

Evaluate the following limit:

$$\lim_{x \rightarrow 2} \frac{x^6 - 24x - 16}{x^3 + 2x - 12}$$

**Response Type :** Numeric

**Evaluation Required For SA :** Yes

**Show Word Count :** Yes

**Answers Type :** Equal

**Text Areas :** PlainText

**Possible Answers :**

12

## Statistics1

Section Id :	64065353259
Section Number :	3
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
Section Negative Marks :	0
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 :	640653112569
Question Shuffling Allowed :	No
Is Section Default? :	null

**Question Number : 35 Question Id : 640653770431 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: STATISTICS FOR DATA SCIENCE I (COMPUTER BASED EXAM)"**

**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 :**

6406532577212.  YES

6406532577213.  NO

<b>Sub-Section Number :</b>	2
<b>Sub-Section Id :</b>	640653112570
<b>Question Shuffling Allowed :</b>	Yes
<b>Is Section Default? :</b>	null

**Question Number : 36 Question Id : 640653770455 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

Distance covered by a runner in the first five days of training are 3 km, 5 km, 3 km, 6 km, and 7 km. If the runner covers a distance of 4 km on the sixth day, then how does it affect his overall performance?

**Options :**

6406532577264. ✖ The mean of the distances will increase.

6406532577265. ✖ The mode of the distances will decrease.

6406532577266. ✔ The median of the distances will decrease.

6406532577267. ✖ Range of the distances will decrease.

Sub-Section Number :	3
Sub-Section Id :	640653112571
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 37 Question Id : 640653770454 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Max. Selectable Options : 0

Question Label : Multiple Select Question

Which of the following statement(s) is(are) correct?

Options :

6406532577260. ✖ Point-bi serial method is appropriate to find the association between two categorical variables.

6406532577261. ✔ Scatter plot is more appropriate to represent the relationship between two numerical variables.

6406532577262. ✖ There is no available method for determining the association between a categorical and a numerical variable.

6406532577263. ✔ Covariance can be computed only for two numerical variables.

Sub-Section Number :	4
Sub-Section Id :	640653112572
Question Shuffling Allowed :	Yes
Is Section Default? :	null

**Question Number : 38 Question Id : 640653770432 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 3 Max. Selectable Options : 0**

Question Label : Multiple Select Question

Which of the following option(s) is(are) correct ?

**Options :**

6406532577214. ✓ If  $A$  and  $B$  are independent events, then  $P(A \cup B) = P(A) + P(B) - P(A)P(B)$ .

6406532577215. ✖ If  $A$  and  $B$  are disjoint events, then  $P(A \cup B) = P(A) + P(B) - P(A)P(B)$ .

6406532577216. ✓ If  $A$  and  $B$  are disjoint events, then  $P(A \cup B) = P(A) + P(B)$ .

6406532577217. ✖ If  $A$  and  $B$  are independent events, then  $P(A \cup B) = P(A) \times P(B)$ .

<b>Sub-Section Number :</b>	5
<b>Sub-Section Id :</b>	640653112573
<b>Question Shuffling Allowed :</b>	Yes
<b>Is Section Default? :</b>	null

**Question Number : 39 Question Id : 640653770450 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

In how many different ways can the letters of the word 'ENGLISH' be arranged such that the vowels always come together?

**Response Type : Numeric**

**Evaluation Required For SA : Yes**

**Show Word Count : Yes**

**Answers Type :** Equal

**Text Areas :** PlainText

**Possible Answers :**

1440

**Sub-Section Number :** 6

**Sub-Section Id :** 640653112574

**Question Shuffling Allowed :** No

**Is Section Default? :** null

**Question Id : 640653770451 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 : (40 to 41)**

Question Label : Comprehension

Consider a given dataset of weights (in kg) of persons such as 50, 55, 40, 60, 99, 90, 95, 60, 80, 75.

Based on the above data, answer the given subquestions.

**Sub questions**

**Question Number : 40 Question Id : 640653770452 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

Five number summary (min,  $Q_1$ ,  $Q_2$ ,  $Q_3$ , max) of the given data is:

**Options :**

6406532577255. ✖ 40, 60, 75, 90, 99

6406532577256. ✔ 40, 55, 67.5, 90, 99

6406532577257. ✖ 50, 60, 94.5, 95, 99

6406532577258. ✖ 50, 60, 90, 95, 99

**Question Number : 41 Question Id : 640653770453 Question Type : SA Calculator : None**

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

**Correct Marks : 1**

Question Label : Short Answer Question

Find the IQR (Inter-quartile range) of the given dataset.

**Response Type : Numeric**

**Evaluation Required For SA : Yes**

**Show Word Count : Yes**

**Answers Type : Equal**

**Text Areas : PlainText**

**Possible Answers :**

35

<b>Sub-Section Number :</b>	7
<b>Sub-Section Id :</b>	640653112575
<b>Question Shuffling Allowed :</b>	No
<b>Is Section Default? :</b>	null

**Question Id : 640653770433 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 : (42 to 43)**

Question Label : Comprehension

A drawer of socks contains three black socks, four blue socks, and three grey socks. Two socks are chosen at random without replacement. Based on the information, answer the given subquestion.

## Sub questions

**Question Number : 42 Question Id : 640653770434 Question Type : SA Calculator : None**

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

**Correct Marks : 2**

Question Label : Short Answer Question

What is the probability that a black pair is chosen ? Enter the answer correct to two decimal places

**Response Type : Numeric**

**Evaluation Required For SA : Yes**

**Show Word Count : Yes**

**Answers Type : Range**

**Text Areas : PlainText**

**Possible Answers :**

0.04 to 0.10

**Question Number : 43 Question Id : 640653770435 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 they are of same colour ? Enter the answer correct to two decimal places.

**Response Type : Numeric**

**Evaluation Required For SA : Yes**

**Show Word Count : Yes**

**Answers Type : Range**

**Text Areas : PlainText**

**Possible Answers :**

0.24 to 0.30

**Question Id : 640653770436 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 : (44 to 45)**

Question Label : Comprehension

A family has two children. Assume being a male or female of a child is equally likely.

Based on the above data, answer the given subquestions.

**Sub questions**

**Question Number : 44 Question Id : 640653770437 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

Find the probability that at least one child is a boy.

**Options :**

6406532577220. ✖  $\frac{1}{2}$

6406532577221. ✖  $\frac{1}{4}$

6406532577222. ✖  $\frac{2}{3}$

6406532577223. ✔  $\frac{3}{4}$

**Question Number : 45 Question Id : 640653770438 Question Type : SA Calculator : None**

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

**Correct Marks : 2**



Question Label : Short Answer Question

What is the probability that both are boys given that at least one is a boy ? Enter the answer correct to two decimal places.

**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 Id :** 640653770439 **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 :** (46 to 47)

Question Label : Comprehension

The probabilities of  $X$  and  $Y$  becoming principals in a college are  $\frac{4}{5}$  and  $\frac{1}{5}$  respectively. The probabilities that  $X$  and  $Y$  if selected would introduce co-education in the college are  $\frac{1}{6}$  and  $\frac{5}{6}$  respectively.

Based on the above data, answer the given subquestions.

**Sub questions**

**Question Number :** 46 **Question Id :** 640653770440 **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

What is the probability that co-education will be introduced in the college?

**Options :**

6406532577225.

✖  $\frac{2}{15}$

6406532577226. ✖  $\frac{1}{6}$

6406532577227. ✖  $\frac{5}{6}$

6406532577228. ✔  $\frac{3}{10}$

**Question Number : 47 Question Id : 640653770441 Question Type : SA Calculator : None**

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

**Correct Marks : 2**

Question Label : Short Answer Question

If co-education has been introduced in the college, then what is the probability that X is principal ?

Enter the answer correct to two decimal places.

**Response Type : Numeric**

**Evaluation Required For SA : Yes**

**Show Word Count : Yes**

**Answers Type : Range**

**Text Areas : PlainText**

**Possible Answers :**

0.40 to 0.48

**Question Id : 640653770442 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 : (48 to 50)**

Question Label : Comprehension

In a school function, there are 2 violinists, 3 pianists, and 1 flutist. They have to sit in a circular order for a performance. Based on the information, answer the given subquestions.

**Sub questions**

**Question Number : 48 Question Id : 640653770443 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Max. Selectable Options : 0**

Question Label : Multiple Select Question

Choose the correct options from the following:

**Options :**

6406532577230. ✓ Selection of performers will occur simultaneously.

6406532577231. ✗ Selection of performers will not occur simultaneously.

6406532577232. ✗ With replacement.

6406532577233. ✓ Without replacement.

**Question Number : 49 Question Id : 640653770444 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Max. Selectable Options : 0**

Question Label : Multiple Select Question

Choose the correct options from the following:

**Options :**

6406532577234. ✓ Order matters.

6406532577235. ✗ Order does not matter.

6406532577236. ✓ Permutation is used.

6406532577237. ✗ Combination is used.

**Question Number : 50 Question Id : 640653770445 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

Find the number of ways in which performers can be arranged in a circular order such that no two violinists will sit together.

**Options :**

6406532577238. ✖ 120

6406532577239. ✖ 96

6406532577240. ✔ 72

6406532577241. ✖ 672

**Question Id : 640653770446 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 : (51 to 53)**

Question Label : Comprehension

In a class, there are 5 students who like Statistics and 4 students who like Mathematics. A committee of three students is to be formed.

Based on the above data, answer the given subquestions.

**Sub questions**

**Question Number : 51 Question Id : 640653770447 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 1 Max. Selectable Options : 0**

Question Label : Multiple Select Question

Choose the correct options from the following:

**Options :**

6406532577242. ✓ Selection of students will occur simultaneously.

6406532577243. ✗ Selection of students will not occur simultaneously.

6406532577244. ✗ With replacement.

6406532577245. ✓ Without replacement.

**Question Number : 52 Question Id : 640653770448 Question Type : MSQ Is Question**

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

**Correct Marks : 1 Max. Selectable Options : 0**

Question Label : Multiple Select Question

Choose the correct options from the following:

**Options :**

6406532577246. ✗ Order matters.

6406532577247. ✓ Order does not matter.

6406532577248. ✗ Permutation is used.

6406532577249. ✓ Combination is used.

**Question Number : 53 Question Id : 640653770449 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

Find the number of ways in which the students can be selected such that at least one student likes Statistics.

**Options :**

6406532577250. ✖ 70

6406532577251. ✔ 80

6406532577252. ✖ 90

6406532577253. ✖ 85

Maths2

Section Id :	64065353260
Section Number :	4
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	9
Number of Questions to be attempted :	9
Section Marks :	25
Display Number Panel :	Yes
Section Negative Marks :	0
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 :	640653112576
Question Shuffling Allowed :	No
Is Section Default? :	null

Question Number : 54 Question Id : 640653770456 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0