

Options :

6406533522813. ✓ Could

6406533522814. ✗ Would

Sem1 Statistics1

Section Id :	64065375501
Section Number :	4
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	15
Number of Questions to be attempted :	15
Section Marks :	50
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 :	640653160680
Question Shuffling Allowed :	No

Question Number : 144 Question Id : 6406531043192 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 :

6406533522815. ✓ YES

6406533522816. ✗ NO

Sub-Section Number : 2

Sub-Section Id : 640653160681

Question Id : 6406531043193 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix Question Numbers : (145 to 146) Question Label : Comprehension

A family has a monthly income of ₹50,000. Their expenditures are divided into the following categories:

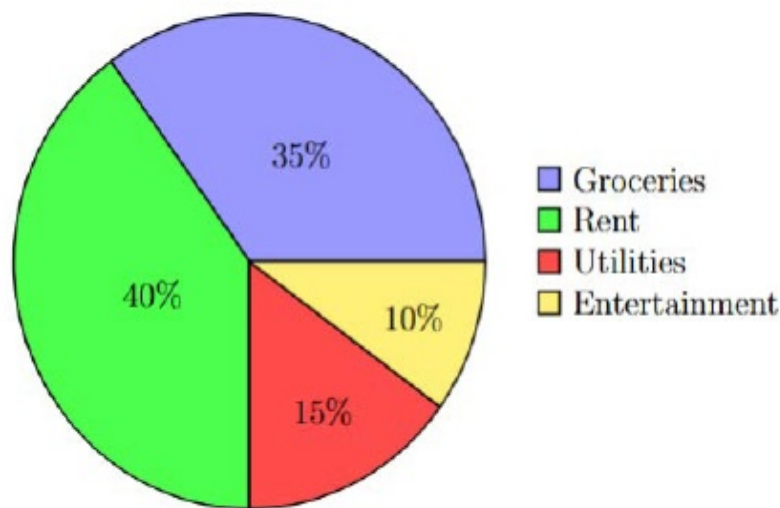


Figure 1: Household Budget Distribution

Based on the above data answer the given subquestions.

Sub questions

Question Number : 145 Question Id : 6406531043194 Question Type : MCQ Correct Marks : 3

Question Label : Multiple Choice Question

What is the difference between the expenditure on Groceries and Utilities?

Options :

- 6406533522817. ✖ ₹20000
- 6406533522818. ✔ ₹12500
- 6406533522819. ✖ ₹15000
- 6406533522820. ✖ ₹27000

Question Number : 146 Question Id : 6406531043195 Question Type : MCQ Correct Marks : 2

Question Label : Multiple Choice Question

How much money does the family spend on Rent and Utilities combined?

Options :

- 6406533522821. ✖ ₹25,000
- 6406533522822. ✔ ₹27,500

6406533522823. ✖ ₹27,000

6406533522824. ✖ ₹28,000

Sub-Section Number : 3
Sub-Section Id : 640653160682
Question Shuffling Allowed : Yes

Question Number : 147 Question Id : 6406531043196 Question Type : MSQ

Correct Marks : 2 Max. Selectable Options : 0

Question Label : Multiple Select Question

Which of the following options is/are incorrect for a variable having ratio scale of measurement?

Options :

6406533522825. ✔ Difference between the values of a variable can not be evaluated.

6406533522826. ✖ Order of the data is meaningful.

6406533522827. ✖ Multiplication and division of values of a variable is possible.

6406533522828. ✔ It does not have an absolute zero.

Sub-Section Number : 4
Sub-Section Id : 640653160683
Question Shuffling Allowed : Yes

Question Number : 148 Question Id : 6406531043197 Question Type : SA

Correct Marks : 4

Question Label : Short Answer Question

The average of 15 observations is 45. If the average of the first 8 observations is 41 and the average of the last 8 observations is 53, what is the value of the 8th observation?

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

77

Question Number : 149 Question Id : 6406531043209 Question Type : SA

Correct Marks : 4

Question Label : Short Answer Question

A certain type of electronic device has a lifetime that follows an exponential distribution with a mean of 500 hours. If the device has already worked for 400 hours without failing, what is the probability that it will continue to function for at least another 100 hours? (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 :

0.79 to 0.85

Sub-Section Number : 5

Sub-Section Id : 640653160684

Question Shuffling Allowed : No

Question Id : 6406531043198 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix

Question Numbers : (150 to 151)

Question Label : Comprehension

A university needs to form a research team of 4 students out of total 9 students.

Based on the above data answer the given subquestions.

Sub questions

Question Number : 150 Question Id : 6406531043199 Question Type : SA

Correct Marks : 2

Question Label : Short Answer Question

In how many ways can the team be formed if two particular students must be included?

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

21

Question Number : 151 Question Id : 6406531043200 Question Type : SA

Correct Marks : 2

Question Label : Short Answer Question

In how many ways can the team be formed if two particular students must not be included?

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

35

Sub-Section Number : 6
Sub-Section Id : 640653160685
Question Shuffling Allowed : Yes

Question Number : 152 Question Id : 6406531043201 Question Type : SA

Correct Marks : 3

Question Label : Short Answer Question

In how many different ways can the letters of the word “READING” 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 :

720

Sub-Section Number : 7
Sub-Section Id : 640653160686
Question Shuffling Allowed : Yes

Question Number : 153 Question Id : 6406531043202 Question Type : SA

Correct Marks : 2

Question Label : Short Answer Question

In a survey of 120 people, 70 like tea, 50 like coffee, and 30 like both tea and coffee. What is the probability that a person chosen at random likes either tea or coffee? [Enter the correct answer up to 1 decimal place]

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

0.72 to 0.78

Sub-Section Number : 8
Sub-Section Id : 640653160687
Question Shuffling Allowed : Yes

Question Number : 154 Question Id : 6406531043203 Question Type : MSQ

Correct Marks : 3 Max. Selectable Options : 0

Question Label : Multiple Select Question

A jar contains 6 red balls and 8 blue balls. Two balls are drawn without replacement. Let event A be

the event that the first ball drawn is red, and event B be the event that the second ball drawn is blue. Which of the following statement(s) is(are) true?

Options :

6406533522834. ✓ $P(A) = \frac{6}{14}$

6406533522835. ✗ $P(B) = \frac{8}{15}$

6406533522836. ✓ $P(A \cap B) = \frac{24}{91}$

6406533522837. ✗ A and B are independent events.

Question Number : 155 Question Id : 6406531043212 Question Type : MSQ

Correct Marks : 3 Max. Selectable Options : 0

Question Label : Multiple Select Question

For $X \sim \text{Normal}(\mu = 65, \sigma^2 = 36)$ which of the following option(s) is(are) correct?

Options :

6406533522860. ✓ $P(X \leq 65) = 0.5$

6406533522861. ✗ $P(59 \leq X \leq 71) = P(X \leq 59) + P(X \leq 71)$

6406533522862. ✗ $P(59 \leq X \leq 71) = P(X \leq 59) - P(X \leq 71)$

6406533522863. ✓ $P(59 \leq X \leq 71) = P(X \leq 71) - P(X \leq 59)$

Sub-Section Number :

9

Sub-Section Id :

640653160688

Question Shuffling Allowed :

No

Question Id : 6406531043204 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix

Question Numbers : (156 to 157)

Question Label : Comprehension

The probability mass function of a discrete random variable Y is given by:

Y	0	1	2	3
$P(Y = y)$	$\frac{1}{5}$	$\frac{2}{5}$	$\frac{1}{5}$	$\frac{1}{5}$

Based on the above data answer the given subquestions.

Sub questions

Question Number : 156 Question Id : 6406531043205 Question Type : MCQ

Correct Marks : 4

Question Label : Multiple Choice Question

Find the value of $E(Y^2 + 5Y)$.

Options :

6406533522838. ✖ 15

6406533522839. ✔ 10

6406533522840. ✖ 20

6406533522841. ✖ 12

Question Number : 157 Question Id : 6406531043206 Question Type : SA

Correct Marks : 2

Question Label : Short Answer Question

Find the value of $\text{Var}(Y)$. [Enter the correct answer up to 2 decimal places]

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

1.01 to 1.07

Sub-Section Number :

10

Sub-Section Id :

640653160689

Question Shuffling Allowed :

Yes

Question Number : 158 Question Id : 6406531043207 Question Type : MCQ

Correct Marks : 3

Question Label : Multiple Choice Question

If the Indian cricket team has a 65% chance of winning a match, and they play a 5-match series

with each match being independent of the others, what is the probability that the team will win at least 4 matches?

Options :

6406533522843. ✖ 0.31

6406533522844. ✖ 0.12

6406533522845. ✔ 0.43

6406533522846. ✖ 0.57

Question Number : 159 Question Id : 6406531043208 Question Type : MCQ

Correct Marks : 3

Question Label : Multiple Choice Question

A company has 5 team leads and 15 team members. A small working group of 4 individuals is to be formed to tackle a special project. Let the random variable X represent the number of team leads in the working group. Find the possible values that X can take.

Options :

6406533522847. ✔ $\{0,1,2,3,4\}$

6406533522848. ✖ $\{0,1,2,3\}$

6406533522849. ✖ $\{0,1,2\}$

6406533522850. ✖ $\{0,1,2,3,4,5\}$

Sub-Section Number :

11

Sub-Section Id :

640653160690

Question Shuffling Allowed :

Yes

Question Number : 160 Question Id : 6406531043210 Question Type : MCQ

Correct Marks : 4

Question Label : Multiple Choice Question

The number of customers entering in a store follows a Poisson distribution with an average rate of 8 customers per hour. What is the probability that exactly 5 customers will enter the store in a 15-minute period?

Options :

6406533522852. ✖ $\frac{e^{-5}(5)^5}{5!}$

6406533522853. ✖ $\frac{e^{-0.45}(0.45)^5}{5!}$

6406533522854. ✖ $\frac{e^{-8}(5)^8}{8!}$

6406533522855. ✓ $\frac{e^{-2}(2)^5}{5!}$

Question Number : 161 Question Id : 6406531043211 Question Type : MCQ

Correct Marks : 4

Question Label : Multiple Choice Question

Metros on a certain station arrives uniformly after every 10 minutes. If a person arrives at the metro station at random, then what is the probability that he has to wait at least 4 minutes?

Options :

6406533522856. ✗ $\frac{4}{10}$

6406533522857. ✓ $\frac{6}{10}$

6406533522858. ✗ 0

6406533522859. ✗ $\frac{1}{3}$

Sem2 Maths2

Section Id :	64065375502
Section Number :	5
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	17
Number of Questions to be attempted :	17
Section Marks :	50
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