

constant term and ended up in getting roots as 3 and 4. Shyam made a mistake in writing down the coefficient of x and got the roots as 2 and 3. Consider the leading coefficient to be 1 in all cases. The correct roots of the quadratic equation are:

Options :

6406532470298. ✖ 1 and 5

6406532470299. ✖ 2 and 6

6406532470300. ✔ 1 and 6

6406532470301. ✖ 2 and 5

Sem1 Statistics1

Section Id :	64065351397
Section Number :	4
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	13
Number of Questions to be attempted :	13
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 :	640653107932
Question Shuffling Allowed :	No
Is Section Default? :	null

Question Number : 74 Question Id : 640653738196 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 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 :

6406532470302. ✓ YES

6406532470303. ✗ NO

Sub-Section Number :	2
Sub-Section Id :	640653107933
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 75 Question Id : 640653738197 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2

Question Label : Multiple Choice Question

A teacher wants to know if the willingness of students to go for a school trip is associated with the gender of students. In this regard, the teacher collected the data from the school and plotted a 100% stacked bar chart as shown in Figure Q.1.

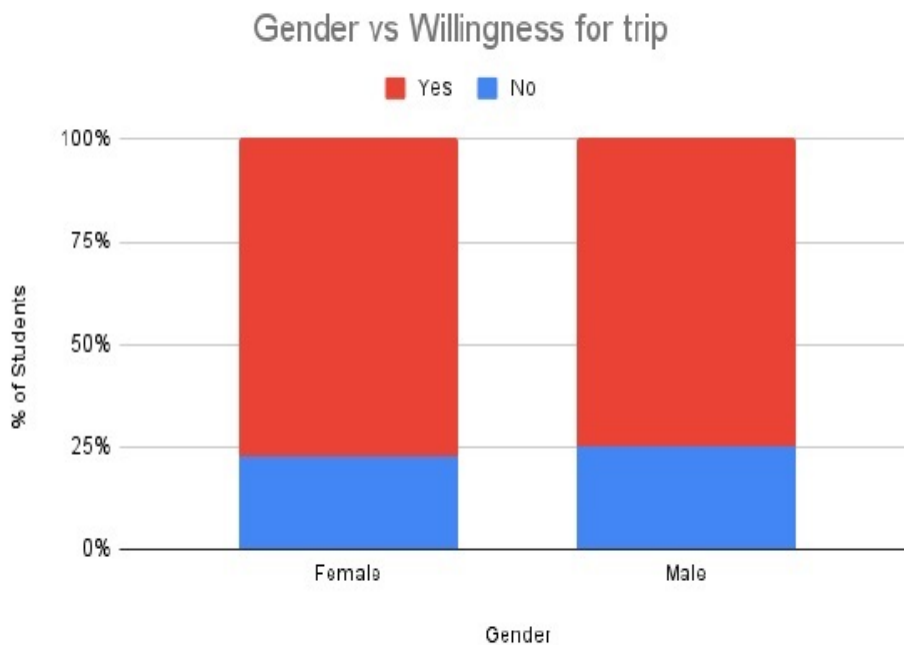


Figure Q.1: 100% Stacked bar chart of Gender vs willingness

What conclusion can you make about association between two variables “Gender” and “Willingness” by observing the plot?

Options :

6406532470304. ✖ There is an association between “Gender” and “Willingness” as row relative frequencies will be approximately same for all rows.

6406532470305. ✔ There is no association between “Gender” and “Willingness” as row relative frequencies will be approximately same for all rows.

6406532470306. ✖ There is an association between “Gender” and “Willingness” as row relative frequencies will be different for all rows.

6406532470307. ✖ There is no association between “Gender” and “Willingness” as row relative frequencies will be different for all rows.

Sub-Section Number :

3

Sub-Section Id :

640653107934

Question Shuffling Allowed :

Yes

Is Section Default? :

null

Question Number : 76 Question Id : 640653738198 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Max. Selectable Options : 0

Question Label : Multiple Select Question

The following stem and leaf diagram represent the marks (out of 50) obtained by 20 students in an A-level mathematics paper:

Stem	Leaf
0	0 5 6 8
1	0 0 2 6
2	0 3 5 8
3	3 5 8 8
4	4 9
5	0 0

Here, 0 | 5 represents 5 marks.

Based on the given information, select the correct options from the following:

Options :

- 6406532470308. ✖ There are 9 students who have scored greater than 20 marks.
- 6406532470309. ✖ The data is bimodal.
- 6406532470310. ✔ Mean is greater than the median.
- 6406532470311. ✔ Interquartile range is 28.

Sub-Section Number : 4

Sub-Section Id : 640653107935

Question Shuffling Allowed : Yes

Is Section Default? : null

Question Number : 77 Question Id : 640653738199 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

Table Q.1 shows the number of accidents on a highway over a period of n days:

Number of accidents	0	1	2	3	4	5
Frequency	10	4	b	4	1	2

Table Q.1

The average number of accidents is 1.6, then find the value of $b + n$.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

39

Question Number : 78 **Question Id :** 640653738206 **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

Table Q.3 represents the heights (in inches) of five fathers (X) and their sons (Y).

X	65	65	60	80	80
Y	60	60	55	75	75

Table Q.3 : Heights (in inches) of fathers and their sons

What is the value of population covariance between X and Y ?

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

70

Sub-Section Number : 5
Sub-Section Id : 640653107936
Question Shuffling Allowed : Yes
Is Section Default? : null

Question Number : 79 Question Id : 640653738200 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

To ensure the accuracy of conclusions drawn through inferential statistics, which of the following statement(s) must be true?

Options :

6406532470313. ✖ Sample should not be randomly selected.

6406532470314. ✔ Sample should be randomly selected.

6406532470315. ✔ Sample should be a good representative of the population.

6406532470316. ✖ Sample should not be representative of the population.

Question Number : 80 Question Id : 640653738201 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 true?

Options :

6406532470317. ✖ The gross annual income for each of 1000 randomly chosen households in New York City for the year 2000 is a time series data.

6406532470318. ✖ Passenger Name Record (PNR) number has an ordinal scale of measurement.

6406532470319.

✔ Revenue generated by India through tea exports to 10 different countries in year 2010 is a cross-sectional data.

6406532470320. ✔ Shirt size is a categorical variable.

Sub-Section Number : 6
Sub-Section Id : 640653107937
Question Shuffling Allowed : No
Is Section Default? : null

Question Id : 640653738202 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 : (81 to 82)

Question Label : Comprehension

An analyst conducted a survey to understand the opinions of college students regarding the quality of education at their institution. He collected the data from 10 students as:

"Fair", "Fair", "Excellent", "Poor", "Fair", "Excellent", "Poor", "Poor", "Excellent", and "Poor".

Based on the above data, answer the given subquestions.

Sub questions

Question Number : 81 Question Id : 640653738203 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

What is the mode of the given data?

Options :

6406532470321. ✖ Excellent

6406532470322. ✔ Poor

6406532470323. ✖ Fair

6406532470324. ✖ Mode is not defined for the given data

Question Number : 82 Question Id : 640653738204 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2

Question Label : Multiple Choice Question

What is the median of the given data?

Options :

6406532470325. ✖ Poor

6406532470326. ✔ Fair

6406532470327. ✖ Excellent

6406532470328. ✖ Median is not defined for given data

Sub-Section Number :	7
Sub-Section Id :	640653107938
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 83 Question Id : 640653738205 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5 Max. Selectable Options : 0

Question Label : Multiple Select Question

Table Q.2 shows the count of sales of shirts at a men's clothing retailer.

Size	Style		
	Button-down	Polo	Small Print
Small	25	35	40
Medium	50	20	30
Large	60	20	20

Table Q.2

Choose the correct option/s from the following:

Options :

6406532470329. ✓ Of all the shirts with Polo style, there are 26.67% shirts of Medium size.

6406532470330. ✗ Of all the shirts with Small size, there are 25% shirts of Small Print style.

6406532470331. ✗ There is no association between the size and style of shirts.

6406532470332. ✓ There is an association between the size and style of shirts.

Sub-Section Number :

8

Sub-Section Id :

640653107939

Question Shuffling Allowed :

Yes

Is Section Default? :

null

Question Number : 84 Question Id : 640653738207 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

Consider a dataset of 50 items. Suppose $\sum_{i=1}^{50} (x_i - \bar{x})^2 = 8$ and $\sum_{i=1}^{50} x_i = 20$. Find the mean $\bar{x}$ and population standard deviation σ of the dataset.

Options :

6406532470334. ✗ $\bar{x} = 20, \sigma = 8$

6406532470335. ✗ $\bar{x} = 1000, \sigma = 0.4$

6406532470336. ✓ $\bar{x} = 0.4, \sigma = 0.4$

6406532470337. ✖ $\bar{x} = 2.5, \sigma = 0.4$

Question Number : 85 Question Id : 640653738208 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

Select the correct statements from the following:

Options :

6406532470338. ✓ Two data sets with the identical frequency distributions will have identical relative frequency distributions.

6406532470339. ✖ A relative frequency is the number of observations belonging to a category.

6406532470340. ✖ Two data sets with the identical relative-frequency distributions will always have identical frequency distributions.

6406532470341. ✖ If all of the bars in a bar chart have the same length, then the categorical variable shown in the bar chart has no variation.

Sub-Section Number :	9
Sub-Section Id :	640653107940
Question Shuffling Allowed :	No
Is Section Default? :	null

Question Id : 640653738209 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 : (86 to 87)

Question Label : Comprehension

Figure Q.2 illustrates the proportional distribution of renewable energy consumption across various sources throughout the country. The total renewable energy consumption is given as 350 kWh.

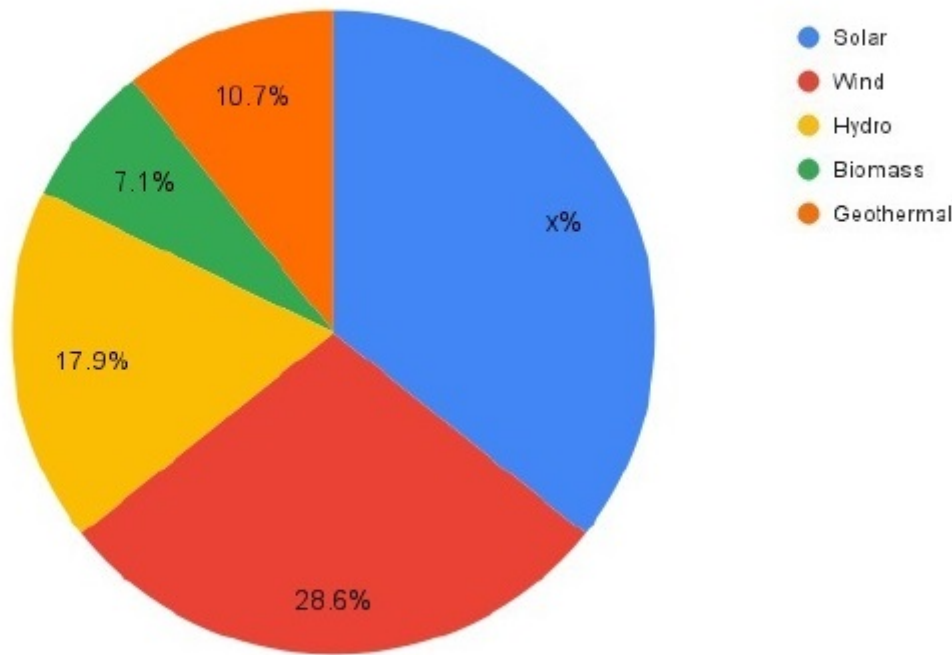


Figure Q.2: Distribution of renewable energy consumption

Based on the above information, answer the given subquestions:

Sub questions

Question Number : 86 Question Id : 640653738210 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
Find the value of 10x.

Response Type : Numeric
Evaluation Required For SA : Yes
Show Word Count : Yes

Answers Type : Equal
Text Areas : PlainText

Possible Answers :

Question Number : 87 Question Id : 640653738211 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

Choose the correct statement(s) from the following.

Options :

- 6406532470343. ✔ Mode of the data is solar energy.
- 6406532470344. ✖ Median of the data is wind energy.
- 6406532470345. ✔ The combined consumption of the hydro, biomass and geothermal energy is more than the wind energy consumption.
- 6406532470346. ✖ The consumption of solar energy is 120 kWh.

Sub-Section Number :	10
Sub-Section Id :	640653107941
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 88 Question Id : 640653738212 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

Table Q.4 represents the details of six persons who visit an online Website to purchase few items.

Person	Household size	Region	Income Range	Age (in years)	Purchase
Person 1	6	North Central	less than 50k	23	Yes
Person 2	5	North Central	50k - 60k	30	No
Person 3	4	West	60k-70k	35	Yes
Person 4	4	East	70k-80k	28	No
Person 5	6	South	80k-90k	35	No
Person 6	3	North Central	more than 90k	29	Yes

Table Q.4 : Details of six person who visit an online Website

Choose the correct option(s) from the following:

Options :

6406532470347. ✓ Purchase and Region are categorical variables.

6406532470348. ✗ Income Range has nominal scale of measurement.

6406532470349. ✓ Age has a ratio scale of measurement.

6406532470350. ✓ Household size is a discrete numerical variable.

6406532470351. ✗ Purchase has an ordinal scale of measurement.

Sem2 English2

Section Id : 64065351398

Section Number : 5

Section type : Online

Mandatory or Optional : Mandatory