Question Label : Multiple Choice Question

Consider the quadratic equation $ax^2 + bx + c = 0$ where a, b, c are integers with $a \neq 0$.
Which of the following option(s) are true?

Options :

6406532776302. ✔ If $b^2 - 4ac > 0$ and a perfect square then there exists a rational root of the quadratic equation.

6406532776303. ✖ If $b^2 - 4ac > 0$ and not a perfect square then there exists a rational root of the quadratic equation.

6406532776304. ✖ If $b^2 - 4ac < 0$ and a perfect square then there exists a rational root of the quadratic equation.

6406532776305. ✖ If $b^2 - 4ac < 0$ and not a perfect square then there exists a rational root of the quadratic equation.

Sem1 Statistics1

Section Id :	64065359241
Section Number :	4
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	14
Number of Questions to be attempted :	14
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 :	No
Section Maximum Duration :	0
Section Minimum Duration :	0
Section Time In :	Minutes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	640653122921
Question Shuffling Allowed :	No

Question Number : 69 Question Id : 640653825648 Question Type : MCQ

Correct Marks : 0

Question Label : Multiple Choice Question

THIS IS QUESTION PAPER FOR THE SUBJECT "FOUNDATION LEVEL : SEMESTER I : 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 :

6406532776310. ✔ YES

6406532776311. ✖ NO

Sub-Section Number :	2
Sub-Section Id :	640653122922
Question Shuffling Allowed :	Yes

Question Number : 70 Question Id : 640653825649 Question Type : MSQ

Correct Marks : 2 Max. Selectable Options : 0

Question Label : Multiple Select Question

Figure Q.1 shows the sales distribution of the number of bottles of different types of soft drinks in a shop on a particular day.

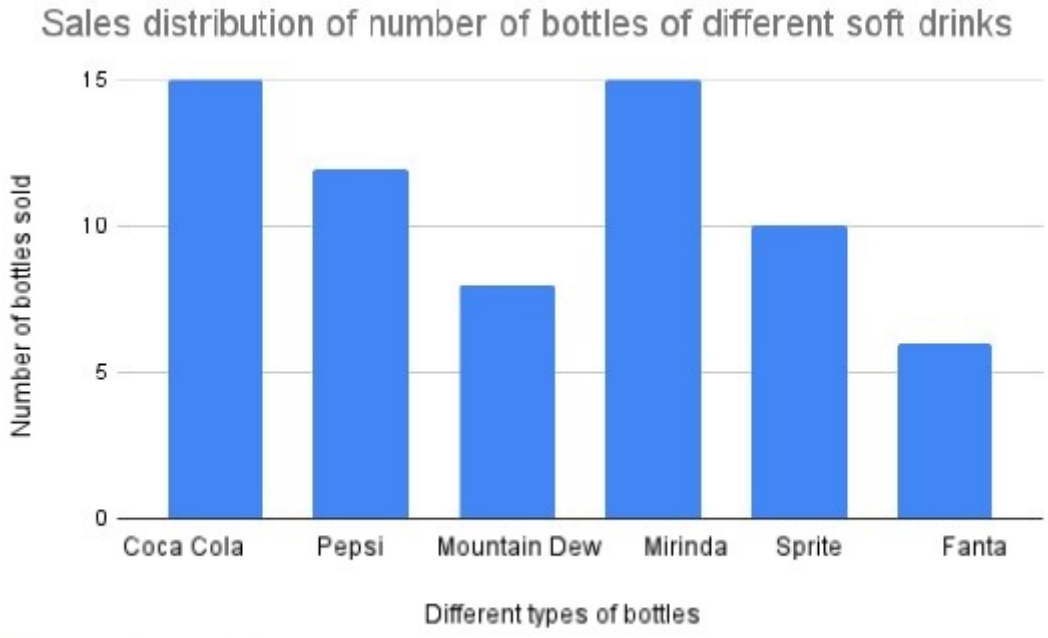

Figure Q.1: Sales Distribution of different types of bottles

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

Options :

6406532776312. ✖ Median of the data will be either “Mountain Dew” or “Mirinda”.

6406532776313. ✔ The data is bimodal.

6406532776314. ✖ Mode is not defined for the given data.

6406532776315. ✔ Median is not defined for the given data.

Question Number : 71 Question Id : 640653825654 Question Type : MSQ

Correct Marks : 2 Max. Selectable Options : 0

Question Label : Multiple Select Question

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

Options :

6406532776325. ✖ Structured data does not follow a predefined format, whereas unstructured data does.

6406532776326. ✖ Recording of the data over time comes under Cross Sectional data.

6406532776327. ✔ Time (in minutes) taken by a student to reach school from his home is a continuous variable.

6406532776328. ✔ Comments on a youtube video comes under the unstructured data.

Sub-Section Number : 3

Sub-Section Id : 640653122923

Question Shuffling Allowed : No

Question Id : 640653825650 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix

Question Numbers : (72 to 73)

Question Label : Comprehension

Table Q.1 represents the number of books read by five students in a year.

Students	Number of books	Relative frequency
Sunil	15	x
Prateek		y
Kanika	6	0.1
Kunal	15	
Sonakshi		z

Table Q.1

Based on the above data, answer the given subquestions

Sub questions

Question Number : 72 Question Id : 640653825651 Question Type : SA

Correct Marks : 2

Question Label : Short Answer Question

What is the value of *x*? 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 :

0.23 to 0.27

Question Number : 73 Question Id : 640653825652 Question Type : MCQ
Correct Marks : 3
Question Label : Multiple Choice Question
If the number of books read by Prateek is same as the number of books read by Sonakshi, then find the value of $y + z$.
Options :
6406532776317. ✖ 0.2
6406532776318. ✖ 0.24
6406532776319. ✔ 0.4
6406532776320. ✖ Insufficient information.

Question Id : 640653825664 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix
Question Numbers : (74 to 75)
Question Label : Comprehension
Amit took a survey of a group of 32 college going students (consisting only of male and female students) to know whether they own a smartphone or not and he got to know the following information.

(i). There are 3 males who do not own a smartphone.
(ii). There are total 27 females.
(iii). There are total 26 students who do not own a smartphone.

Based on the above information, answer the given subquestions.
Sub questions

Question Number : 74 Question Id : 640653825665 Question Type : MCQ
Correct Marks : 2
Question Label : Multiple Choice Question
Create a two-way contingency table and find out the number of males in this group who own a smartphone?
Options :
6406532776342. ✖ 0
6406532776343. ✔ 2
6406532776344. ✖ 3
6406532776345. ✖ 4

Question Number : 75 Question Id : 640653825666 Question Type : MSQ
Correct Marks : 3 Max. Selectable Options : 0
Question Label : Multiple Select Question
Choose the correct option(s) after making a two-way contingency table.
Options :

6406532776346. ✖ There are 40% of the males who do not own a smartphone.

6406532776347. ✔ There are 14.81% of the females who own a smartphone.

6406532776348. ✔ 18.75% of the total students own a smartphone.

6406532776349. ✖ We can calculate covariance to find the association between “Gender” and “Ownership of the smartphone”.

Sub-Section Number : 4

Sub-Section Id : 640653122924

Question Shuffling Allowed : Yes

Question Number : 76 Question Id : 640653825653 Question Type : MCQ

Correct Marks : 3

Question Label : Multiple Choice Question

Consider the following three statements:

Statement 1 : Election symbol is a categorical variable.
Statement 2 : Election symbol has a nominal scale of measurement.
Statement 3 : Number of votes received by a candidate is a continuous variable.

Choose the correct option from the following:

Options :

6406532776321. ✖ Statement-2 and statement-3 both are correct.

6406532776322. ✖ Statement-1 and statement-3 both are correct.

6406532776323. ✔ Statement-1 and statement-2 both are correct.

6406532776324. ✖ All statements are correct.

Sub-Section Number : 5

Sub-Section Id : 640653122925

Question Shuffling Allowed : Yes

Question Number : 77 Question Id : 640653825655 Question Type : MCQ

Correct Marks : 2

Question Label : Multiple Choice Question

Choose the correct statement from the following:

Options :

6406532776329. ✖ Descriptive statistics is concerned with drawing of conclusions from the sample data.

6406532776330. ✖ Inferential statistics is concerned with describing and summarizing the data.

6406532776331. ✖ Inferential statistics doesn’t require sample data.

6406532776332. ✔ All statements are incorrect.

Question Number : 78 Question Id : 640653825667 Question Type : MCQ

Correct Marks : 2

Question Label : Multiple Choice Question

Consider the following four images of the Scatter plot.

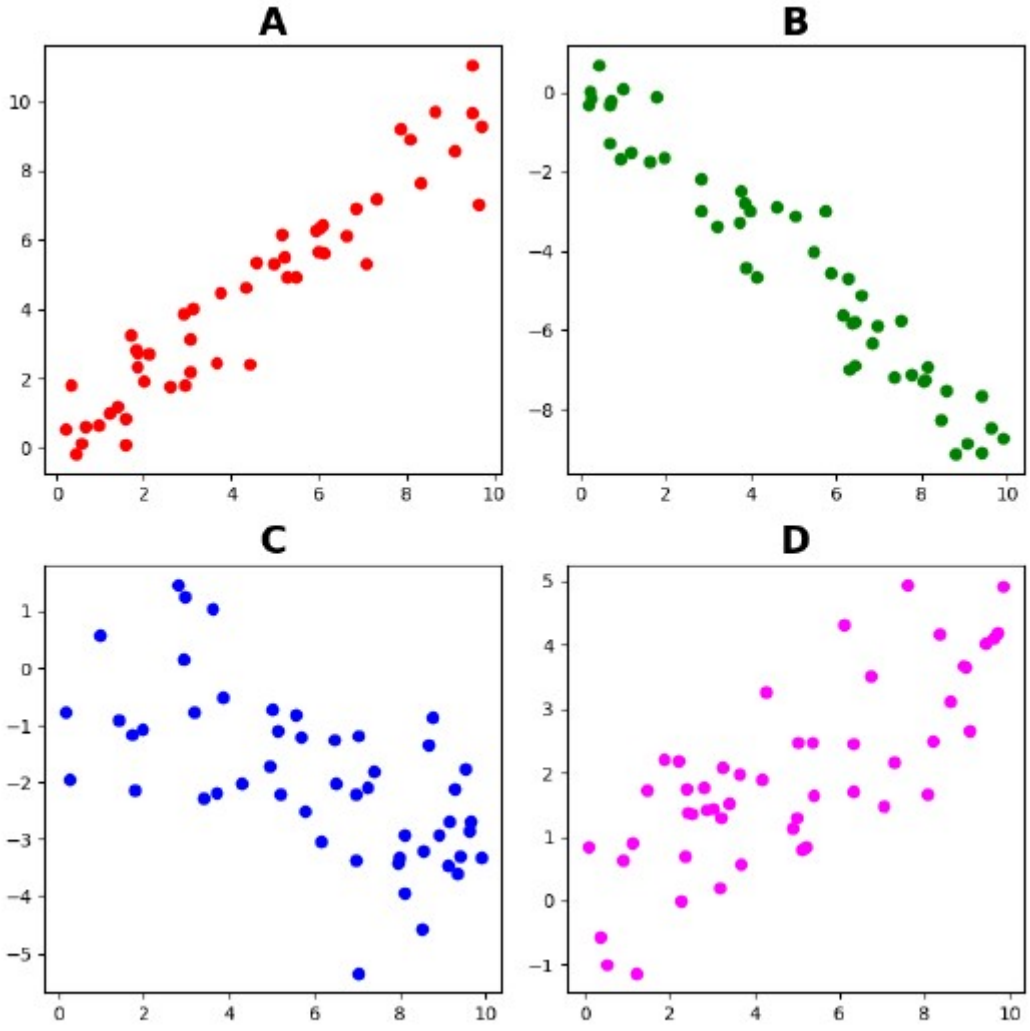

Figure Q.2 : Scatterplots

Please select the option that will represent the correlation values arranged in ascending order.

Options :

6406532776350. ✖ *A < B < C < D*

6406532776351. ✔ *B < C < D < A*

6406532776352. ✖ *B < A < C < D*

6406532776353. ✖ *A < D < C < B*

Sub-Section Number : 6

Sub-Section Id : 640653122926

Question Shuffling Allowed : Yes

Question Number : 79 Question Id : 640653825656 Question Type : SA

Correct Marks : 3

Question Label : Short Answer Question

If the mean of the observations $x_1, x_2, \ldots, x_8$ is 6 and the mean of observations $x_8, x_9, \ldots, x_{15}$ is 13. Given that $x_8 = 3$, what will be the mean of the observations $x_1, x_2, \ldots, x_{15}$?

Response Type : Numeric
Evaluation Required For SA : Yes
Show Word Count : Yes
Answers Type : Range
Text Areas : PlainText
Possible Answers :
9.90 to 9.96

Question Number : 80 Question Id : 640653825668 Question Type : SA
Correct Marks : 3
Question Label : Short Answer Question
Find the population covariance between *X* and *Y* for the dataset given in Table Q.2.

X	-3	-4	-5	5	4	3
Y	10	5	3	3	5	10

Table Q.2

Response Type : Numeric
Evaluation Required For SA : Yes
Show Word Count : Yes
Answers Type : Equal
Text Areas : PlainText
Possible Answers :
0

Sub-Section Number : 7
Sub-Section Id : 640653122927
Question Shuffling Allowed : No

Question Id : 640653825657 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix
Question Numbers : (81 to 83)
Question Label : Comprehension
The marks (out of 100) scored by Manoj in a semester exam are given as 60, 70, 65, 75, 80. If Nitin has scored 5 marks more than Manoj in each subject.

Based on the given information, answer the subquestions.
Sub questions

Question Number : 81 Question Id : 640653825658 Question Type : SA
Correct Marks : 2
Question Label : Short Answer Question

Find the mean of the marks scored by Nitin.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

75

Question Number : 82 Question Id : 640653825659 Question Type : MCQ

Correct Marks : 4

Question Label : Multiple Choice Question

If the teacher wants to give the marks out of 50 and modify the marks for every student as

$$\text{Modified marks} = \frac{\text{Marks} \times 50}{100}$$

What is the population variance of the modified marks scored by Manoj?

Options :

6406532776335. ✖ 25

6406532776336. ✖ 50

6406532776337. ✔ 12.5

6406532776338. ✖ Cannot determine

Question Number : 83 Question Id : 640653825660 Question Type : SA

Correct Marks : 2

Question Label : Short Answer Question

Calculate the correlation coefficient between the marks scored by Manoj and Nitin.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

1

Sub-Section Number :	8
Sub-Section Id :	640653122928
Question Shuffling Allowed :	No

Question Id : 640653825661 Question Type : COMPREHENSION Sub Question Shuffling

Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix Question Numbers : (84 to 85)

Question Label : Comprehension

The stem and leaf diagram below shows the ages (in years) of a group of people attending the Paradox event.

Stem	Leaf
1	4 5 8
2	1 2 4
3	1 1 2 3 3 3 4

Here, 1 | 4 represents 14 years.

Based on the above data, answer the given subquestions

Sub questions

Question Number : 84 Question Id : 640653825662 Question Type : SA
Correct Marks : 2

Question Label : Short Answer Question

What will be the median age for this group?

Response Type : Numeric
Evaluation Required For SA : Yes
Show Word Count : Yes
Answers Type : Equal
Text Areas : PlainText
Possible Answers :

31

Question Number : 85 Question Id : 640653825663 Question Type : SA
Correct Marks : 1

Question Label : Short Answer Question

How many people are above 23 years of Age in the given stem and leaf plot?

Response Type : Numeric
Evaluation Required For SA : Yes
Show Word Count : Yes
Answers Type : Equal
Text Areas : PlainText
Possible Answers :

8

Sub-Section Number : 9
Sub-Section Id : 640653122929
Question Shuffling Allowed : Yes

Question Number : 86 Question Id : 640653825669 Question Type : SA
Correct Marks : 1
Question Label : Short Answer Question

The mode of the observations $x_1, x_2, \ldots, x_n$ is 40. What is the mode of the observations $2x_1 + 10, 2x_2 + 10, \ldots, 2x_n + 10$?

Response Type : Numeric
Evaluation Required For SA : Yes
Show Word Count : Yes
Answers Type : Equal
Text Areas : PlainText
Possible Answers :
90

Sub-Section Number :	10
Sub-Section Id :	640653122930
Question Shuffling Allowed :	Yes

Question Number : 87 Question Id : 640653825670 Question Type : MSQ
Correct Marks : 1 Max. Selectable Options : 0
Question Label : Multiple Select Question
Choose the correct option(s):
Options :
6406532776356. ✔ 25th percentile is known as the first quartile.
6406532776357. ✖ Median is the 60th percentile of any data.
6406532776358. ✖ Inter-quartile range is defined as the difference between third quartile and second quartile.
6406532776359. ✔ We need to arrange the data in ascending order to calculate the percentile.

Sem2 Intro to Python

Section Id :	64065359242
Section Number :	5
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	15
Number of Questions to be attempted :	15
Section Marks :	51
Display Number Panel :	Yes
Section Negative Marks :	0
Group All Questions :	No