

$$\{a_n\} \text{ such that } a_n = \begin{cases} \frac{10n + 1 + \sin(n)}{n} & \text{if } n \text{ is odd} \\ \frac{10n - 1 + \cos(n)}{n} & \text{if } n \text{ is even} \end{cases}$$

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

10

Sem1 Statistics1

Section Id :	64065328955
Section Number :	5
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	11
Number of Questions to be attempted :	11
Section Marks :	40
Display Number Panel :	Yes
Group All Questions :	No
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	64065363153
Question Shuffling Allowed :	No
Is Section Default? :	null

Question Number : 110 Question Id : 640653444904 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 0

Question Label : Multiple Choice Question

THIS IS QUESTION PAPER FOR THE SUBJECT "FOUNDATION LEVEL: SEMESTER 1: STATISTICS FOR DATA SCIENCE 1"

ARE YOU SURE YOU HAVE TO WRITE EXAM FOR THIS SUBJECT?
CROSS CHECK YOUR HALL TICKET TO CONFIRM THE SUBJECTS TO BE WRITTEN.

(IF IT IS NOT THE CORRECT SUBJECT, PLS CHECK THE SECTION AT THE TOP FOR THE SUBJECTS REGISTERED BY YOU)

Options :

6406531482868. ✓ Yes

6406531482869. ✗ No

Sub-Section Number :	2
Sub-Section Id :	64065363154
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 111 Question Id : 640653444905 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 3 Selectable Option : 0

Question Label : Multiple Select Question

Rating's feedback as poor, good and excellent of 5 customers is collected in a shop. If feedback of two more customers are recorded, then choose the correct option(s).

(Assume initial data was bimodal)

Options :

6406531482870. ✗ New dataset will always be bimodal.

6406531482871. ✓ New dataset may change as unimodal.

6406531482872. ✗ Median of new dataset will always remain same.

6406531482873. ✓ Median of new dataset may change.

Sub-Section Number : 3
Sub-Section Id : 64065363155
Question Shuffling Allowed : Yes
Is Section Default? : null

Question Number : 112 Question Id : 640653444908 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 3

Question Label : Multiple Choice Question

X contains observations of the bowling speed of a bowler and Y contains the observations of the bowling speed of another bowler, and it is noted that each observation of Y is 1.5 times each observation of X . If the sample variance of X is 30, then calculate the sample covariance between X and Y ?

Options :

- 6406531482883. ✓ 45
- 6406531482884. ✖ 1
- 6406531482885. ✖ 30
- 6406531482886. ✖ 0

Sub-Section Number : 4
Sub-Section Id : 64065363156
Question Shuffling Allowed : No
Is Section Default? : null

Question Id : 640653444917 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Question Numbers : (113 to 114)

Question Label : Comprehension

Answer the given subquestions

Sub questions

Question Number : 113 Question Id : 640653444918 Question Type : SA Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 3

Question Label : Short Answer Question

If there are 12 ways to arrange n persons at a round table such that two particular person (say, 'A' and 'B') will sit together, then find the value on n .

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

5

Question Number : 114 Question Id : 640653444919 Question Type : MSQ Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 0 Selectable Option : 0

Question Label : Multiple Select Question

Select the steps from the following options, that you will use to arrange the persons at a round table.

Note: This question is optional. We will check your answer to this question if you make a mistake in the previous one.

Options :

6406531482911. ✓ Selection of persons will occur simultaneously.

6406531482912. ✗ Selection of persons will not occur simultaneously.

6406531482913. ✗ With replacement.

6406531482914. ✓ Without replacement.

6406531482915. ✓ Order matters.

6406531482916. ✖ Order does not matter.

6406531482917. ✔ Permutation is used.

6406531482918. ✖ Combination is used.

Sub-Section Number : 5
Sub-Section Id : 64065363157
Question Shuffling Allowed : Yes
Is Section Default? : null

Question Number : 115 Question Id : 640653444906 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Multiple Choice Question

Two dice are rolled together. If A be the event that outcome on the 2^{nd} die is greater than outcome on the 1^{st} die and B be the event that outcomes on both the die are odd, then find the value of $P(A \cup B)^c$.

Options :

6406531482874. ✖ $\frac{24}{36}$

6406531482875. ✖ $\frac{21}{36}$

6406531482876. ✖ $\frac{20}{36}$

6406531482877. ✔ $\frac{15}{36}$

Sub-Section Number : 6
Sub-Section Id : 64065363158
Question Shuffling Allowed : Yes
Is Section Default? : null

Question Number : 116 Question Id : 640653444907 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Selectable Option : 0

Question Label : Multiple Select Question

An urn contains cards numbered 100 to 500. One card is drawn at random. Let us define the following events:

E_1 : The number on the card is greater than 150 but less than or equal to 200.

E_2 : The number on the card is greater than or equal to 106 but less than 156.

E_3 : The number on the card is greater than 60 but less than or equal to 110.

Which of the following statement(s) is/are true?

Options :

6406531482878. ✓ E_1 and E_2 are independent

6406531482879. ✓ E_2 and E_3 are independent

6406531482880. ✗ E_1 , E_2 and E_3 are independent

6406531482881. ✗ E_2 and E_3 are dependent

6406531482882. ✓ E_1 and E_3 are dependent

Question Number : 117 Question Id : 640653444909 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Selectable Option : 0

Question Label : Multiple Select Question

Consider the events:

A : The number of outcomes in which the sum of the digits that appear on the face is even when a fair die is rolled thrice.

B : The number of ways in which 6 beads can be arranged to form a necklace.

C : The number of ways of posting 6 different letters in 2 different post boxes such that at least

one letter is posted in each of the boxes.

In which of these events do the total number of outcomes exceed 60?

Options :

6406531482887. ✓ A

6406531482888. ✗ B

6406531482889. ✓ C

6406531482890. ✗ None

Sub-Section Number :	7
Sub-Section Id :	64065363159
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 118 Question Id : 640653444910 Question Type : SA Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Short Answer Question

A box contains 15 numbered balls such that red colored balls are numbered 1 to 8 and the black colored balls are numbered 9 to 15. If a randomly chosen ball is even numbered, then what is the probability that the selected ball is of red color?(Enter the answer correct to 2 decimal accuracy)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

0.54 to 0.60

Sub-Section Number :	8
Sub-Section Id :	64065363160
Question Shuffling Allowed :	No

Is Section Default? :

null

Question Id : 640653444911 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Question Numbers : (119 to 120)

Question Label : Comprehension

Answer the given subquestions

Sub questions

Question Number : 119 Question Id : 640653444912 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Short Answer Question

A basketball coach wants to draft a team. For drafting the team, 5 players are available for the position of point guard, 4 players are available for the position of shooting guard, 6 players are available for the position of small forward, 2 players for the position of power forward and 3 players for the position of center. If he needs to select one player for each of these positions, then in how many ways can he draft the team?

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

720

Question Number : 120 Question Id : 640653444913 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 0 Selectable Option : 0

Question Label : Multiple Select Question

Select the steps from the following options, that you will use for selection of players to draft a team.

Note: This question is optional. We will check your answer to this question if you make a mistake in the previous one.

Options :

6406531482893. ✓ Selection of players will occur simultaneously.

6406531482894. ✗ Selection of players will not occur simultaneously.

6406531482895. ✗ With replacement.

6406531482896. ✓ Without replacement.

6406531482897. ✗ Order matters.

6406531482898. ✓ Order does not matter.

6406531482899. ✗ Permutation is used.

6406531482900. ✓ Combination is used.

Question Id : 640653444914 Question Type : COMPREHENSION Sub Question Shuffling

Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix

Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Question Numbers : (121 to 122)

Question Label : Comprehension

Answer the given subquestions

Sub questions

Question Number : 121 Question Id : 640653444915 Question Type : SA Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Short Answer Question

In how many ways can the letters of the word 'REMAIN' be arranged such that the vowels either occupy only odd or even positions?

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

72

Question Number : 122 Question Id : 640653444916 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 0 Selectable Option : 0

Question Label : Multiple Select Question

Select the steps from the following options, that you will use to arrange the letters of the given word.

Note: This question is optional. We will check your answer to this question if you make a mistake in the previous one.

Options :

- 6406531482902. ✓ Selection of letters will occur simultaneously.
- 6406531482903. ✗ Selection of letters will not occur simultaneously.
- 6406531482904. ✗ With replacement.
- 6406531482905. ✓ Without replacement.
- 6406531482906. ✓ Order matters.
- 6406531482907. ✗ Order does not matter.
- 6406531482908. ✓ Permutation is used.
- 6406531482909. ✗ Combination is used.

Sub-Section Number :	9
Sub-Section Id :	64065363161
Question Shuffling Allowed :	No
Is Section Default? :	null

Question Id : 640653444920 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Question Numbers : (123 to 124)

Question Label : Comprehension

An engineer made a software to filter the spam mails before mails reach to inbox. The probability that emails are spam is 30%. If the software made by engineer claims that it can detect 99% of spam emails, and the probability for a non-spam email being detected as spam is 5%. Based on the information, answer the given subquestions.

Sub questions

Question Number : 123 Question Id : 640653444921 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 3

Question Label : Short Answer Question

What is the probability that an email is detected as spam?(Enter the answer correct to 2 decimal accuracy)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

0.30 to 0.36

Question Number : 124 Question Id : 640653444922 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 4

Question Label : Short Answer Question

If the email is detected as spam, then what is the probability that it is in fact a nonspam email?(Enter the answer correct to 2 decimal accuracy)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

0.08 to 0.14

Sem2 English2

Section Id :	64065328956
Section Number :	6
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	23
Number of Questions to be attempted :	23
Section Marks :	50
Display Number Panel :	Yes
Group All Questions :	No
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	64065363162
Question Shuffling Allowed :	No
Is Section Default? :	null

Question Number : 125 **Question Id :** 640653444923 **Question Type :** MCQ **Is Question Mandatory :** No **Calculator :** None **Response Time :** N.A **Think Time :** N.A **Minimum Instruction Time :** 0