and in which values of mean lies
in centre of probability distribution is classified as _____
distribution

Normal
Marginal probability of independent events and dependent events must be
_____

Same
Approach in probability in which all outcomes from an experiment are equally
likely to occur or are mutually exclusive is called _____ approach

Classical
Measure of chance of an uncertain event in form of numerical figures is
classified as _____

Probability
Function for the continuous random variable X where the total area under the
curve bounded by the x-axis is equal to _____

1
students went to a school carnival. 3 had a hamburger, soft drink and ice-cream. 24 had hamburgers. 5 had a hamburger and a soft drink. 33 had soft drinks. 10 had a soft drink and ice-cream. 38 had ice-cream. 8 had a hamburger and ice-cream. How many had nothing _____

15
_____ theorem states that the distribution for $\bar{y}-\mu_y\sigma\ \bar{y}$ becomes arbitrarily well approximated by the standard normal distribution

Central limit
The number of clients that enter a given store each hour follows a Poisson distribution with mean 3.25. We assume independence between the different hours. The probability that in a given hour exactly 5 clients enter the store is _____ (Ans to 4 decimal points)

0.1172
It is claimed that 60% of the voters in a given ward are going to vote for party A. assuming that all voters will vote, and that there are 100 voters. Probability that Party A receives at least 50 votes is _____ (Ans to 4 decimal point)

0.9793
Marks in an I.Q examination are normally distributed with mean 55 and standard deviation 10. Probability that the mean mark of a group of 10 students will be above 50 is _____ (Ans to 4 decimal points)

0.9306
A system suffers random breakdown at a constant rate of 10 per month. The probability that there will be at least 8 breakdowns in any month is _____ (Ans to 4 decimal points)

0.7357
If value of interval a is 2.5 and value of interval b is 3.5 then value of mean for uniform distribution is _____

3
Mean of binomial probability distribution is 857.6 and probability is 64%. The number of trials in this binomial distribution is _____

1340
If mean of binomial probability distribution is 25, the mean of Poisson probability distribution is _____

25
If value of interval a is 4 and value of interval b is 5 then variance of uniform distribution is _____ (Ans to 2 decimal points)

6.75
If P(A) = 0.38, P(B) = 0.83, and P(A∩B) = 0.57; then P(AUB) = _____ (Ans to 2 decimal points)

0.64
What is the percentage of a normal distribution that is less than the mean? _____ %

50
In a standard normal probability distribution P(Z > a) = 0.2000. What is a? _____ (Ans to 4 decimal points)

0.8416
A quantity resulting from an experiment that, by chance, can assume different values is called _____ variable

Random
A variable which can assume finite or countable infinite number of values is
known as _____ variable

Discrete
Numbers selected by a random process and are equally distributed in a table are
called _____

Random numbers
In classification of probability distributions, 'Erlang distribution' is also
called _____ distribution

Gamma
If μ is equal to 25 then value of mean for exponential probability distribution
is _____ (Ans to 2 decimal points)

0.04
X is a normally distributed variable with mean μ = 30 and standard deviation σ =
4. P(30 < x < 35) is _____ (Ans to 4 decimal points)

0.3944
The probability density function p(x) cannot exceed _____

1
A set of numerical values assigned to a sample space is called _____

Random variable
Distribution whose function is calculated by considering Bernoulli trials that
are infinite in number is classified as _____ probability
distribution

Negative binomial
A continuous random variable X is distributed by a normal probability
distribution. What is P(X≠3)?_____

1
Let A = {0, 1} × {0, 1} and B = {a, b, c}. Suppose A is listed in lexicographic
order based on 0 < 1 and B is in alphabetic order. If A × B × A is listed in
lexicographic order, then the next element after ((1, 0), c, (1, 1)) is

((1, 1), a, (0, 0))

Let ∞ = 452631 be a permutation on {1, 2, 3, 4, 5, 6} in one-line notation
(based on the usual order on integers). Which of the following is NOT a correct
cycle notation for ∞?

(461) (352)

Let f : {1, 2, 3, 4, 5, 6, 7, 8, 9} ! {a, b, c, d, e}. In one-line notation, f =
(e, a, b, b, a, c, c, a, c) (use number order on the domain). Which is correct?

Image(f) = {a, b, c, e}, Coimage(f) = {{6, 7, 9}, {2, 5, 8}, {3, 4}, {1}}

A five digit number is formed using digits 1, 3, 5, 7 and 9 without repeating
any one of them. What is the sum of all such possible numbers?

6666600

Each of the 11 letters A. H, I, M, O, T, U, V, W, X and Z appears same hen
looked at in the mirror. They are called symmetric letters. Other letters in the
alphabet are asymmetric letters. How many four letter computer passwords can be
formed using only the symmetric letters (no repetition allowed)

7920

An intelligence agency forms a code of two distinct digits selected from 0, 1, 2… 9 such that the first digit of the code is non-zero. The code, handwritten on the slip, can create confusion, when read upside down for example the code 91 can be read as 16. How many codes are there for which no such confusion can arise?

69

For a scholarship, at the most n candidates out of 2n + 1 can be selected. If the number of different ways of selection of at least one candidate is 63, the maximum number of candidates that can be selected for the scholarship is

3

In how many ways can 10 identical presents be distributed among 6 children so that each child gets at least one present?

9C5

There are 6 pupils and 4 cats. In how many can they be seated in a row so that no cats sit together?

6! × 7P4

From 4 men and 4 women a committee of 5 is to be formed. Find the number of ways of doing so if the committee consists of a president, a vice president and three secretaries?

450

Ten points are marked on a straight line and 11 points are marked on another straight line. How many triangles can be constructed with vertices from among the above points?

1045

Four digits numbers are to be formed using any of the digits 1, 2, 3, 4, 5, 6, (No repetition of digit is allowed). How many four digit numbers can be formed

360

A club consist of 10 men and 5 women, in how many ways can a committee of 6 consisting of 4 men and 2 women be chosen. The 4 men can be chosen from the 10 men in10C4 ways, the 2 women can be chosen from the 5 women in 5C2 ways. Hence the committee can be chosen in (by the fundamental principle f counting)

2100 ways

A box contains 6 red balls, 7 green balls and 5 blue balls. Each ball is of different size. The probability that the red ball selected is the smallest red ball is

1/6

Boxes numbered 1,2,3,4 and 5 are kept in a row, and they which are to be filled with either a red ball or a blue ball, such that no two adjacent boxes can be filled with blue balls. Then how many different arrangements are possible, given that all balls of given colour are exactly identical in all respect?

22

One red flag, three white flags and two blue flags are arranged in line such that i) No two adjacent flags are of the same colour. ii) The flags at the two

ends of the line are of different colours. In how many different ways can the flag be arranged?

6

The set of all possible outcomes of a random experiment is known as

Sample space

A card is drawn from a well shuffled pack of playing cards. Find the probability that it is either a diamond or a king

4/13

Let X and Y be two Bernoulli distributed random variables. Furthermore, P(X = 0; Y = 0) = 0:3, P(X = 0; Y = 1) = 0:2, and P(X = 1; Y = 0) = 0:2 Which of the following statements is correct?

X and Y are positively correlated and dependent

If P(A) = 0.3 P(B) = 0.2 and P(C) =0.1 and A, B, C are independent events the probability of occurrence of at least one of the three events A,B, C is

0.496

What is the chance that a leap year selected at random will contain 53 Sundays?

2/7

A box contains 2 tennis, 3 cricket and 4 squash balls. Three balls are drawn in succession with replacement. What is the probability that all are cricket balls?

1/27

If a random variable X has probability density function   then k is equal to

1 – e–1

Value which is obtained by multiplying possible values of random variable with probability of occurrence and is equal to weighted average is called

Expected value

A formula or equation used to represent the probability' distribution of a continuous random variable is called

Probability density function

Probability distribution of discrete random variable is classified as

Probability mass function

If X has a hyper geometric distribution with M = 3, N = 6 and n = 2, find the probability distribution of Y, the number of successes minus the number of failures

h(0) = 1/5 , h(1) = 3/5 , h(2) = 1/5

A die is thrown at random. What is the expectation of the number on it

3.5

What is the expected number of heads appearing when a fair coin is tossed three times?

1.5

A contractor spends 3,000 naira to prepare for a bid on a construction project which, after deducting manufacturing expenses and the cost of bidding, will yield a profit of 25,000 naira if the bid is not won. If the chance of winning the bid is 10%, compute his expected profit?

200

Determine which of the following given values can serve as the values of a probability distribution of a random variable with the range x = 1, 2, 3 and 4

f(1) = 0.15 , f(2) = 0.27 , f(3) = 0.29 , f(4) = 0.29

A lot of 12 television sets include 2 with white chords. If 3 of the sets are chosen at random for shipment to the hotel, how many sets with white chords can the shipper expect to send to the hotel?

½

E(x2) = 91/6. Find the value of E(2x2+1) is

94/3

For any random variable X, for which E(x) = 5, find the mean of X - 5

0

In a random throw of n dice, the expectation of the sum of points on them is

7n/2

Three coins whose faces are marked 1 and 2 are tossed. Their expectations of the total values of numbers on their faces is

4.5

If a random variable X has probability density function

then the mean of X is:

5

If a random variable X has a probability density function

then the variance of X is closest to

0.084

If μ is equal to 8 then standard deviation of exponential probability distribution is

0.125

The variance of binomial distribution is always

Less than mean

If in a binomial distribution n = 1 then E(X) is

p

A random variable X has binomial distribution with n = 10 and p = 0.3 then

variance of X is

2.1

Each trial in Binomial distribution has

Two Outcome

In a binomial probability distribution it is impossible to find

$P(X < 0)$

If rate of occurrences in Poisson probability distribution is smaller and occurrences have large numbers then distribution tends to be

Symmetrical and mesokurtic

If value of λ is 9 and value of random variable x is 5 then value of z-score is

−1.34

If the mean of a binomial probability distribution is 25 then the mean of Poisson probability distribution is

25

In a given sports activity, the annual rate of accidents is of about 4 per thousand people. An insurance company has 3000 insured clients that practice such sports activity. A good approximation of the number of accident compensations the insurance company will have to pay in a given year is given by the distribution

Poisson ($\lambda = 12$)

Which of the following is not possible in probability distribution?

$p(x) = -0.5$

Let X be a random variable with Poisson distribution $p(k; \lambda)$ Let $Y = (X + 2)(X + 1)$. What is the value of $E(Y)$?

$\lambda^2 + 4\lambda + 2$