The quality-control manager at a light bulb factory state that the mean life of a large shipment of light bulbs is equal to 375 hours. The population standard deviation is 100 hours. A random sample of 64 light bulbs indicates a sample mean life of 350 hours. At the 0.05 level of significance, is there evidence that the mean life is increased from 375 hours?

1. Hypothesis: Choose...
2. Test Statistic (Under H_0): Choose...
3. Distribution of test statistic: Choose...
4. Critical value: Choose...
5. Rejection criteria: Choose...
6. Test value:
7. Conclusion (In Scientific term): Choose...
8. Conclusion (In terms of question): Choose...

A large corporation is interested in determining whether a relationship exists between the commuting time of its employees and the level of stress-related problems observed on the job. A study of 116 workers reveals the following:

Commuting Time	Stress Level			
	High	Moderate	Low	Total
Under 15 min	9	5	18	32
15 - 45	17	8	28	53
Over 45 min	18	6	7	31
Total	44	19	53	116

At the 0.05 level of significance, is there evidence of a significant relationship between commuting time and stress level?

1. Hypothesis: Choose...
2. Distribution of test statistic: Choose...
3. Significance level: Choose...
4. Critical value: Choose...
5. Rejection criteria: Choose...
6. Test value: Choose...
7. Conclusion (In Scientific term): Choose...
8. Conclusion (In terms of question):

Question 8 Not yet answered Marked out of 3.00 Flag question

When purifying drinking water you can use a so-called membrane filtration. In an experiment one wishes to examine the relationship between the pressure drop across a membrane and the flux (flow per area) through the membrane. We observe the following 10 related values of pressure (x) and flux (y).

Pressure (X)	1.02	2.08	2.89	4.01	5.32	5.83	7.26	7.96	9.11	9.99
Flux (Y)	1.15	0.85	1.56	1.72	4.32	5.07	5.00	5.31	6.17	7.04

Find the Pearson's correlation coefficient between the flux and the pressure. (Keep your answer in four decimal places)

Answer:

Question 7 Answer saved Marked out of 3.00 Flag question

Suppose that P(A) = 0.4 and P(B) = 0.3 where, A and B are independent. Find P(A and B).

Answer: -0.5

R Output

Coefficients:

(Intercept)	Pressure
-0.1886	0.7225

Analysis of Variance Table

Response: Y

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
X	T	P	S	104.59	7.177e-06 ***
Residuals	U	Q	0.416		
Total	9	R			

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

1. State the estimated Regression equation. Estimated Flux = -0.1886 + 0.7225 (Pressure)
2. Does the slope of the Regression line is significant ($\beta \neq 0$)? Yes. Regression line is significant.
3. Find the estimated flux when the pressure takes the value 5 units. 3.4239 flow per area
4. Provide a meaningful conclusion from the above analysis.
   There is a strong positive linear relationship in between pressure and flux.

When purifying drinking water you can use a so-called membrane filtration. In an experiment one wishes to examine the relationship between the pressure drop across a membrane and the flux (flow per area) through the membrane. We observe the following 10 related values of pressure (x) and flux (y).

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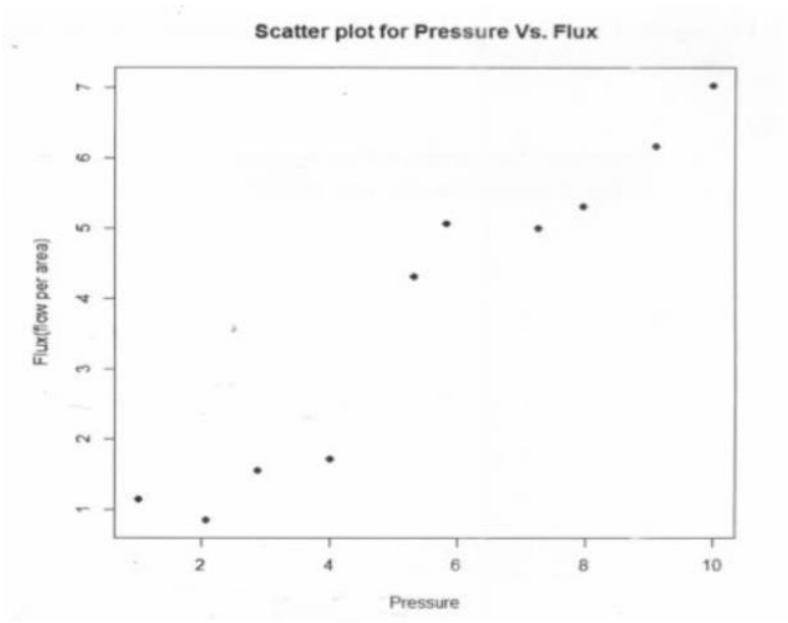
Flux (Y)	1.15	0.85	1.56	1.72	4.32	5.07	5.00	5.31	6.17	7.04



Question 5 Not yet answered Marked out of 9.00 Flag question

Suppose that in late summer, the Fremantle Surf Life Saving club makes an average of seven surf rescues per day. Without using any approximation, find the probability that,

1. More than two rescues are made on a particular day. Choose...
2. Three to five surf rescues are made on a particular day. Choose...
3. Using suitable approximation, find the probability that fewer than four rescues are made on a particular day. Choose...

Question 4

Not yet answered Marked out of 10.00 Flag question

A sample of 42 batteries of a newly produced brand was subjected for testing their lifetimes before it is advertised for marketing. The lifetimes in hours which each survived is given below.

112 105 123 137 157 134 143 155 137 98 141 104 108 99 147 97 131 153 144 94 139 115 152 115 137 115 110 100 112 95 98 102 105 130 90 99 96 110 117 114 120 140

For this data, x bar = 119.76 and S = 6.5123.

1. Construct 95% confidence interval for the true mean lifetime of batteries.

Lower Limit Equation: Choose...

Upper Limit Equation: Choose...

Critical value: Choose...

Lower Limit value: Choose...

Upper Limit value: Choose...

Question 3

Not yet answered Marked out of 9.00 Flag question

A consumer testing service rates a given DVD player as either very good or good. Let A denote the event that the rating is very good and B the event that the rating is good. You are given: Pr(A) = 0.22, Pr(B) = 0.35.

Find,

1. $Pr(A^C)$:
2. Pr(A ∪ B) : Choose...
3. Pr (A∩B) : Choose...

When purifying drinking water you can use a so-called membrane filtration. In an experiment one wishes to examine the relationship between the pressure drop across a membrane and the flux (flow per area) through the membrane. We observe the following 10 related values of pressure (x) and flux (y).

Pressure (X)	1.02	2.08	2.89	4.01	5.32	5.83	7.26	7.96	9.11	9.99
Flux (Y)	1.15	0.85	1.56	1.72	4.32	5.07	5.00	5.31	6.17	7.04

R Output for ANOVA table

Analysis of Variance Table

Response: Y

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
X	T	P	S	104.59	7.177e-06 ***
Residuals	U	Q	0.416		
Total	9	R			

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

i. Find values marked P, Q, R, S, T and U in the ANOVA table.

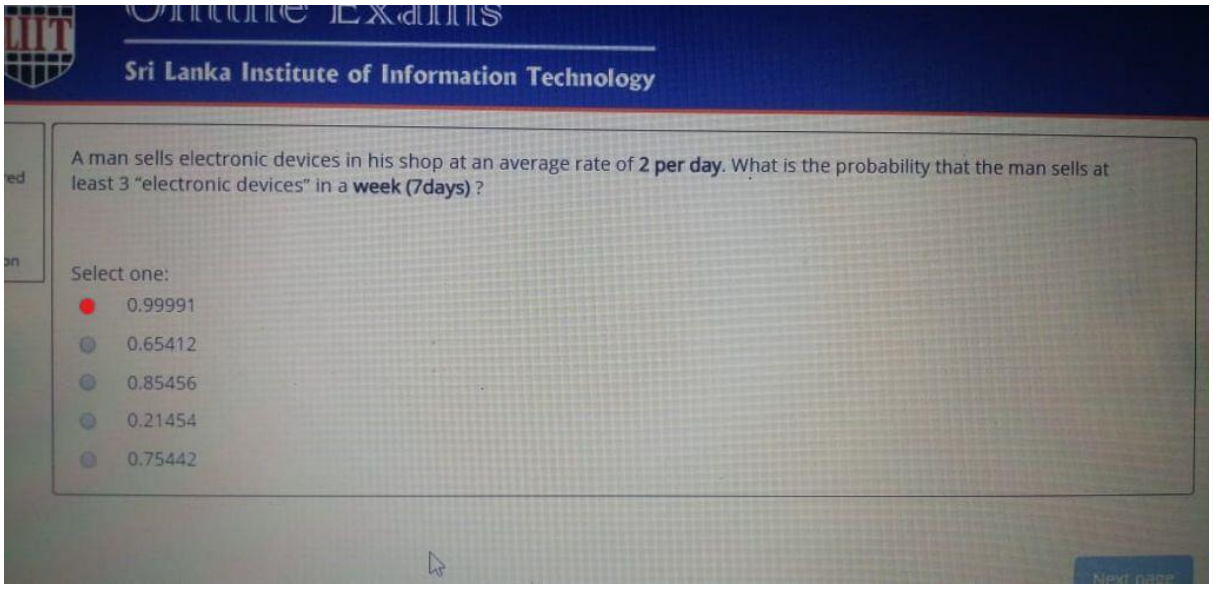
P = 43.5094 Q = 3.328 R = 46.8374 S = 43.5094 T = 1 U = 8

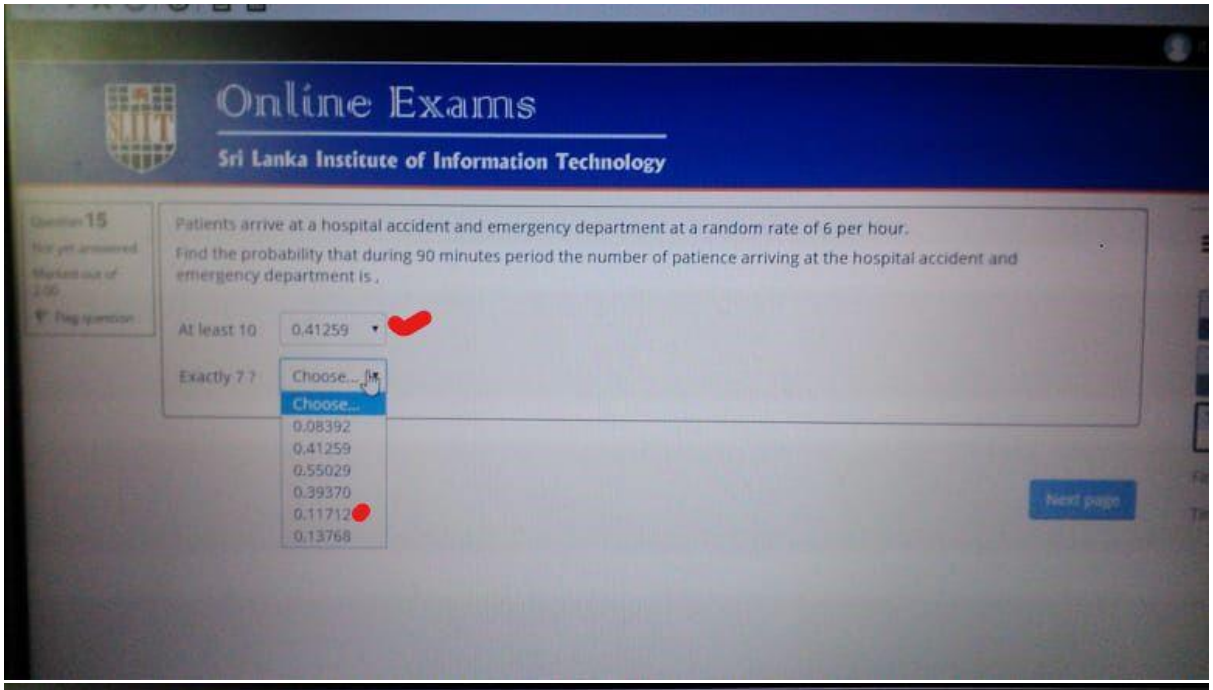
Question 1 Not yet answered Marked out of 16.00 Flag question

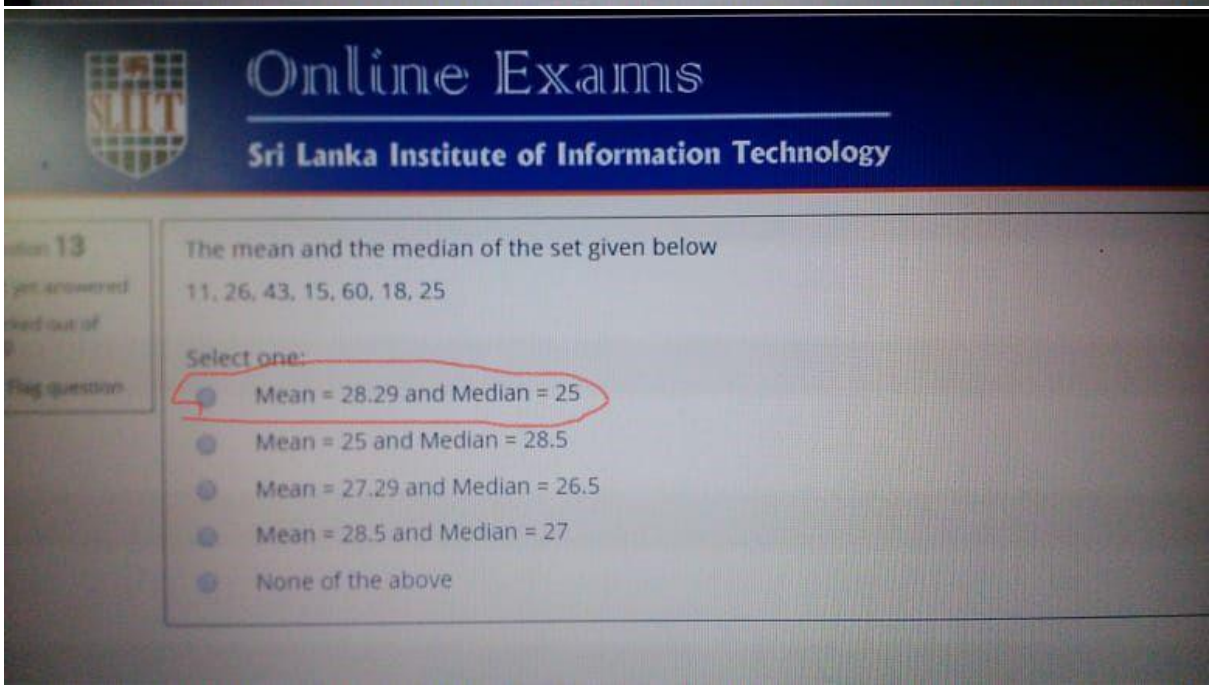
A continuous random variable X has probability density function given by,

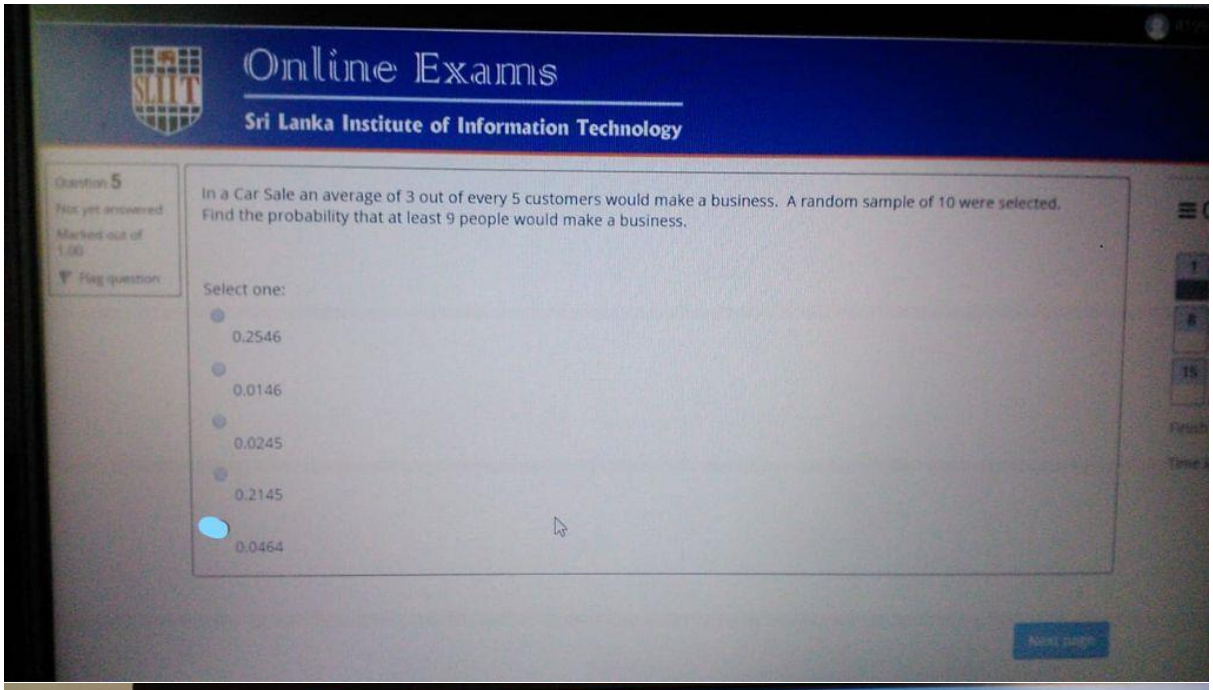
$$f_X(x) = \begin{cases} k(3 - x^2) & ; \ -1 \le x \le 1 \\ 0 & ; \text{otherwise} \end{cases}$$

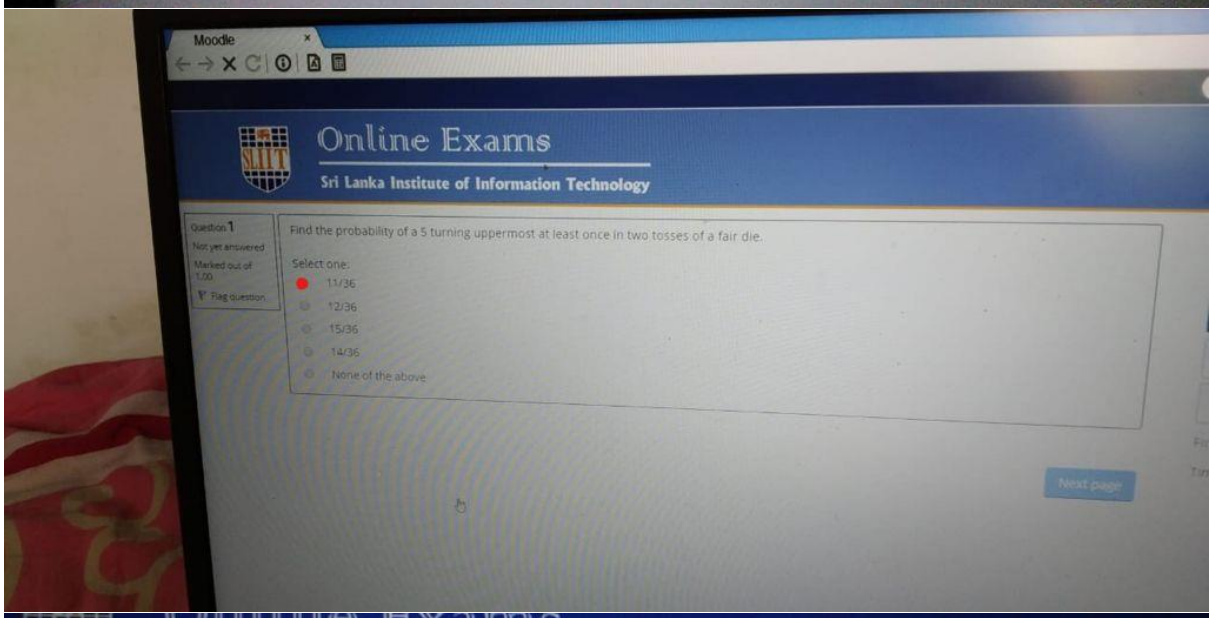
1. Find k value. [ ]
2. Find P(X>0.1). [Choose...]
3. Find V(X). [Choose...]
4. Find cumulative distribution function [Choose...]
5. Find F(0.5). [Choose...]

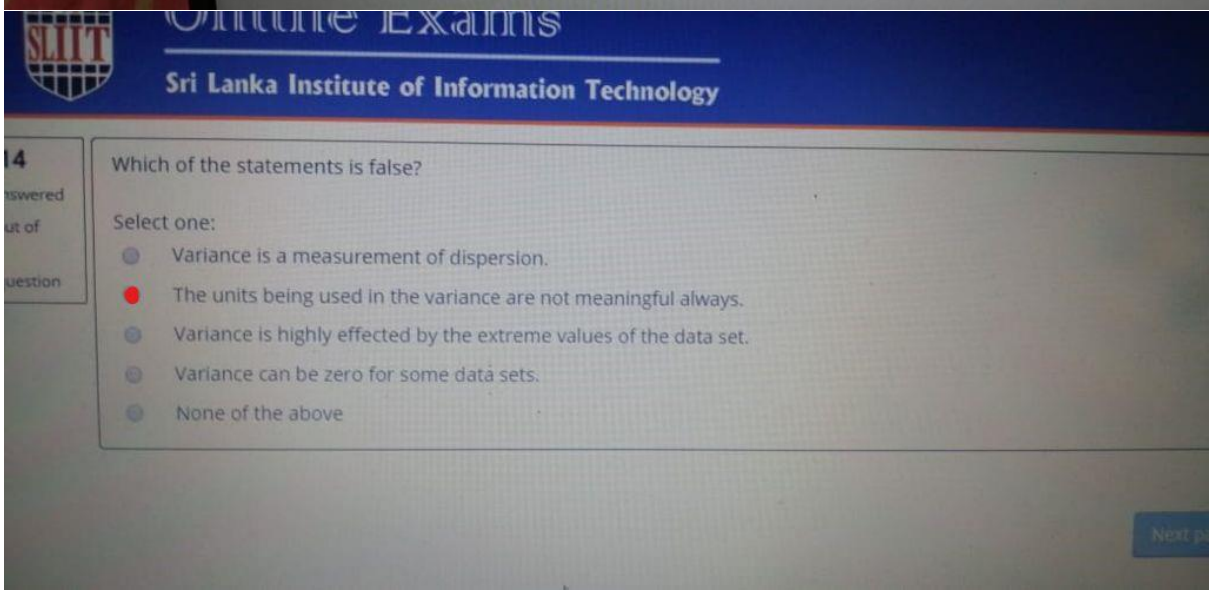


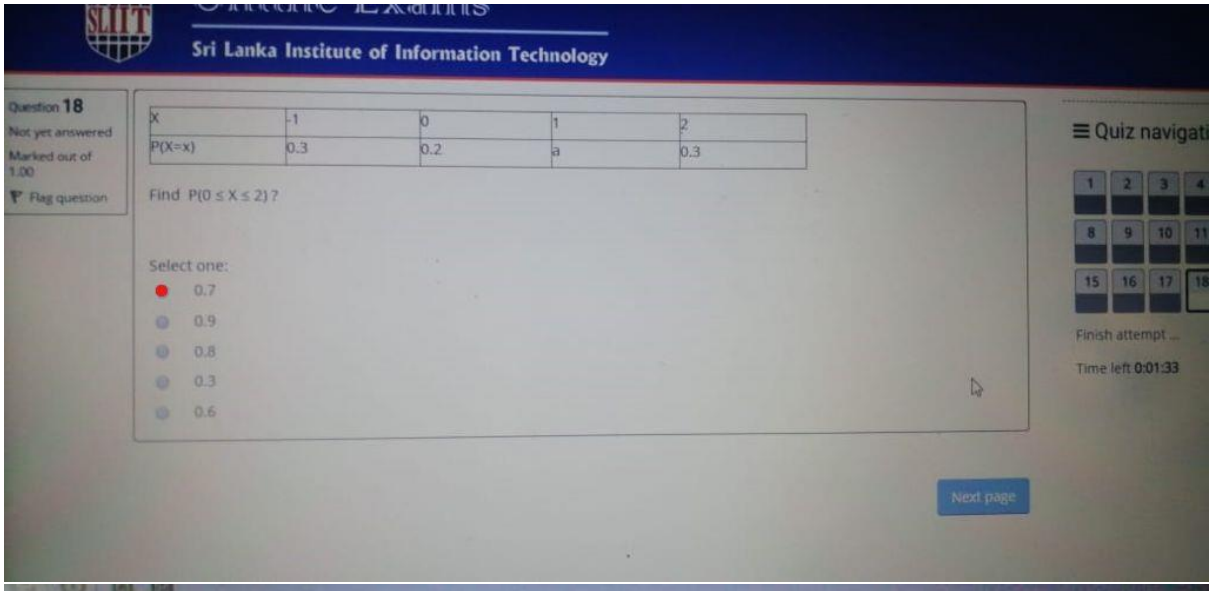

Online Exams
Sri Lanka Institute of Information Technology
Patients arrive at a hospital accident and emergency department at a random rate of 6 per hour.
Find the probability that during 90 minutes period the number of patience arriving at the hospital accident and emergency department is .
At least 10
0.41259
Exactly 7 ?
Choose...
Choose...
0.08392
0.41259
0.55029
0.39370
0.11712
0.13768

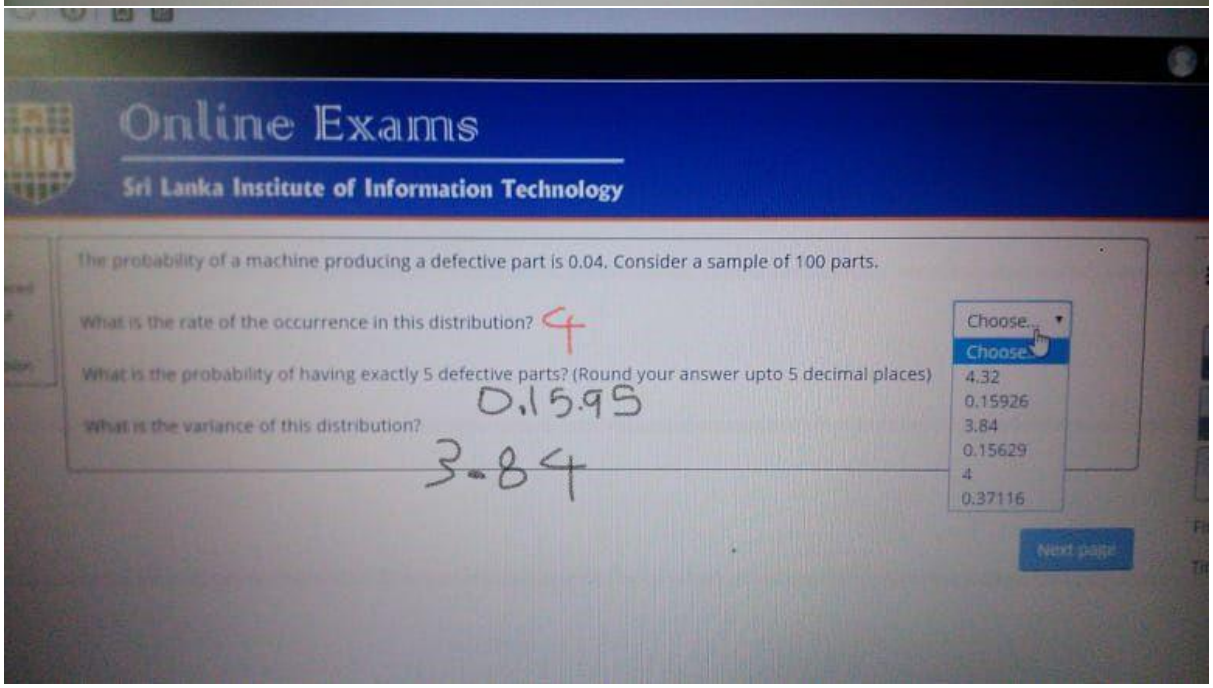

Online Exams
Sri Lanka Institute of Information Technology
The mean and the median of the set given below
11, 26, 43, 15, 60, 18, 25
Select one:
Mean = 28.29 and Median = 25
Mean = 25 and Median = 28.5
Mean = 27.29 and Median = 26.5
Mean = 28.5 and Median = 27
None of the above

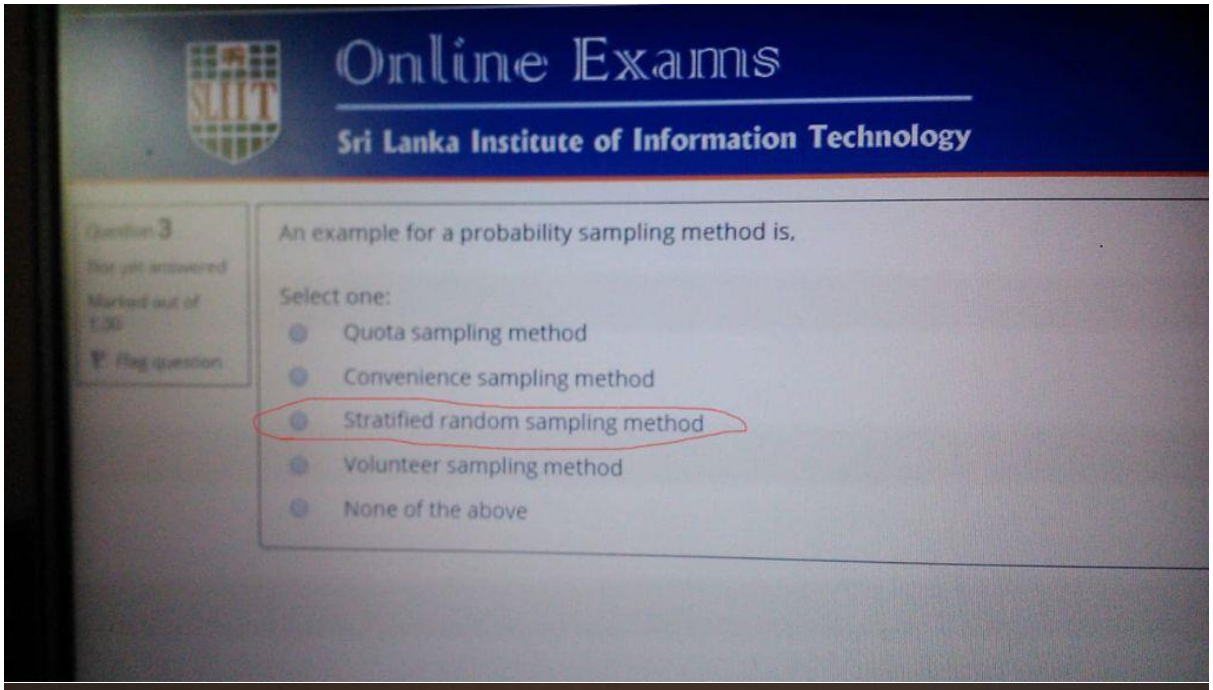

Online Exams
Sri Lanka Institute of Information Technology
Question 5
Not yet answered
Marked out of 1.00
Flag question
In a Car Sale an average of 3 out of every 5 customers would make a business. A random sample of 10 were selected. Find the probability that at least 9 people would make a business.
Select one:
0.2546
0.0146
0.0245
0.2145
0.0464
Next page

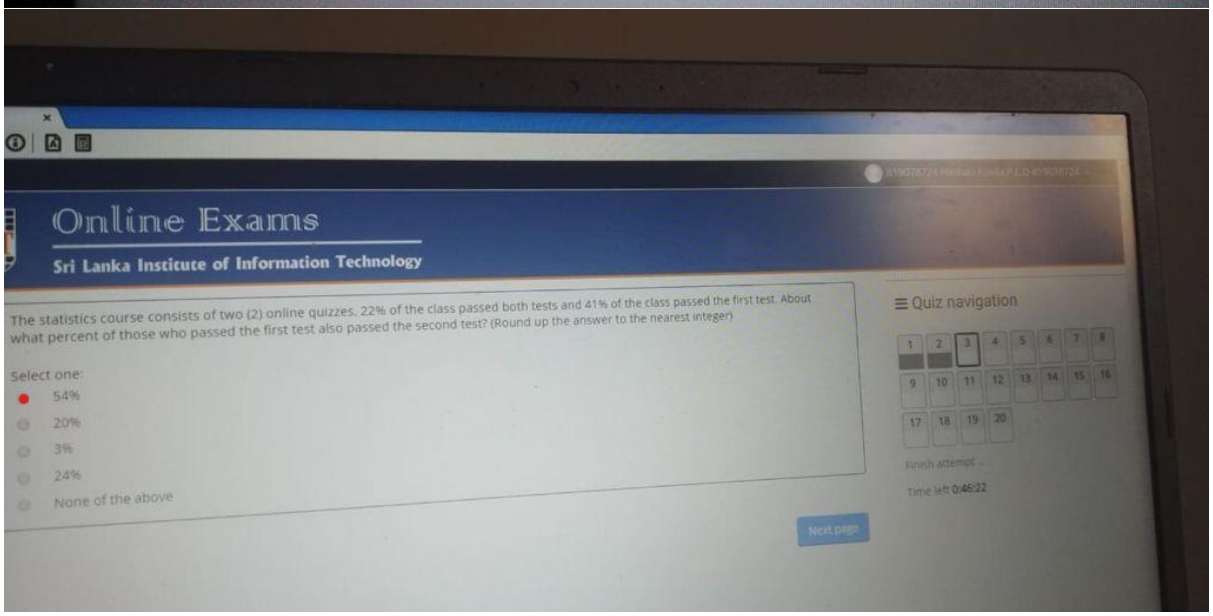

Moodle
Online Exams
Sri Lanka Institute of Information Technology
Question 1
Not yet answered
Marked out of 1.00
Flag question
Find the probability of a 5 turning uppermost at least once in two tosses of a fair die.
Select one:
11/36
12/36
15/36
14/36
None of the above
Next page

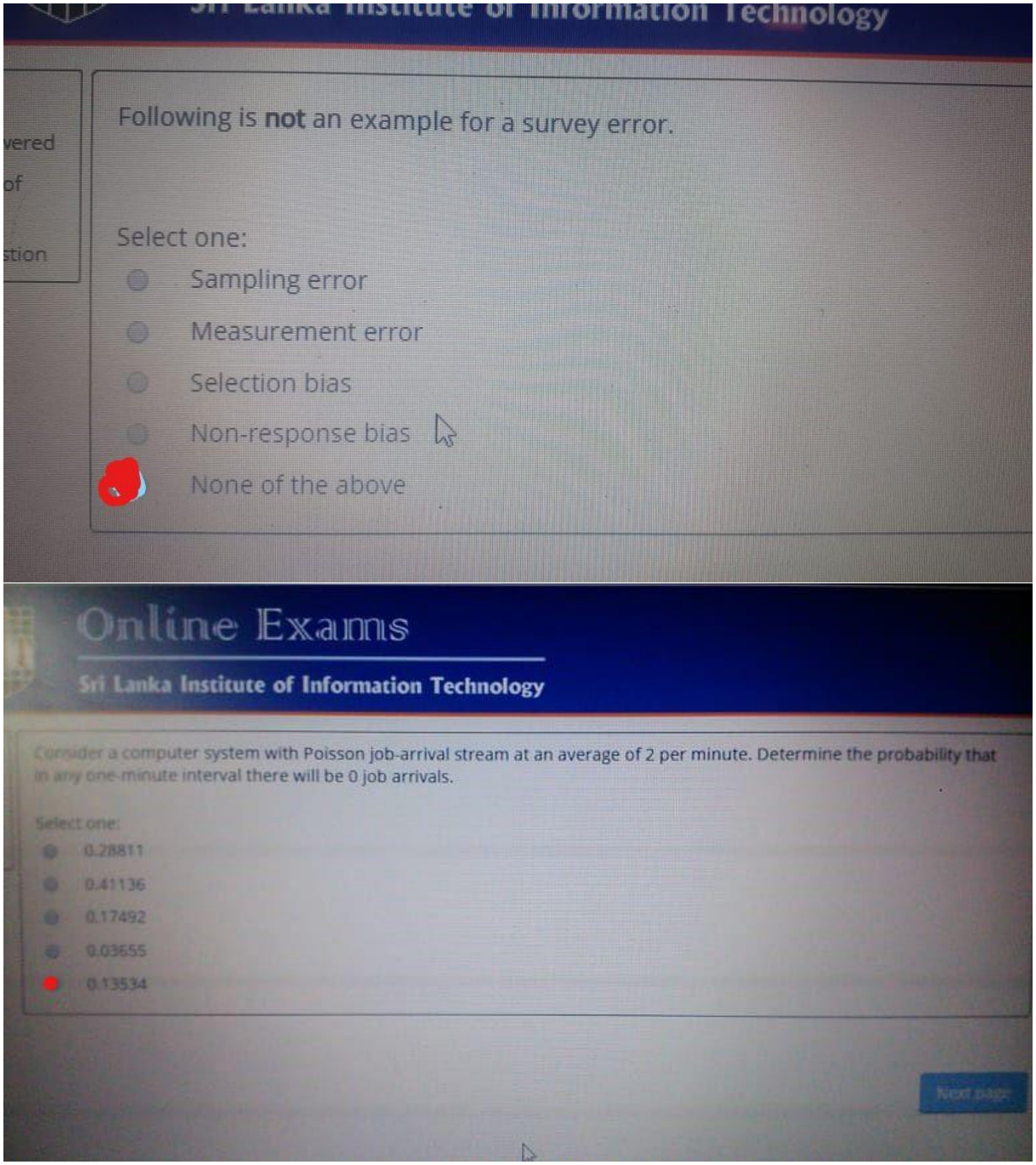

Online Exams
Sri Lanka Institute of Information Technology
Which of the statements is false?
Select one:
Variance is a measurement of dispersion.
The units being used in the variance are not meaningful always.
Variance is highly effected by the extreme values of the data set.
Variance can be zero for some data sets.
None of the above

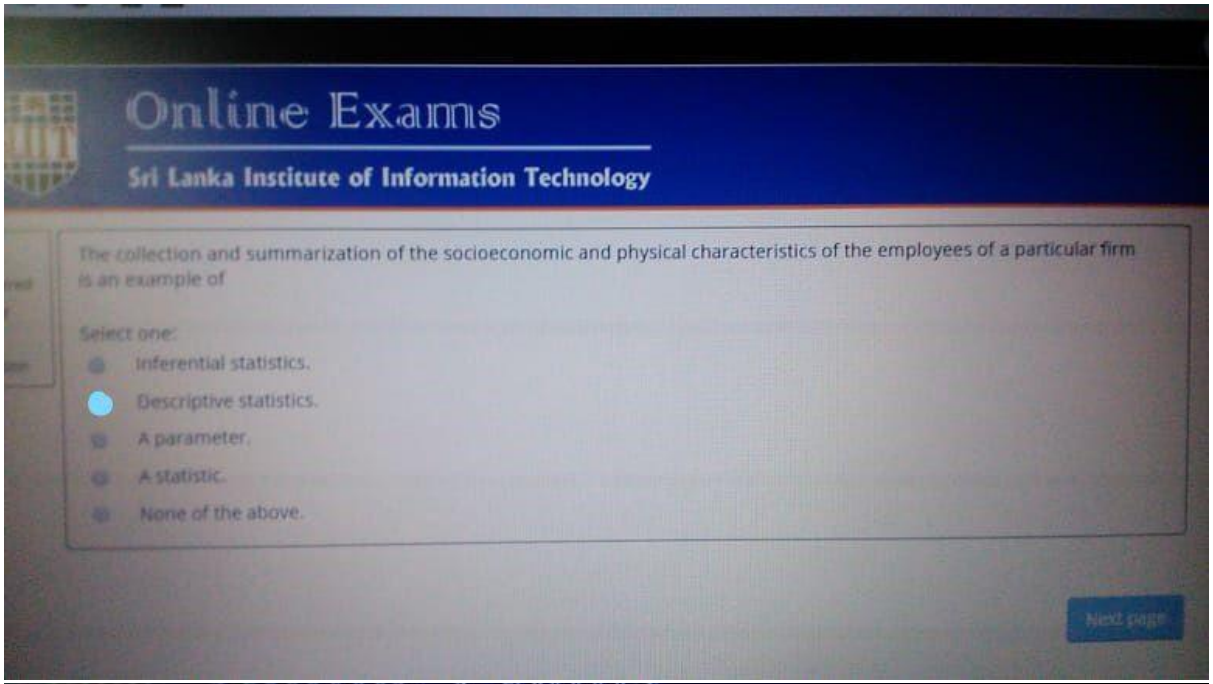

Online Exams
Sri Lanka Institute of Information Technology
Question 18
Not yet answered
Marked out of 1.00
Flag question
X | -1 | 0 | 1 | 2
P(X=x) | 0.3 | 0.2 | a | 0.3
Find P(0 ≤ X ≤ 2) ?
Select one:
0.7
0.9
0.8
0.3
0.6
Next page
Quiz navigati
1 2 3 4
8 9 10 11
15 16 17 18
Finish attempt ...
Time left 0:01:33

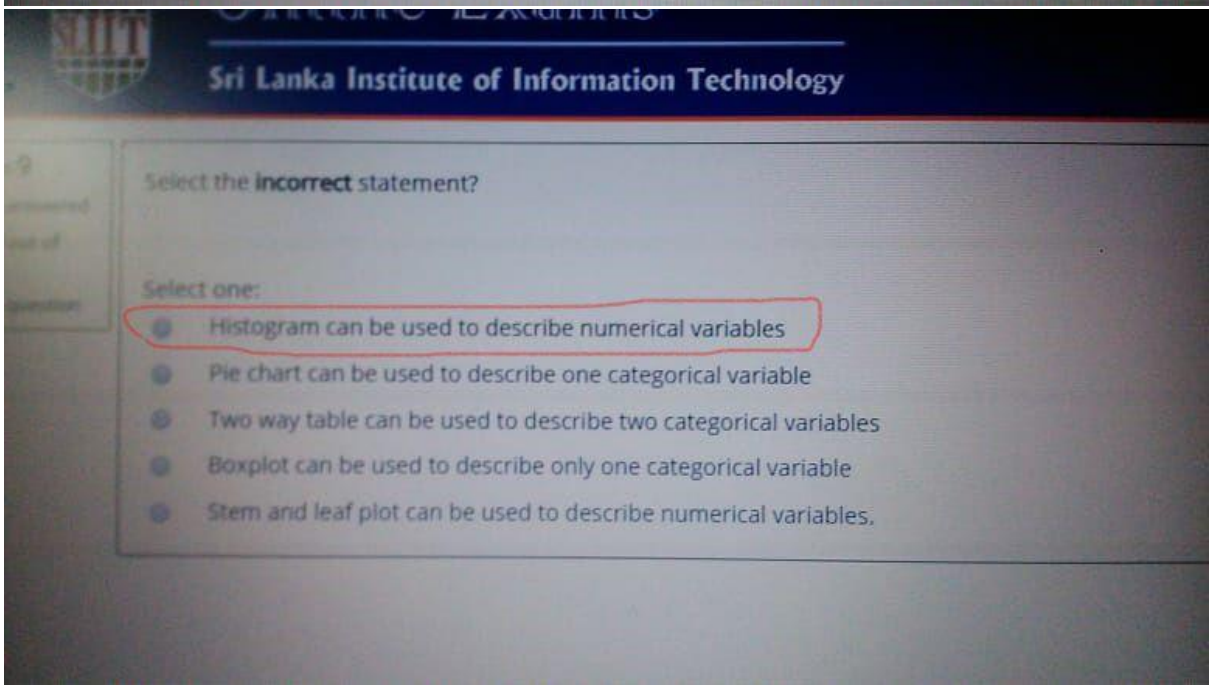

Online Exams
Sri Lanka Institute of Information Technology
The probability of a machine producing a defective part is 0.04. Consider a sample of 100 parts.
What is the rate of the occurrence in this distribution? 4
What is the probability of having exactly 5 defective parts? (Round your answer upto 5 decimal places) 0.1595
What is the variance of this distribution? 3.84
Choose...
Choose...
4.32
0.15926
3.84
0.15629
4
0.37116
Next page

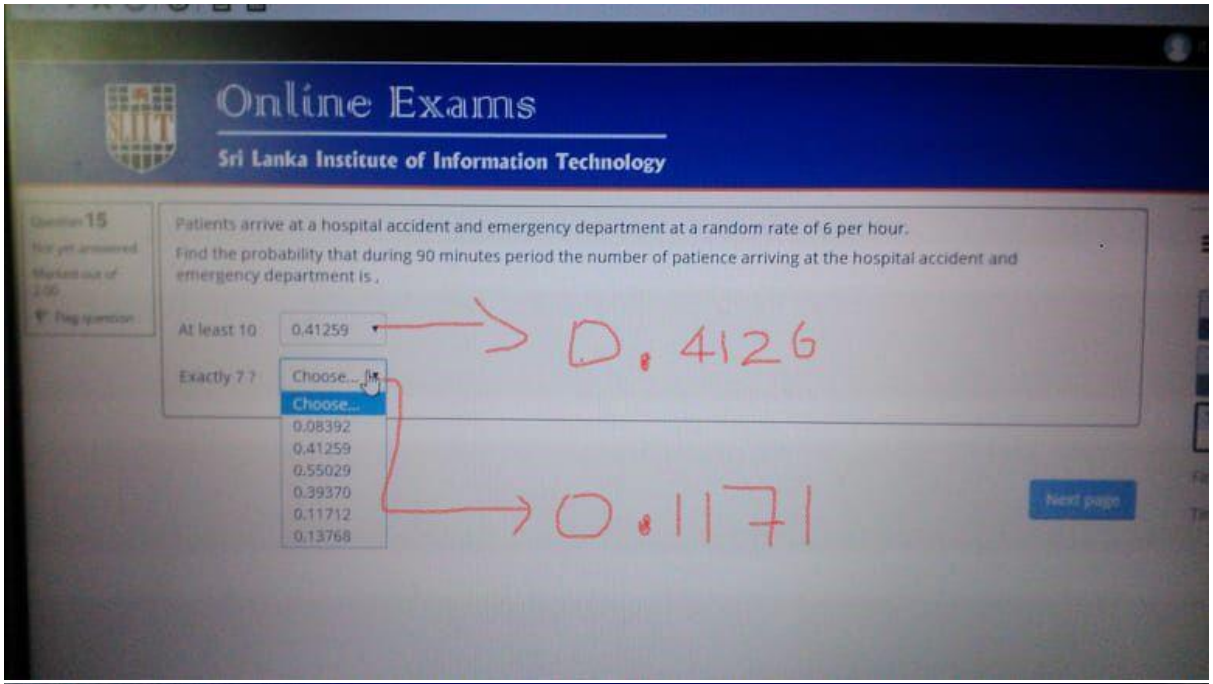

Online Exams
Sri Lanka Institute of Information Technology
Question 3
Not yet answered
Marked out of 1.00
Flag question
An example for a probability sampling method is.
Select one:
Quota sampling method
Convenience sampling method
Stratified random sampling method
Volunteer sampling method
None of the above

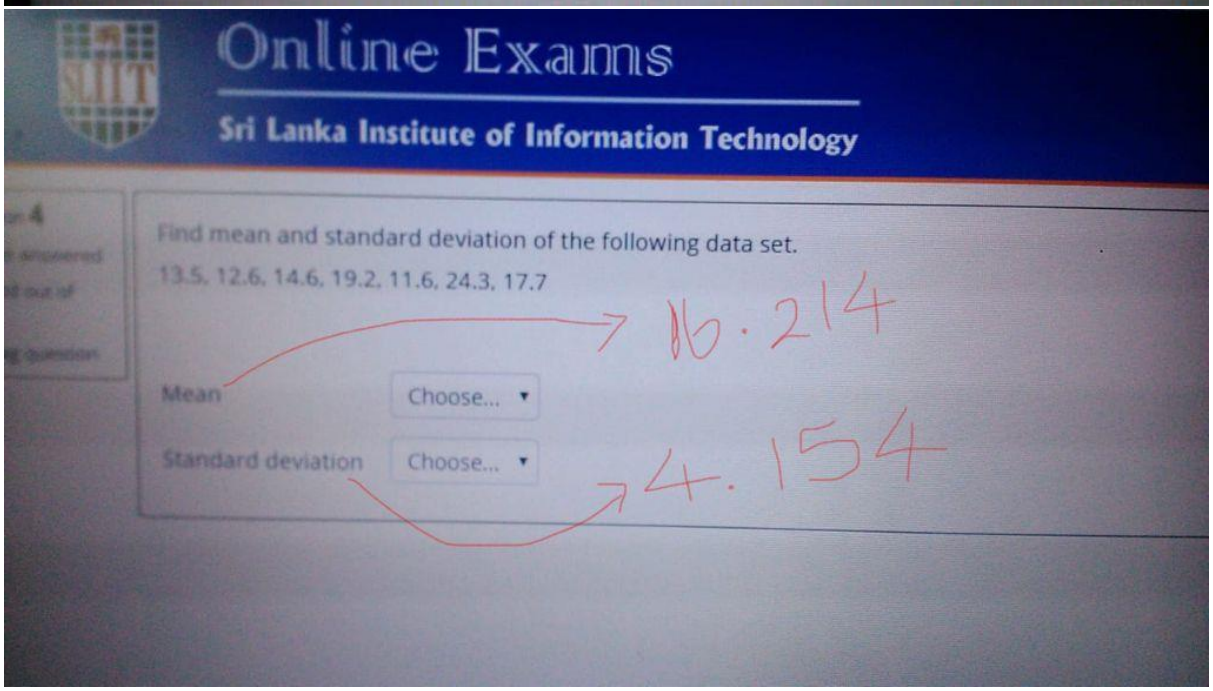

Online Exams
Sri Lanka Institute of Information Technology
The statistics course consists of two (2) online quizzes. 22% of the class passed both tests and 41% of the class passed the first test. About what percent of those who passed the first test also passed the second test? (Round up the answer to the nearest integer)
Select one:
54%
20%
3%
24%
None of the above
Next page
Quiz navigation
Finish attempt ...
Time left 0:46:22

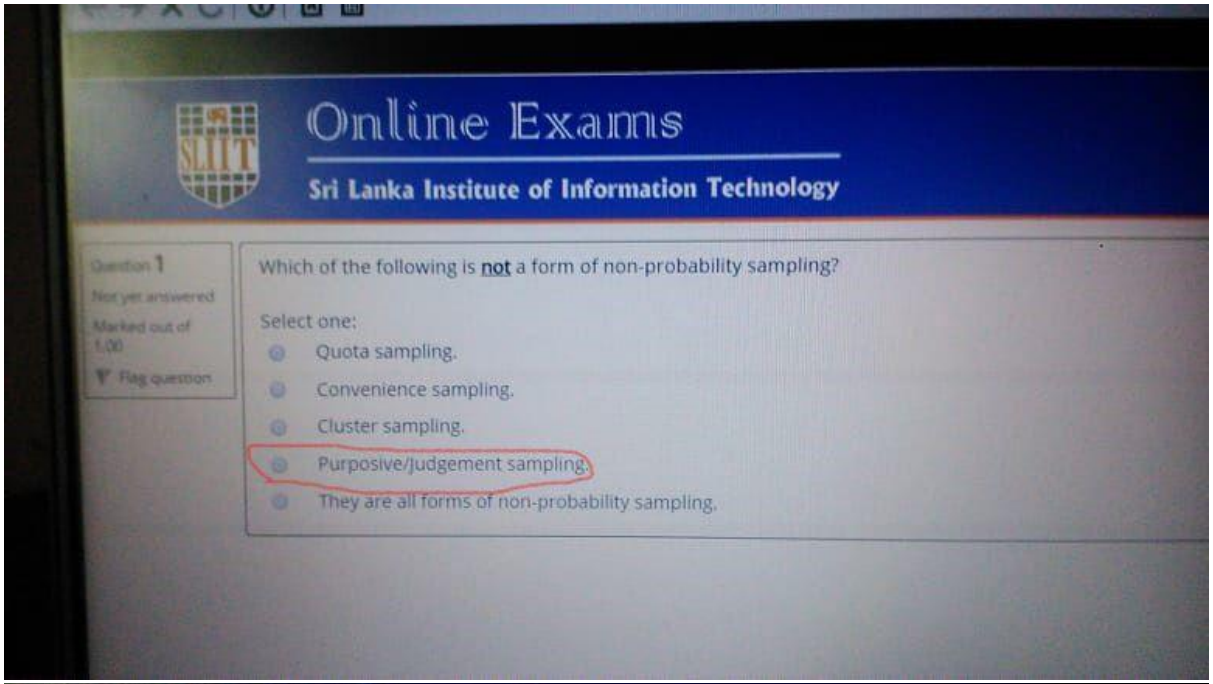

Sri Lanka Institute of Information Technology
vered
of
stion
Following is **not** an example for a survey error.
Select one:
Sampling error
Measurement error
Selection bias
Non-response bias
None of the above
Online Exams
Sri Lanka Institute of Information Technology
Consider a computer system with Poisson job-arrival stream at an average of 2 per minute. Determine the probability that in any one-minute interval there will be 0 job arrivals.
Select one:
0.28811
0.41136
0.17492
0.03655
0.13534
Next page

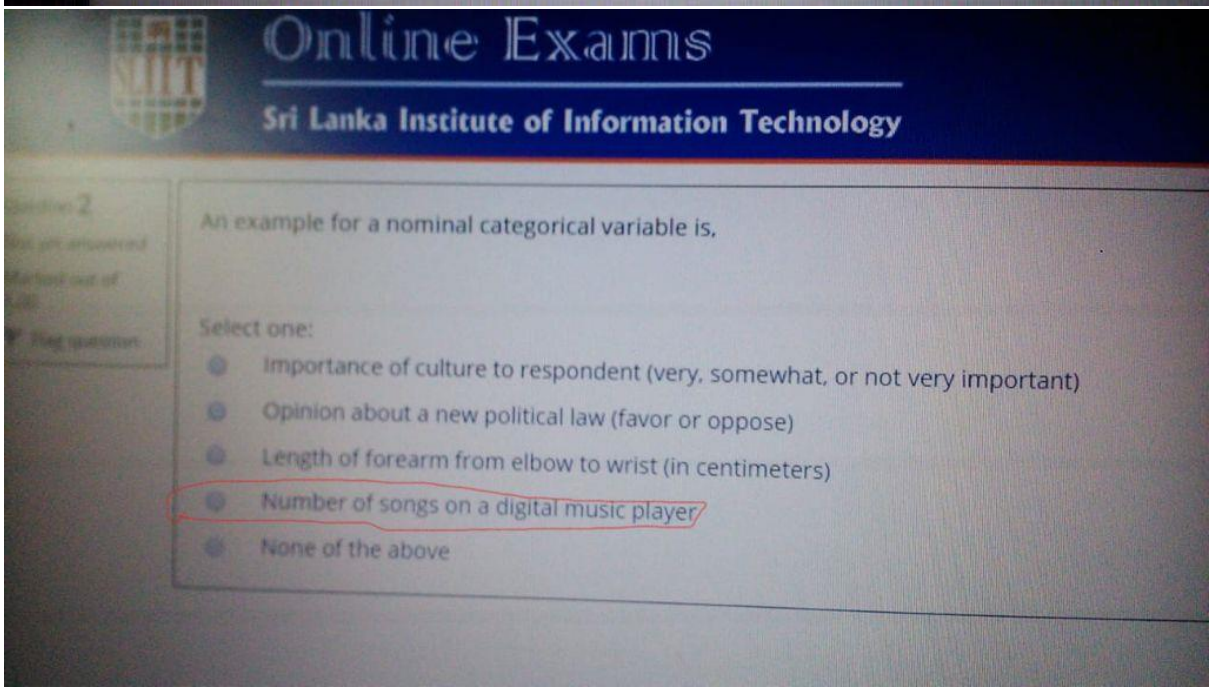

Online Exams
Sri Lanka Institute of Information Technology
The collection and summarization of the socioeconomic and physical characteristics of the employees of a particular firm is an example of
Select one:
Inferential statistics.
Descriptive statistics.
A parameter.
A statistic.
None of the above.
Next page

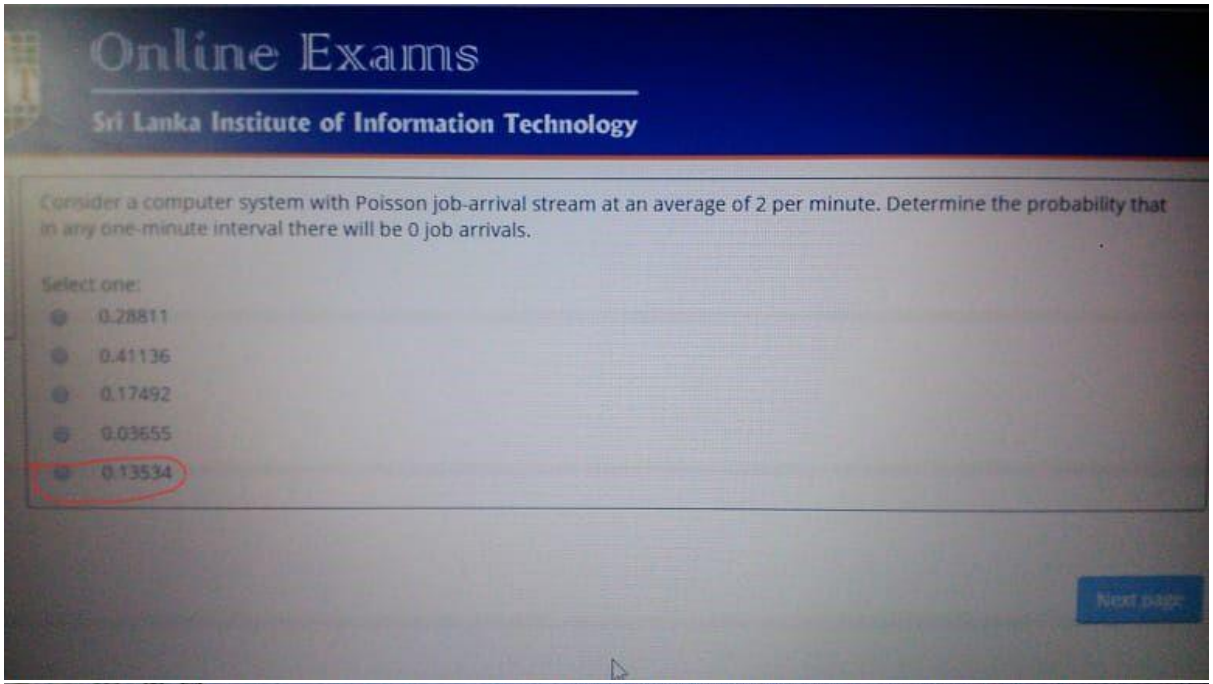

Sri Lanka Institute of Information Technology
Select the incorrect statement?
Select one:
Histogram can be used to describe numerical variables
Pie chart can be used to describe one categorical variable
Two way table can be used to describe two categorical variables
Boxplot can be used to describe only one categorical variable
Stem and leaf plot can be used to describe numerical variables.

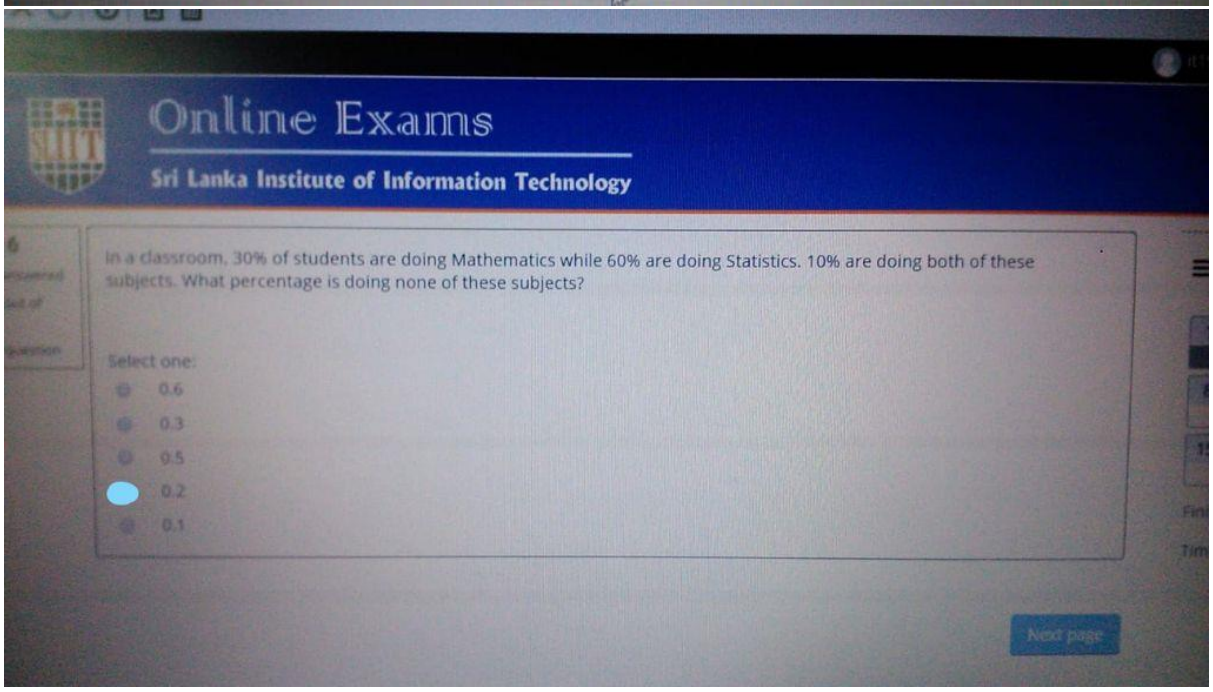

Online Exams
Sri Lanka Institute of Information Technology
Patients arrive at a hospital accident and emergency department at a random rate of 6 per hour.
Find the probability that during 90 minutes period the number of patience arriving at the hospital accident and emergency department is .
At least 10
0.41259
Exactly 7 ?
Choose...
Choose...
0.08392
0.41259
0.55029
0.39370
0.11712
0.13768
0.4126
0.1171

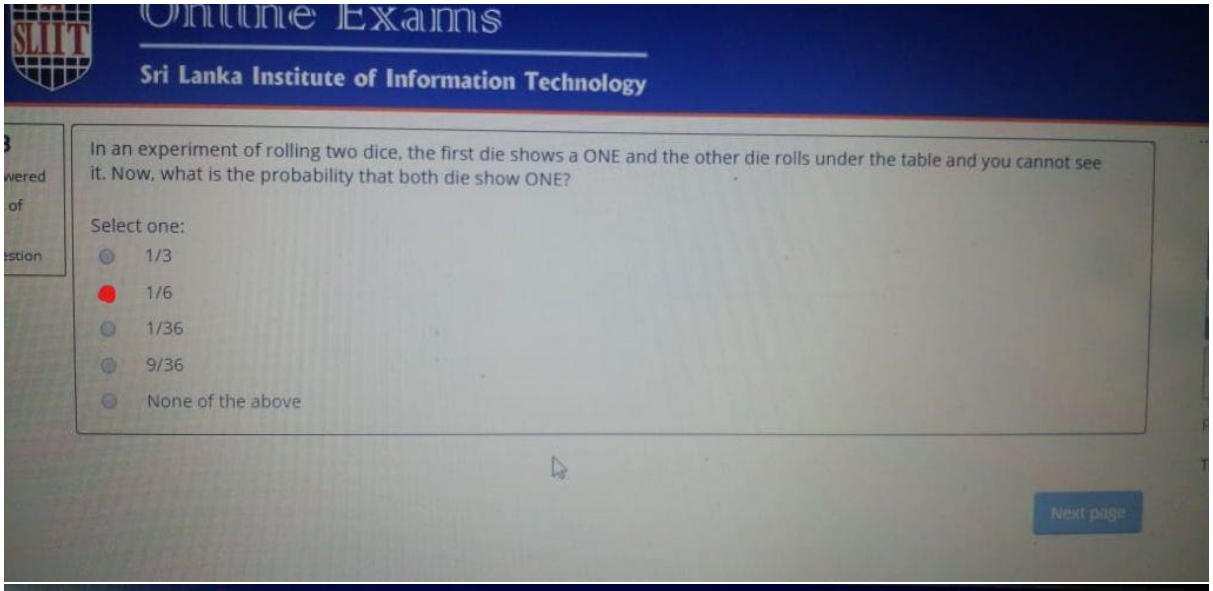

Online Exams
Sri Lanka Institute of Information Technology
Find mean and standard deviation of the following data set.
13.5, 12.6, 14.6, 19.2, 11.6, 24.3, 17.7
Mean
Choose...
Standard deviation
Choose...
16.214
4.154

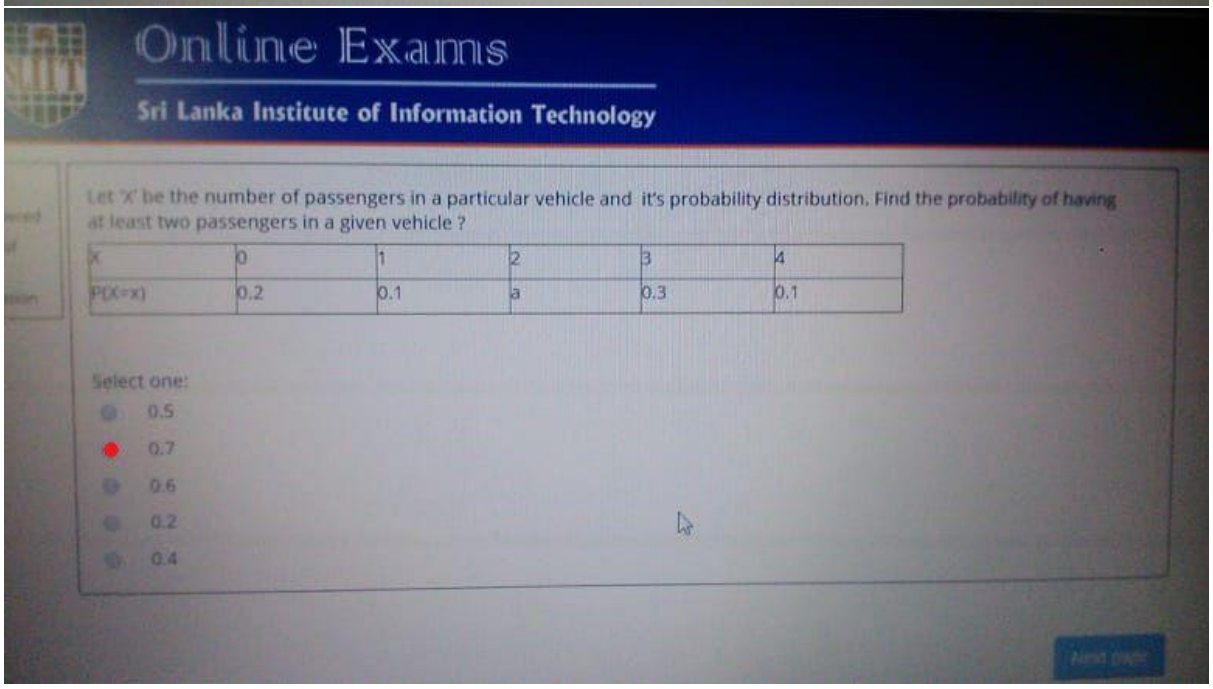

Online Exams
Sri Lanka Institute of Information Technology
Question 1
Not yet answered
Marked out of 1.00
Flag question
Which of the following is not a form of non-probability sampling?
Select one:
Quota sampling.
Convenience sampling.
Cluster sampling.
Purposive/Judgement sampling.
They are all forms of non-probability sampling.

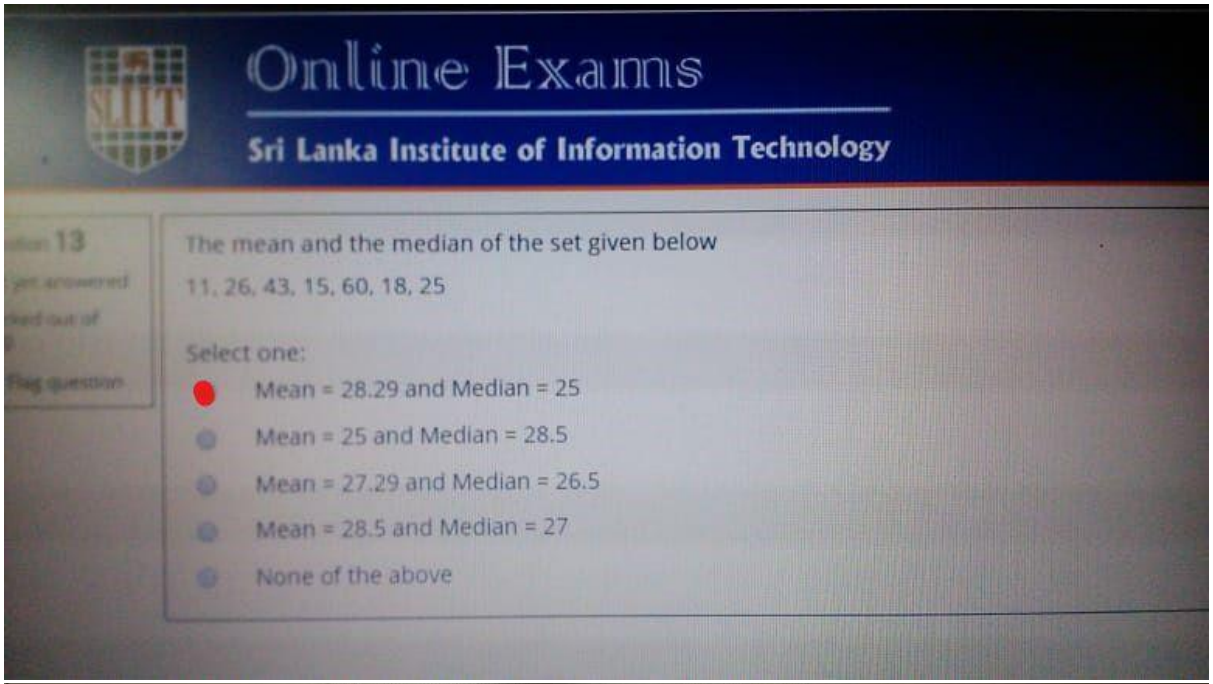

Online Exams
Sri Lanka Institute of Information Technology
An example for a nominal categorical variable is.
Select one:
Importance of culture to respondent (very, somewhat, or not very important)
Opinion about a new political law (favor or oppose)
Length of forearm from elbow to wrist (in centimeters)
Number of songs on a digital music player
None of the above


Online Exams
Sri Lanka Institute of Information Technology
Consider a computer system with Poisson job-arrival stream at an average of 2 per minute. Determine the probability that in any one-minute interval there will be 0 job arrivals.
Select one:
0.28811
0.41136
0.17492
0.03655
0.13534
Next page


Online Exams
Sri Lanka Institute of Information Technology
In a classroom, 30% of students are doing Mathematics while 60% are doing Statistics. 10% are doing both of these subjects. What percentage is doing none of these subjects?
Select one:
0.6
0.3
0.5
0.2
0.1
Next page


Online Exams
Sri Lanka Institute of Information Technology
In an experiment of rolling two dice, the first die shows a ONE and the other die rolls under the table and you cannot see it. Now, what is the probability that both die show ONE?
Select one:
1/3
1/6
1/36
9/36
None of the above
Next page


Online Exams
Sri Lanka Institute of Information Technology
Let 'X' be the number of passengers in a particular vehicle and it's probability distribution. Find the probability of having at least two passengers in a given vehicle ?
X 0 1 2 3 4
P(X=x) 0.2 0.1 a 0.3 0.1
Select one:
0.5
0.7
0.6
0.2
0.4



Let A and B be events with $P(A^C) = 1/2$, $P(A \cup B) = 3/4$, $P(A|B)=1/3$ and $P(B^C) = 5/8$ where A^C is the complement of A. The

Select one:

- 1/8
- 3/8
- 6/8
- 7/8
- None of the above

The conditional probability of x given y is:

Select one:

- the probability that x and y occur jointly
- the probability that y occurs if x has already occurred
- the probability that x occurs if y has already occurred
- the marginal probability of x minus the marginal probability of y
- None of the above

Three bulbs are chosen from 15 bulbs of which 5 are defective. The probability that none is defective is.

Select one:

- 1/125
- 8/27
- 27/125
- 1/27
- None of the above

After studying a couple's family history, a doctor determines that the probability of any child born to this couple having a gene for disease X is 1 out of 4. If the couple has three children, what is the probability that exactly two of the children have the gene for disease X?

Select one:

- 9/64
- 10/64
- 12/64
- 7/64
- None of the above

Let E be an event and E' is its complement. If $P(E) = 1/3$, what is $P(E')$?

Select one:

- $P(E') = P(E) = 1/3$
- $P(E') = P(E) - 1 = -2/3$
- $P(E') = 2^* P(E) = 2/3$
- $P(E') = 1 - P(E) = 2/3$
- None of the above

Since the population size is always larger than the sample size, the sample statistic

Select one:

- can never be larger than the population parameter
- can never be equal to the population parameter
- some cases it can be equal to the population parameter
- can never be smaller than the population parameter
- None of the above

The average rate of telephone calls in a busy reception is 4 per minute. Calculate the probability that,

at least 2 telephone calls will be received in any minute — Choose...

any minute with free of telephone calls — Choose...

5 telephone calls will be received in any minute — ✓ Choose...

- 0.01832
- 0.15629
- 0.90842
- None of the above
- 0.37116
- 0.21487

Patients arrive at a hospital accident and emergency department at a random rate of 6 per hour.

Find the probability that during 15 minutes period the number of patience arriving at the hospital accident and emergenc department is ,

Exactly 5 ? Choose...

At least 7 ? Choose...

- Choose...
- 0.01858
- 0.00039
- 0.00098
- 0.00093
- 0.01214
- 0.01412

What is the probability that the sum of two die will be greater than 8, given that the first die is 6?

Select one:

- 1/2
- 3/4
- 2/3
- 7/12
- None of the above

Consider a computer system with Poisson job-arrival stream at an average of 2 per minute. Determine the probability that in any one-minute interval there will be

0 jobs — Choose...

exactly 2 jobs — Choose...

at least 3 arrivals — Choose...

- Choose...
- 0.86466
- 0.13534
- 0.27067
- None of the above
- 0.59399
- 0.32332

A garment factory produces large lots of a certain type of garments. What is the mean of the number of defective units found in a sample of 10 units if the lot is 2% defective?

Select one:

- 5
- 2
- 0.2
- 0.98
- None of the above

After studying a couple's family history, a doctor determines that the probability of any child born to this couple having a gene for disease X is 1 out of 4. If the couple has three children, what is the probability that exactly two of the children have the gene for disease X?

Select one:

- 9/64
- 10/64
- 12/64
- 7/64
- None of the above

A garment factory produces large lots of a certain type of garments. What is the mean of the number of defective units found in a sample of 10 units if the lot is 2% defective?

Select one:

- 5
- 2
- 0.2
- 0.98
- None of the above

Patients arrive at a hospital accident and emergency department at a random rate of 6 per hour.

Find the probability that during 15 minutes period the number of patience arriving at the hospital accident and emergency department is .

Exactly 5 ? 0.01214

At least 7 ? Choose...

Since the population size is always larger than the sample size, the sample statistic

Select one:

- can never be larger than the population parameter
- can never be equal to the population parameter
- some cases it can be equal to the population parameter
- can never be smaller than the population parameter
- None of the above

Let A and B be events with $P(A)=0.6$, $P(B)=0.3$ and $P \cap B=0.2$ What is $P(A \cup B)$

Select one:

- 0.7
- 0.9
- 0.6
- 0.5
- None of the above

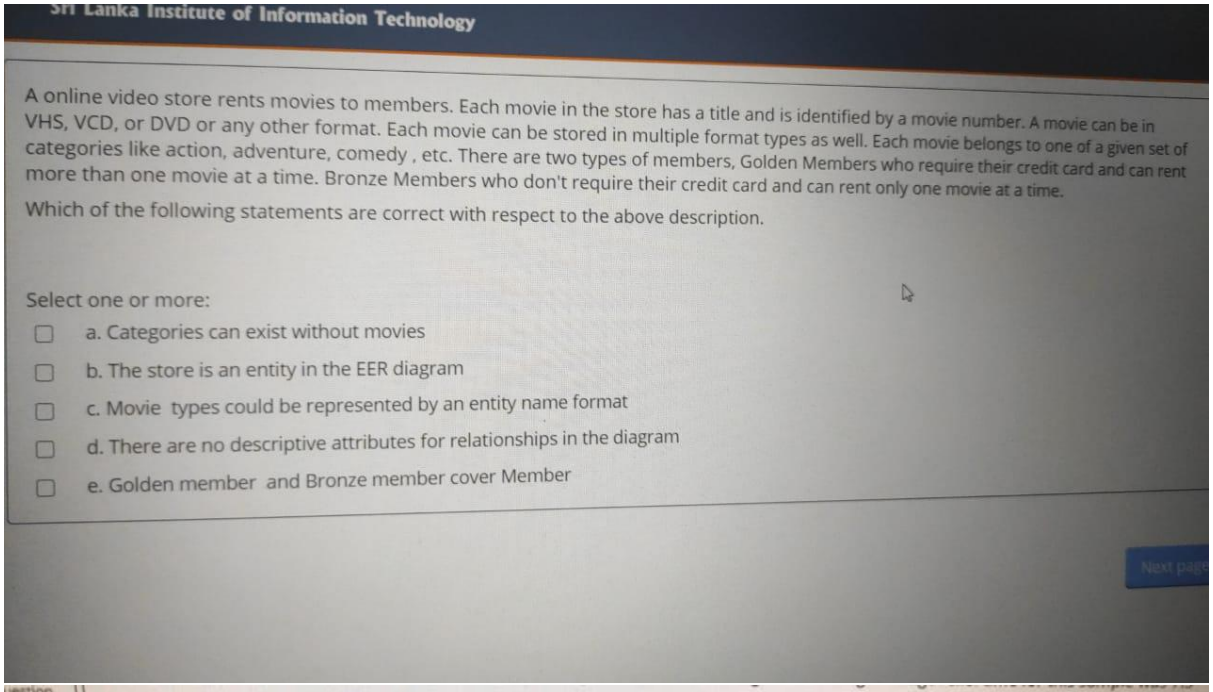
The number of industrial injuries per working week in a particular factory is known to follow a Poisson distribution with mean 0.5. Find the probability that,

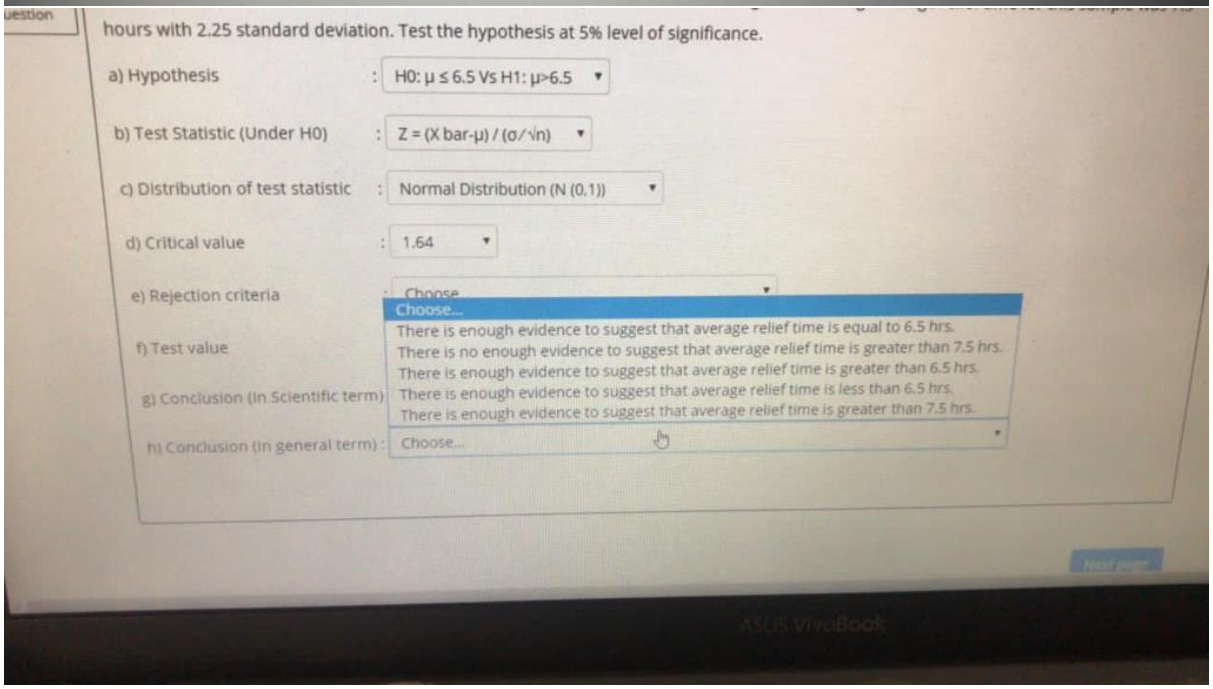
in particular week there will be less than 2 accidents.	0.9098
in particular week there will be more than 5 accidents.	0.00001
in a 3 week period there will be no accidents.	0.22313

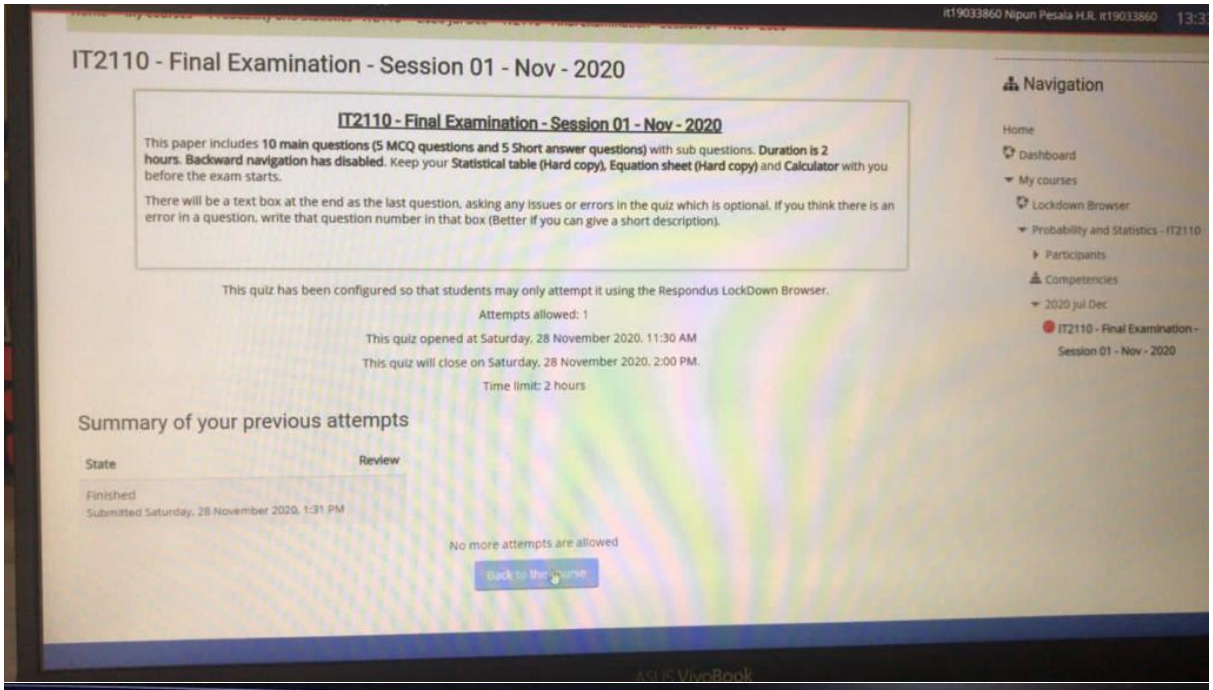
$E(X)$ and $E(X^2)$ of a discrete random variable are -1.4 & 2 respectively. What is $V[X]$?

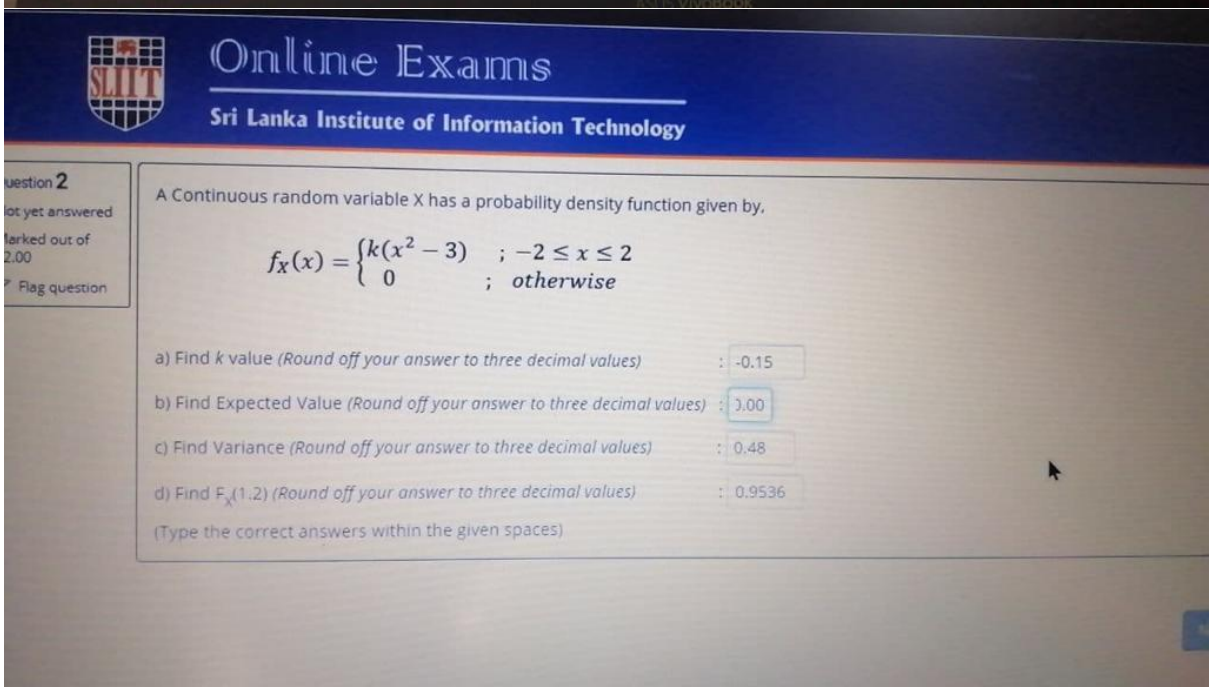
Select one:

- -0.4
- 0.4
- 1.4
- 0.04
- None of the above


Sri Lanka Institute of Information Technology
A online video store rents movies to members. Each movie in the store has a title and is identified by a movie number. A movie can be in VHS, VCD, or DVD or any other format. Each movie can be stored in multiple format types as well. Each movie belongs to one of a given set of categories like action, adventure, comedy , etc. There are two types of members, Golden Members who require their credit card and can rent more than one movie at a time. Bronze Members who don't require their credit card and can rent only one movie at a time.
Which of the following statements are correct with respect to the above description.
Select one or more:
a. Categories can exist without movies
b. The store is an entity in the EER diagram
c. Movie types could be represented by an entity name format
d. There are no descriptive attributes for relationships in the diagram
e. Golden member and Bronze member cover Member
Next page


hours with 2.25 standard deviation. Test the hypothesis at 5% level of significance.
a) Hypothesis : H0: μ ≤ 6.5 Vs H1: μ>6.5
b) Test Statistic (Under H0) : Z = (X bar-μ) / (σ/√n)
c) Distribution of test statistic : Normal Distribution (N (0,1))
d) Critical value : 1.64
e) Rejection criteria : Choose...
f) Test value
g) Conclusion (In Scientific term)
h) Conclusion (In general term) : Choose...
Choose...
There is enough evidence to suggest that average relief time is equal to 6.5 hrs.
There is no enough evidence to suggest that average relief time is greater than 7.5 hrs.
There is enough evidence to suggest that average relief time is greater than 6.5 hrs.
There is enough evidence to suggest that average relief time is less than 6.5 hrs.
There is enough evidence to suggest that average relief time is greater than 7.5 hrs.
ASUS VivoBook


it19033860 Nipun Pesala H.R. it19033860
IT2110 - Final Examination - Session 01 - Nov - 2020
IT2110 - Final Examination - Session 01 - Nov - 2020
This paper includes 10 main questions (5 MCQ questions and 5 Short answer questions) with sub questions. Duration is 2 hours. Backward navigation has disabled. Keep your Statistical table (Hard copy), Equation sheet (Hard copy) and Calculator with you before the exam starts.
There will be a text box at the end as the last question, asking any issues or errors in the quiz which is optional. If you think there is an error in a question, write that question number in that box (Better if you can give a short description).
This quiz has been configured so that students may only attempt it using the Respondus LockDown Browser.
Attempts allowed: 1
This quiz opened at Saturday, 28 November 2020, 11:30 AM
This quiz will close on Saturday, 28 November 2020, 2:00 PM.
Time limit: 2 hours
Summary of your previous attempts
State
Review
Finished
Submitted Saturday, 28 November 2020, 1:31 PM
No more attempts are allowed
Navigation
Home
Dashboard
My courses
Lockdown Browser
Probability and Statistics - IT2110
Participants
Competencies
2020 Jul Dec
IT2110 - Final Examination - Session 01 - Nov - 2020


Online Exams
Sri Lanka Institute of Information Technology
uestion 2
ot yet answered
arked out of
2.00
Flag question
A Continuous random variable X has a probability density function given by,
$f_X(x) = \begin{cases} k(x^2 - 3) & ; -2 \le x \le 2 \\ 0 & ; \ otherwise \end{cases}$
a) Find k value (Round off your answer to three decimal values) : -0.15
b) Find Expected Value (Round off your answer to three decimal values) : 0.00
c) Find Variance (Round off your answer to three decimal values) : 0.48
d) Find $F_X(1.2)$ (Round off your answer to three decimal values) : 0.9536
(Type the correct answers within the given spaces)

Total C E

Signif. Codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

i. What can be concluded using the scatter plot?

There is a negative linear relationship in between year and average number of persons per household in US.

ii. State the estimated regression equation. Estimated Year = 44.39213 - 0.02095 (Average number of persons per household

iii. State in how much average number of persons per household will change if one year increased.

Average number of persons per household in US will decrease by 0.02095 units.

iv. Does slope of the Regression line is significant ($\beta \neq 0$)? Use $\alpha = 5\%$. Yes, Regression line is significant.

v. Use the regression equation to predict average number of persons per household in year 1956. 3.4139

Online Exams

Sri Lanka Institute of Information Technology

In an experiment, $P(A) = 0.4$ and $P(B) = 0.7$ and $P(A \cup B)' = 0.2$. Are A and B independent?

Select one:

- Yes
- No
- Given information is not enough to decide.

Coefficients

Intercept	Organic acid content
31.7087	0.3533

Analysis of Variance Table

Response: Acid content of material

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Organic acid content	A	C	2517.02	G	2.278e-05***
Residuals	B	262.98	E		
Total	9	D	F		

Signif. Codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

i. What can be concluded using the scatter plot? There is a positive linear relationship in between organic acid content and acid content of material.

ii. State the estimated regression equation. Estimated Acid content of material = 31.7087 + 0.3533 (Organic acid content)

iii. State in how much acid content of material will change if organic acid content increased by one unit. Acid content of material will increase by 0.3533 units.

iv. Does slope of the Regression line is significant ($\beta \neq 0$)? Use $\alpha = 5\%$. Yes. Regression line is significant.

v. Use the regression equation to predict the acid content of material if organic acid content is 143 units. 82.2306 units

Sri Lanka Institute of Information Technology

Question 5
Not yet answered
Marked out of 3.00
Flag question

U.S. Census Bureau estimates of the average number of persons per household in the United States for census years between 1850 and 2000 are shown in the following table. (These data are in the file perhouse on the companion website.)

Year	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000
Average number of persons per Household	5.55	5.28	5.09	5.04	4.93	4.76	4.54	4.34	4.11	3.67	3.37	3.35	3.14	2.76	2.63	2.59

To examine the relationship between the year and average number of persons per household, following information has used.

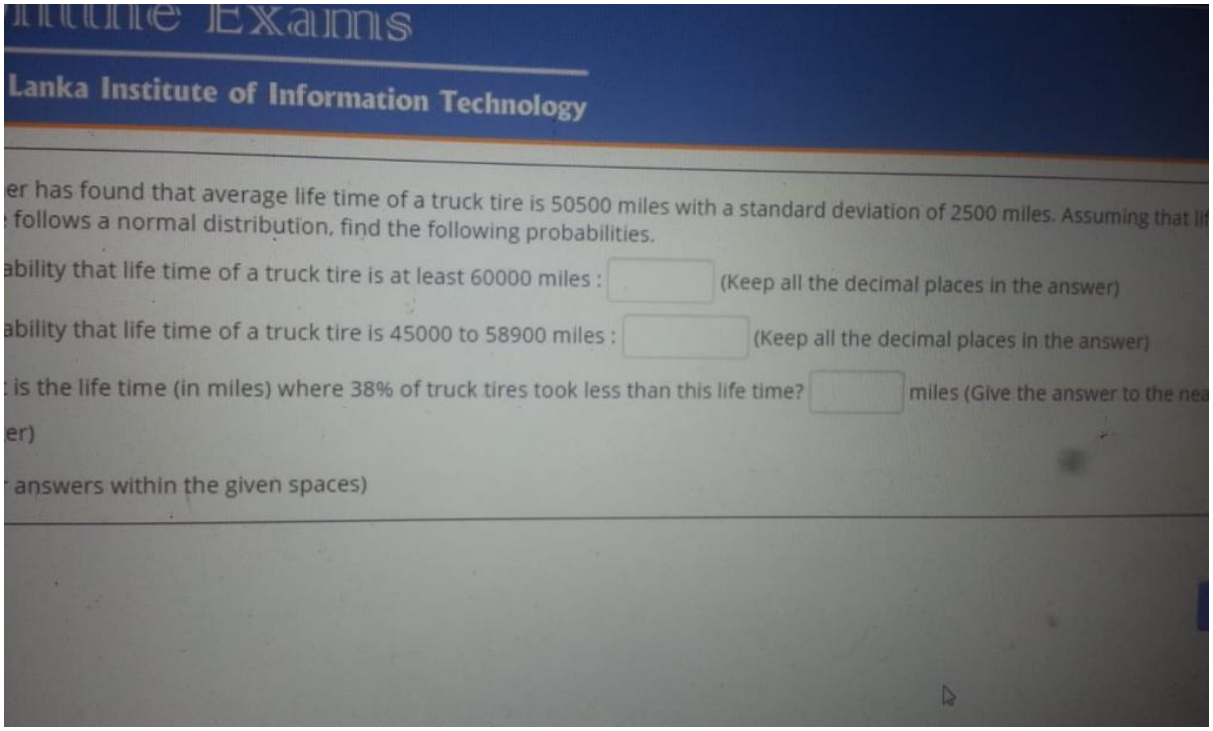
$\sum x = 30800$ $\sum y = 65.15$ $\sum xy = 124701.6$ $\sum (x^2) = 59324000$ $\sum (y^2) = 280.4429$

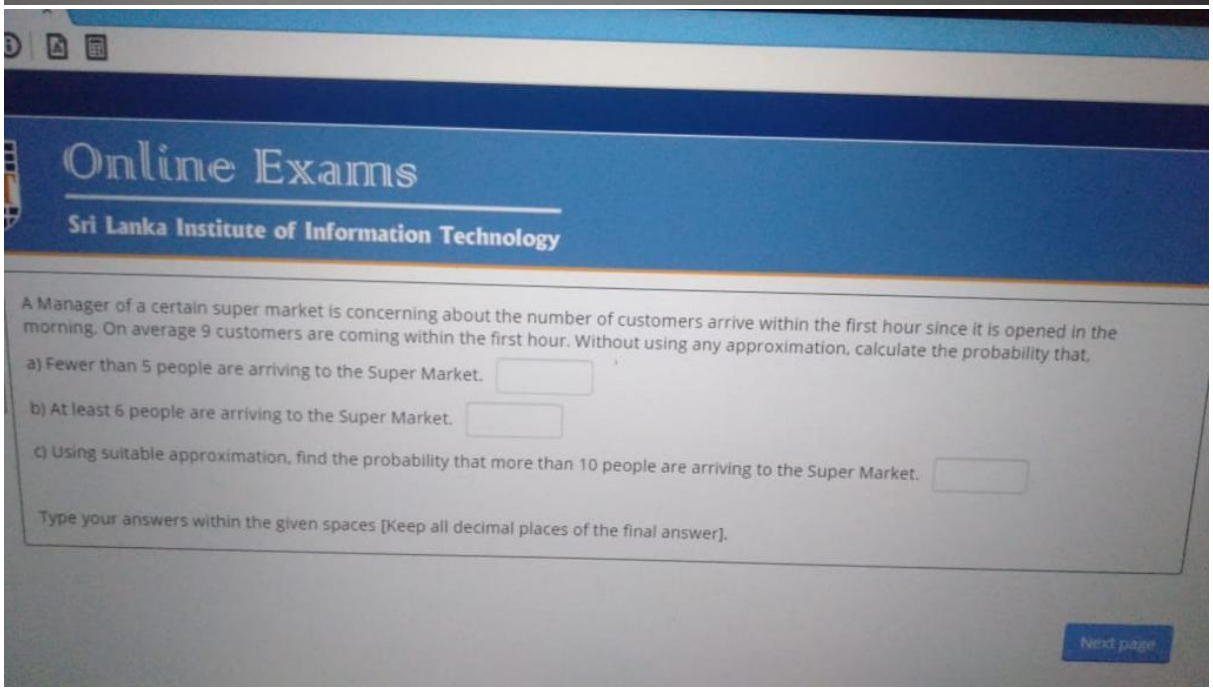
Where X is the year and Y is the average number of persons per household in the United States.

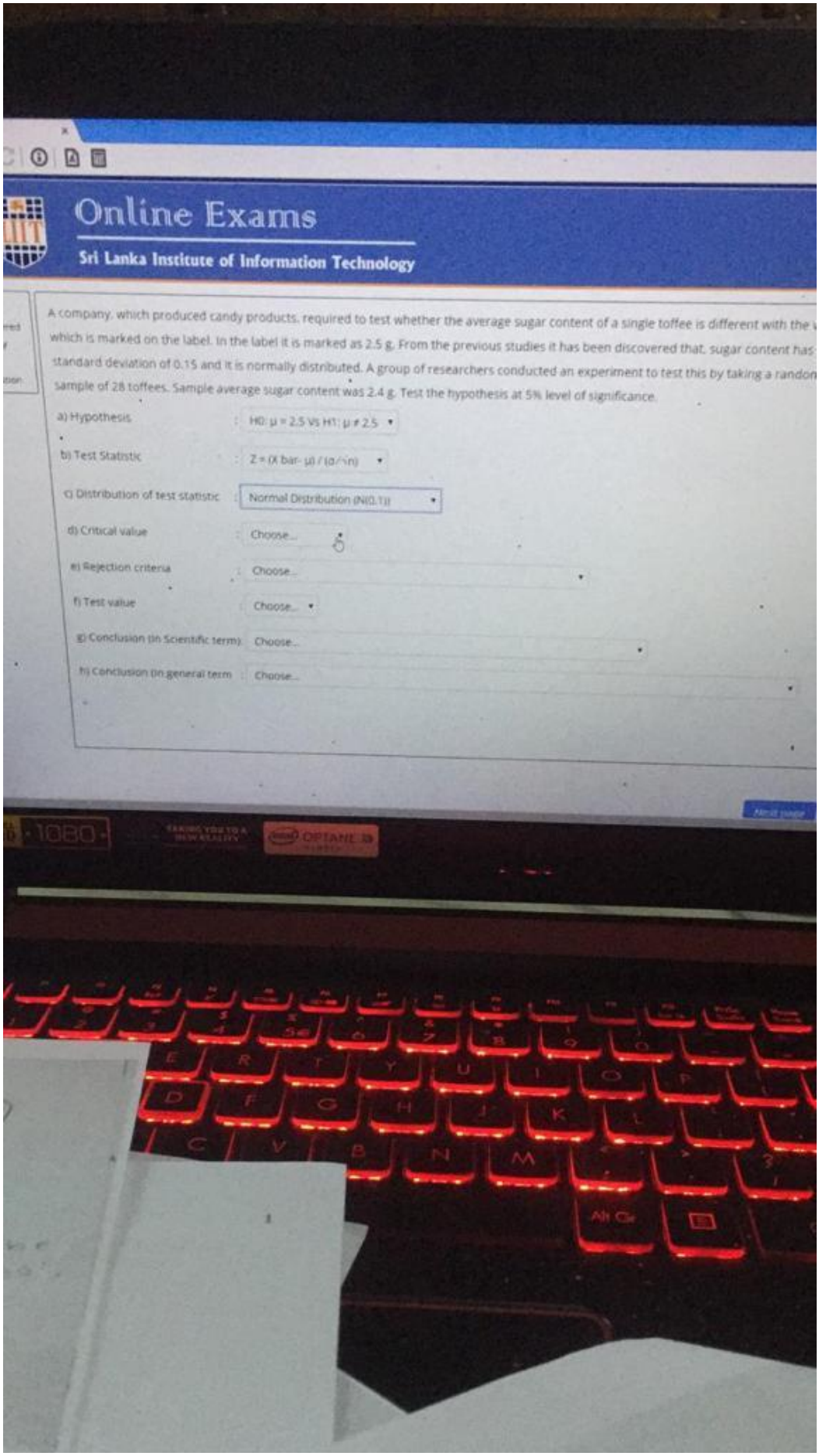
Calculate Pearson's correlation coefficient between the two variables (Give your answer in four decimal places).

(Type your answer within the given space)

Answer: -0.9919


Lanka Institute of Information Technology
er has found that average life time of a truck tire is 50500 miles with a standard deviation of 2500 miles. Assuming that lif
follows a normal distribution, find the following probabilities.
ability that life time of a truck tire is at least 60000 miles :
(Keep all the decimal places in the answer)
ability that life time of a truck tire is 45000 to 58900 miles :
(Keep all the decimal places in the answer)
is the life time (in miles) where 38% of truck tires took less than this life time?
miles (Give the answer to the nea
er)
answers within the given spaces)


Online Exams
Sri Lanka Institute of Information Technology
A Manager of a certain super market is concerning about the number of customers arrive within the first hour since it is opened in the morning. On average 9 customers are coming within the first hour. Without using any approximation, calculate the probability that,
a) Fewer than 5 people are arriving to the Super Market.
b) At least 6 people are arriving to the Super Market.
c) Using suitable approximation, find the probability that more than 10 people are arriving to the Super Market.
Type your answers within the given spaces [Keep all decimal places of the final answer].
Next page


Online Exams
Sri Lanka Institute of Information Technology
A company, which produced candy products, required to test whether the average sugar content of a single toffee is different with the
which is marked on the label. In the label it is marked as 2.5 g. From the previous studies it has been discovered that, sugar content has
standard deviation of 0.15 and it is normally distributed. A group of researchers conducted an experiment to test this by taking a random
sample of 28 toffees. Sample average sugar content was 2.4 g. Test the hypothesis at 5% level of significance.
a) Hypothesis : H0: μ = 2.5 Vs H1: μ ≠ 2.5
b) Test Statistic : Z = (X bar- μ) / (σ/√n)
c) Distribution of test statistic : Normal Distribution (N(0,1))
d) Critical value : Choose...
e) Rejection criteria : Choose...
f) Test value : Choose...
g) Conclusion (in Scientific term) : Choose...
h) Conclusion (in general term : Choose...

Online Exams

Sri Lanka Institute of Information Technology

A researcher is interested in finding whether there is any relationship in between measured in degrees centigrade (^{0}C). He used a sample size of 10 to study this re

Analysis of Variance Table

Response: Proportion of impurities

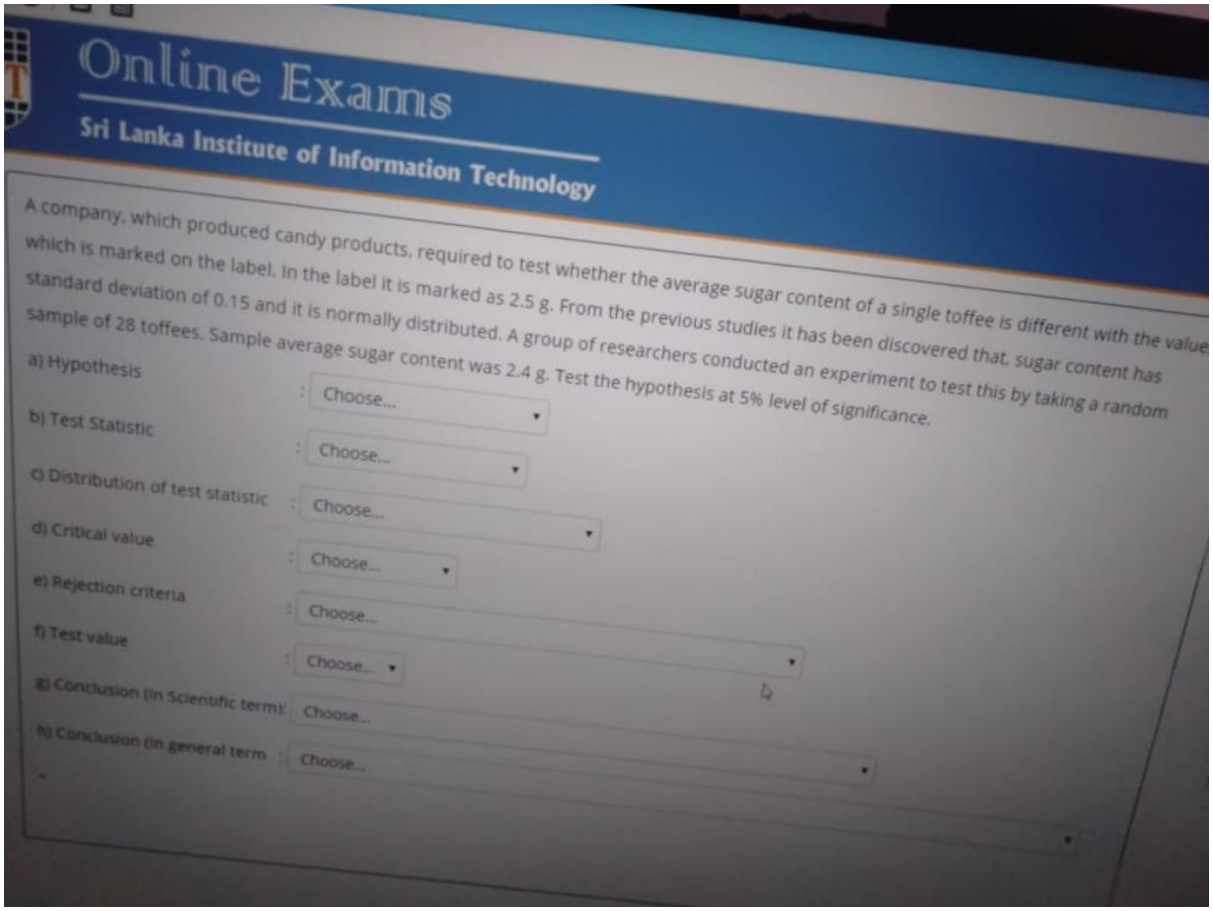
	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temperature	A	0.65836	F	G	1.999e-05***
Residuals	B	D	0.00830		
Total	C	E			

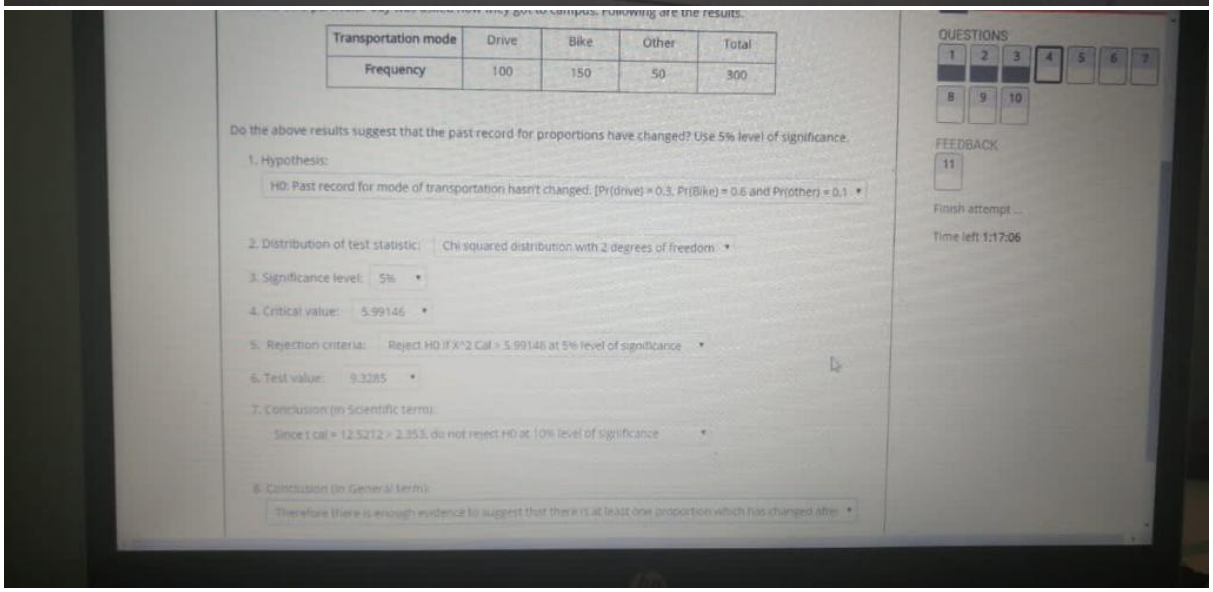
Signif. Codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

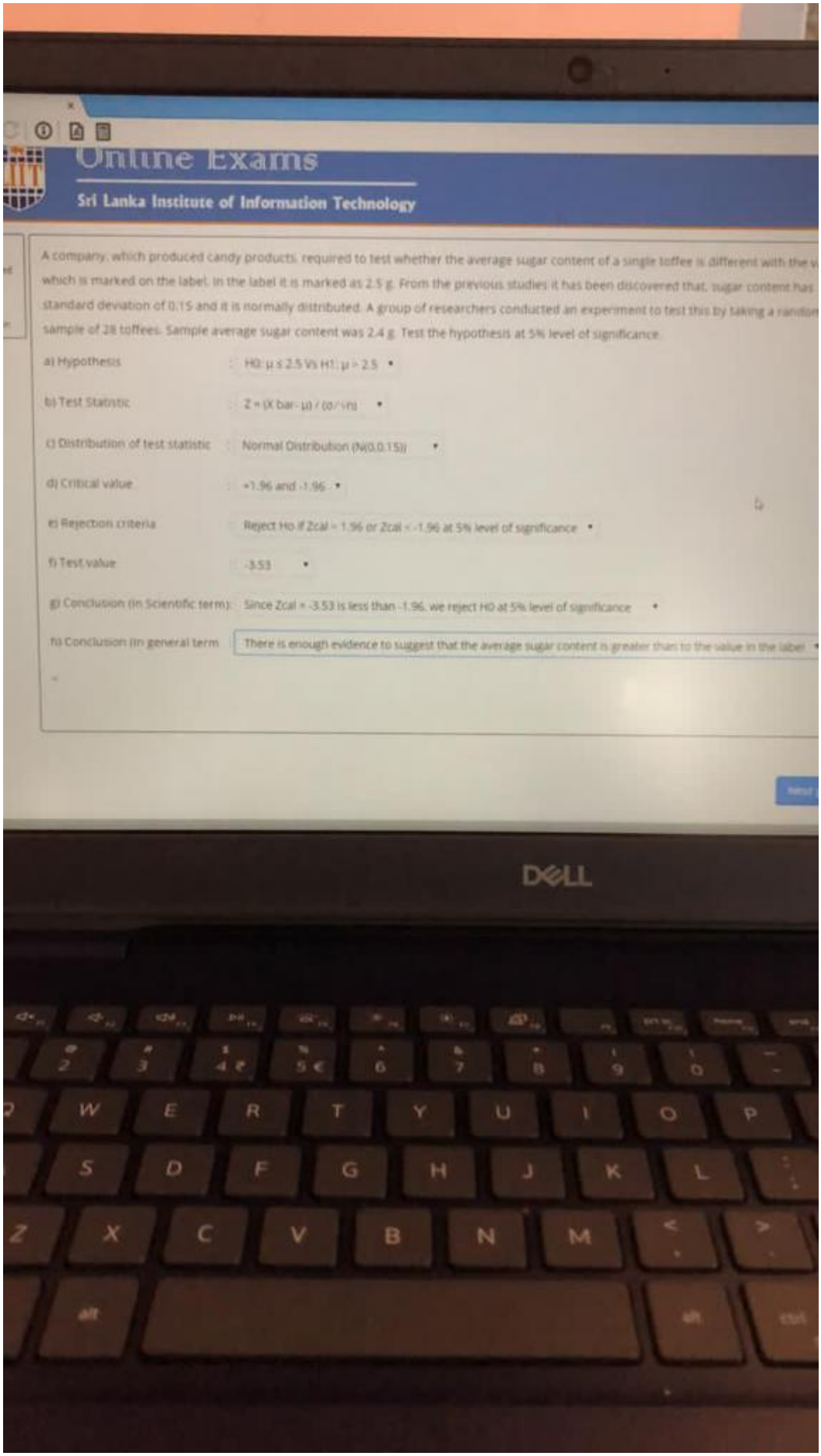
Find values marked A, B, C, D, E, F and G in the ANOVA table.

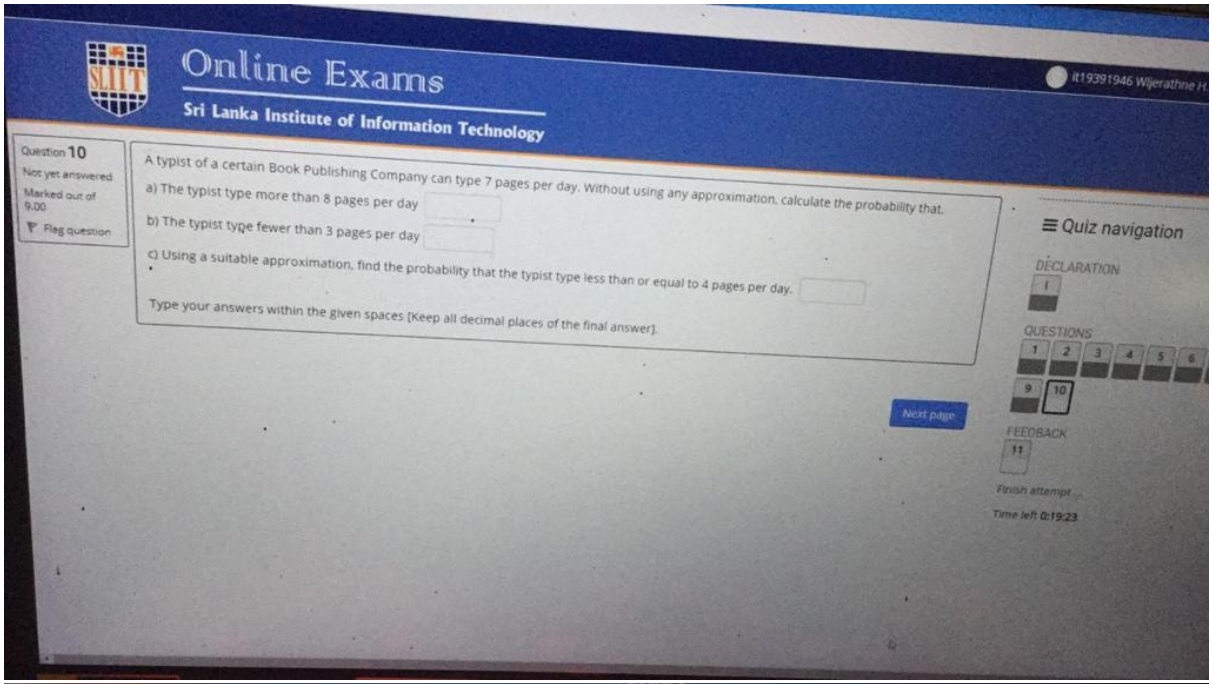
1. A : 1
2. B : 8
3. C : 9
4. D : 0.0664 (Keep all the decimal places in the answer)
5. E : 0.72476 (Keep all the decimal places in the answer)
6. F : 0.65836 (Keep all the decimal places in the answer)
7. G : 79.3205 (Round off the answer up to the fourth decimal point)

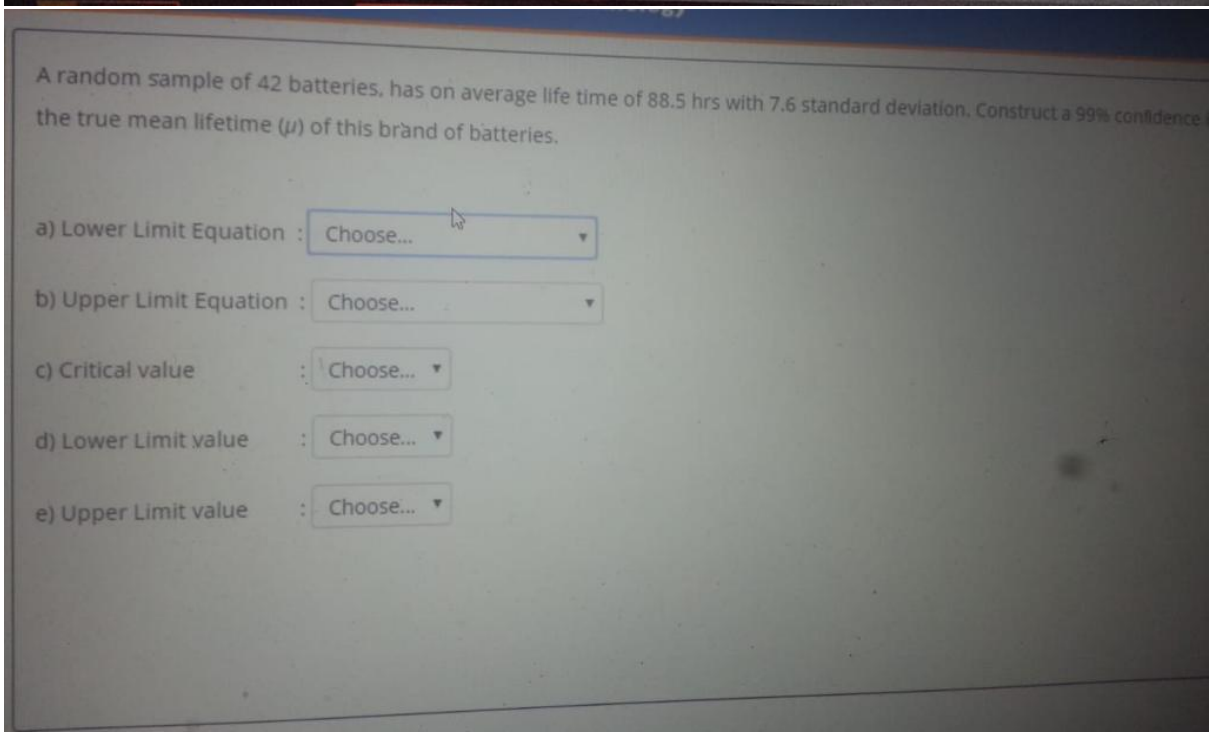
(Type your answers within the given spaces)

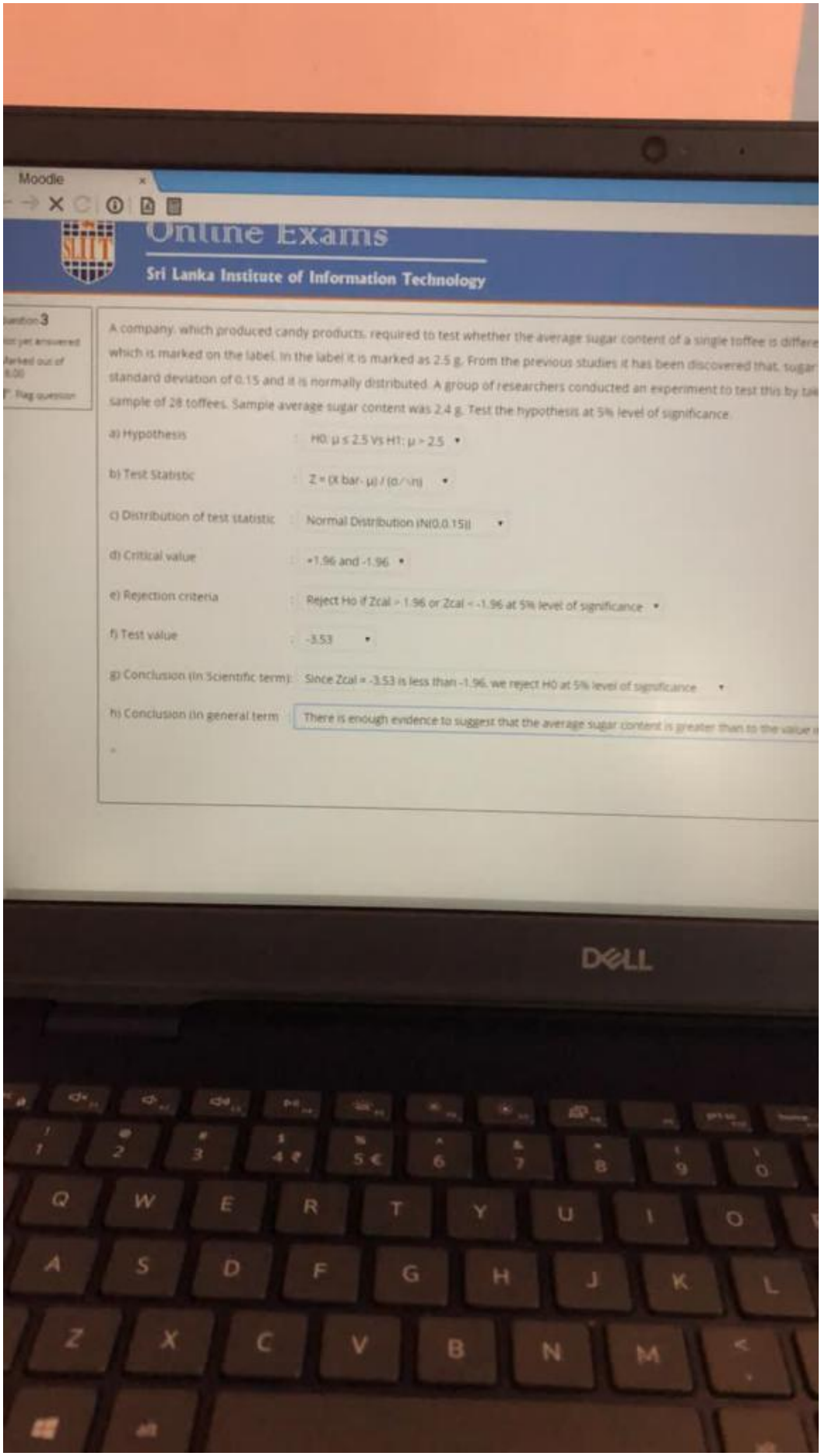

Online Exams
Sri Lanka Institute of Information Technology
A company, which produced candy products, required to test whether the average sugar content of a single toffee is different with the value which is marked on the label. In the label it is marked as 2.5 g. From the previous studies it has been discovered that, sugar content has standard deviation of 0.15 and it is normally distributed. A group of researchers conducted an experiment to test this by taking a random sample of 28 toffees. Sample average sugar content was 2.4 g. Test the hypothesis at 5% level of significance.
a) Hypothesis : Choose...
b) Test Statistic : Choose...
c) Distribution of test statistic : Choose...
d) Critical value : Choose...
e) Rejection criteria : Choose...
f) Test value : Choose...
g) Conclusion (in Scientific term): Choose...
h) Conclusion (in general term : Choose...

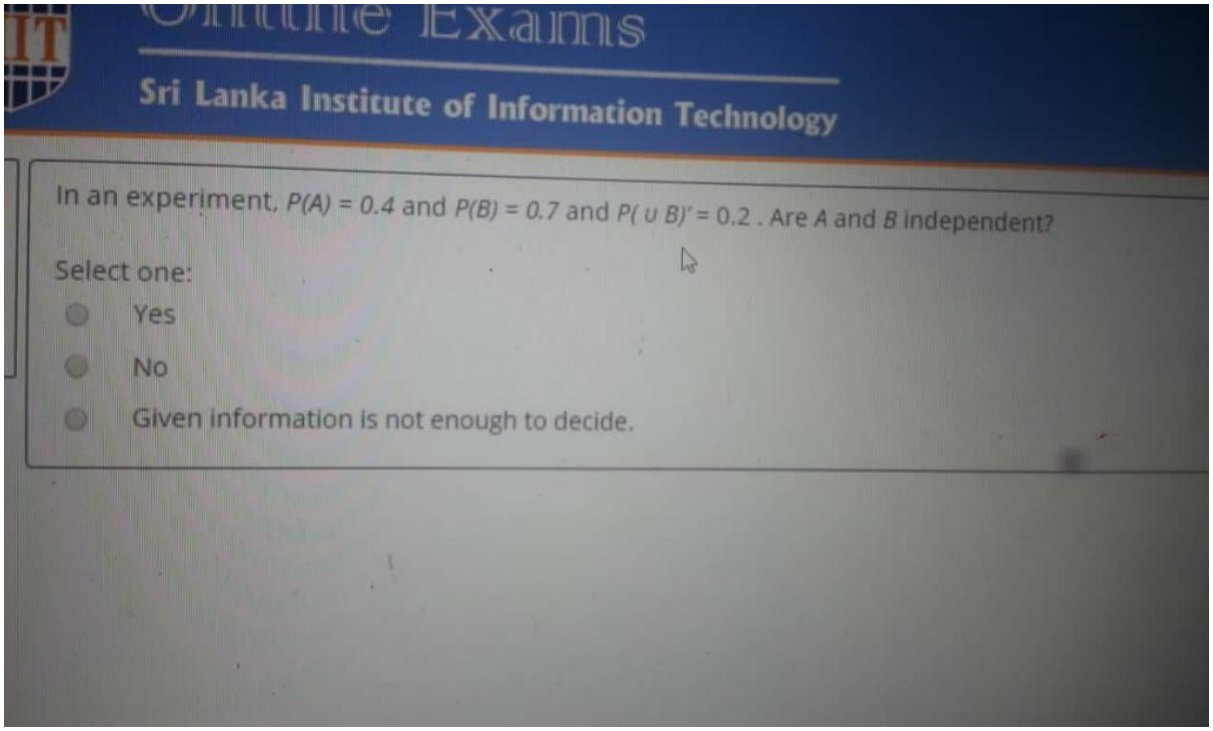

Transportation mode	Drive	Bike	Other	Total
Frequency	100	150	50	300
Do the above results suggest that the past record for proportions have changed? Use 5% level of significance.
1. Hypothesis:
H0: Past record for mode of transportation hasn't changed. [Pr(drive) = 0.3, Pr(Bike) = 0.6 and Pr(other) = 0.1
2. Distribution of test statistic: Chi squared distribution with 2 degrees of freedom
3. Significance level: 5%
4. Critical value: 5.99146
5. Rejection criteria: Reject H0 if X^2 Cal > 5.99146 at 5% level of significance
6. Test value: 9.3285
7. Conclusion (in Scientific term):
Since t cal = 12.5212 > 2.353, do not reject H0 at 10% level of significance
8. Conclusion (in General term):
Therefore there is enough evidence to suggest that there is at least one proportion which has changed after
QUESTIONS
1 2 3 4 5 6 7
8 9 10
FEEDBACK
11
Finish attempt ...
Time left 1:17:06

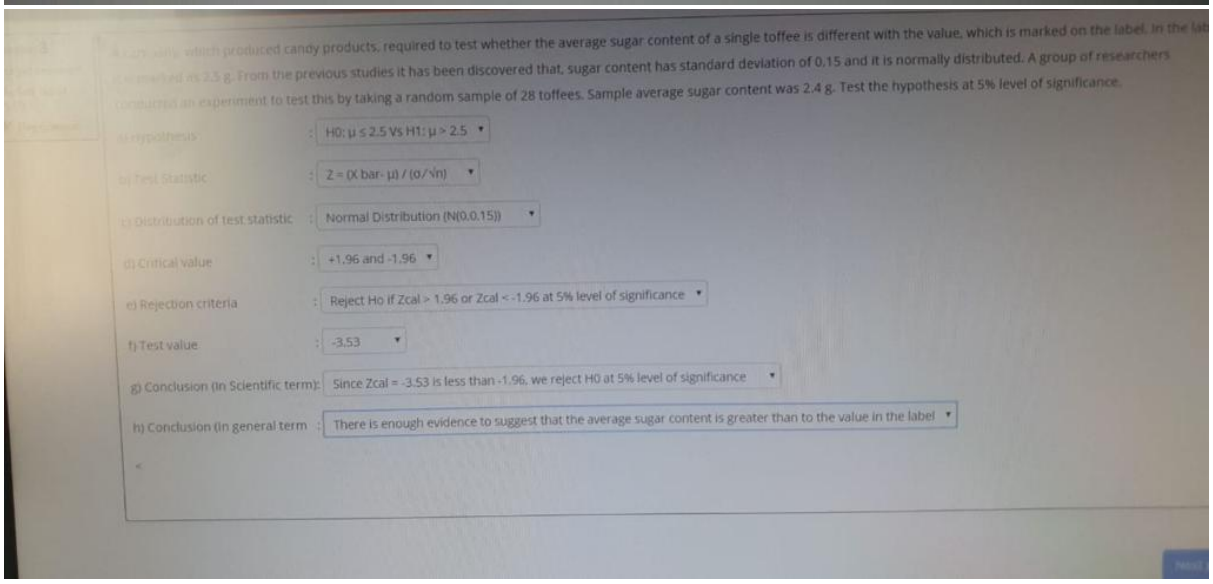

Online Exams
Sri Lanka Institute of Information Technology
A company, which produced candy products, required to test whether the average sugar content of a single toffee is different with the v
which is marked on the label. In the label it is marked as 2.5 g. From the previous studies it has been discovered that, sugar content has
standard deviation of 0.15 and it is normally distributed. A group of researchers conducted an experiment to test this by taking a random
sample of 28 toffees. Sample average sugar content was 2.4 g. Test the hypothesis at 5% level of significance.
a) Hypothesis : H0: μ ≤ 2.5 Vs H1: μ > 2.5
b) Test Statistic : Z = (X bar - μ) / (σ/√n)
c) Distribution of test statistic : Normal Distribution (N(0,0.15))
d) Critical value : +1.96 and -1.96
e) Rejection criteria : Reject Ho if Zcal > 1.96 or Zcal < -1.96 at 5% level of significance
f) Test value : -3.53
g) Conclusion (In Scientific term): Since Zcal = -3.53 is less than -1.96, we reject H0 at 5% level of significance
h) Conclusion (In general term : There is enough evidence to suggest that the average sugar content is greater than to the value in the label
DELL

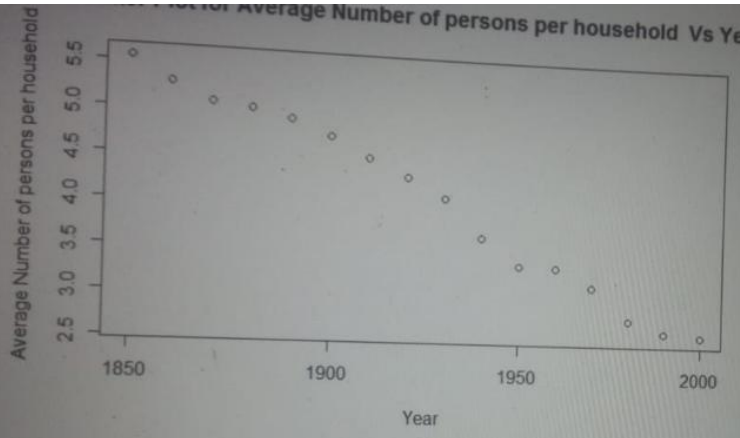

Online Exams
Sri Lanka Institute of Information Technology
it19391946 Wijerathne H
Question 10
Not yet answered
Marked out of 9.00
Flag question
A typist of a certain Book Publishing Company can type 7 pages per day. Without using any approximation, calculate the probability that.
a) The typist type more than 8 pages per day
b) The typist type fewer than 3 pages per day
c) Using a suitable approximation, find the probability that the typist type less than or equal to 4 pages per day.
Type your answers within the given spaces [Keep all decimal places of the final answer].
Next page
Quiz navigation
DECLARATION
QUESTIONS
1 2 3 4 5 6
9 10
FEEDBACK
11
Finish attempt ...
Time left 0:19:23


A random sample of 42 batteries, has on average life time of 88.5 hrs with 7.6 standard deviation. Construct a 99% confidence
the true mean lifetime (μ) of this brand of batteries.
a) Lower Limit Equation : Choose...
b) Upper Limit Equation : Choose...
c) Critical value : Choose...
d) Lower Limit value : Choose...
e) Upper Limit value : Choose...


Moodle
Online Exams
Sri Lanka Institute of Information Technology
A company, which produced candy products, required to test whether the average sugar content of a single toffee is differe
which is marked on the label. In the label it is marked as 2.5 g. From the previous studies it has been discovered that, sugar
standard deviation of 0.15 and it is normally distributed. A group of researchers conducted an experiment to test this by tak
sample of 28 toffees. Sample average sugar content was 2.4 g. Test the hypothesis at 5% level of significance.
a) Hypothesis
H0: μ ≤ 2.5 Vs H1: μ > 2.5
b) Test Statistic
Z = (X bar- μ) / (σ/√n)
c) Distribution of test statistic
Normal Distribution (N(0,0.15))
d) Critical value
+1.96 and -1.96
e) Rejection criteria
Reject Ho if Zcal > 1.96 or Zcal < -1.96 at 5% level of significance
f) Test value
-3.53
g) Conclusion (in Scientific term)
Since Zcal = -3.53 is less than -1.96, we reject H0 at 5% level of significance
h) Conclusion (in general term)
There is enough evidence to suggest that the average sugar content is greater than to the value
DELL


Online Exams
Sri Lanka Institute of Information Technology
In an experiment, P(A) = 0.4 and P(B) = 0.7 and P(∪ B)' = 0.2 . Are A and B independent?
Select one:
Yes
No
Given information is not enough to decide.


which produced candy products, required to test whether the average sugar content of a single toffee is different with the value, which is marked on the label. In the lab
is marked as 2.5 g. From the previous studies it has been discovered that, sugar content has standard deviation of 0.15 and it is normally distributed. A group of researchers
conducted an experiment to test this by taking a random sample of 28 toffees. Sample average sugar content was 2.4 g. Test the hypothesis at 5% level of significance.
a) Hypothesis : H0: μ ≤ 2.5 Vs H1: μ > 2.5
b) Test Statistic : Z = (X bar- μ) / (σ/√n)
c) Distribution of test statistic : Normal Distribution (N(0,0.15))
d) Critical value : +1.96 and -1.96
e) Rejection criteria : Reject Ho if Zcal > 1.96 or Zcal < -1.96 at 5% level of significance
f) Test value : -3.53
g) Conclusion (In Scientific term): Since Zcal = -3.53 is less than -1.96, we reject H0 at 5% level of significance
h) Conclusion (in general term : There is enough evidence to suggest that the average sugar content is greater than to the value in the label

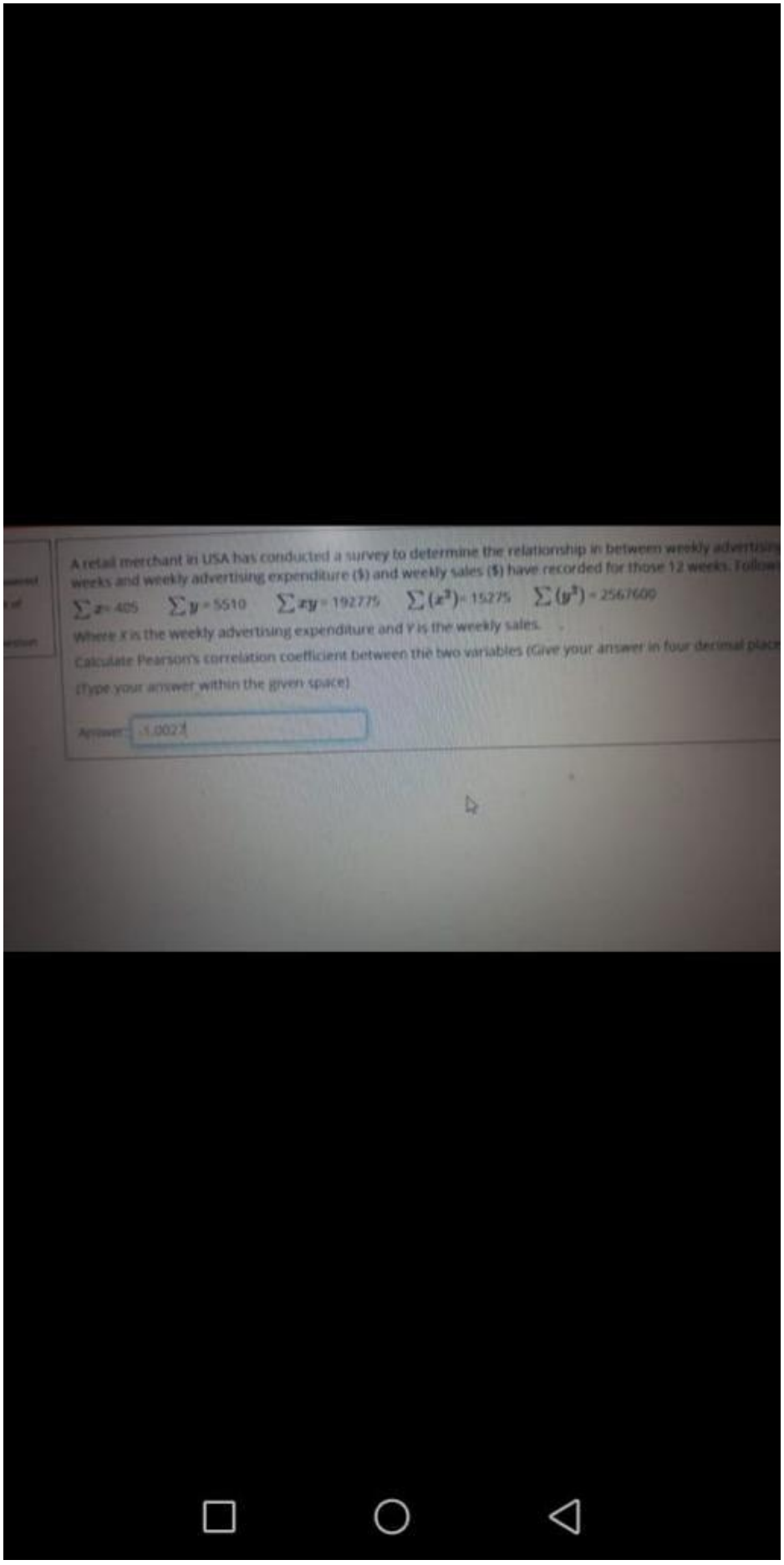


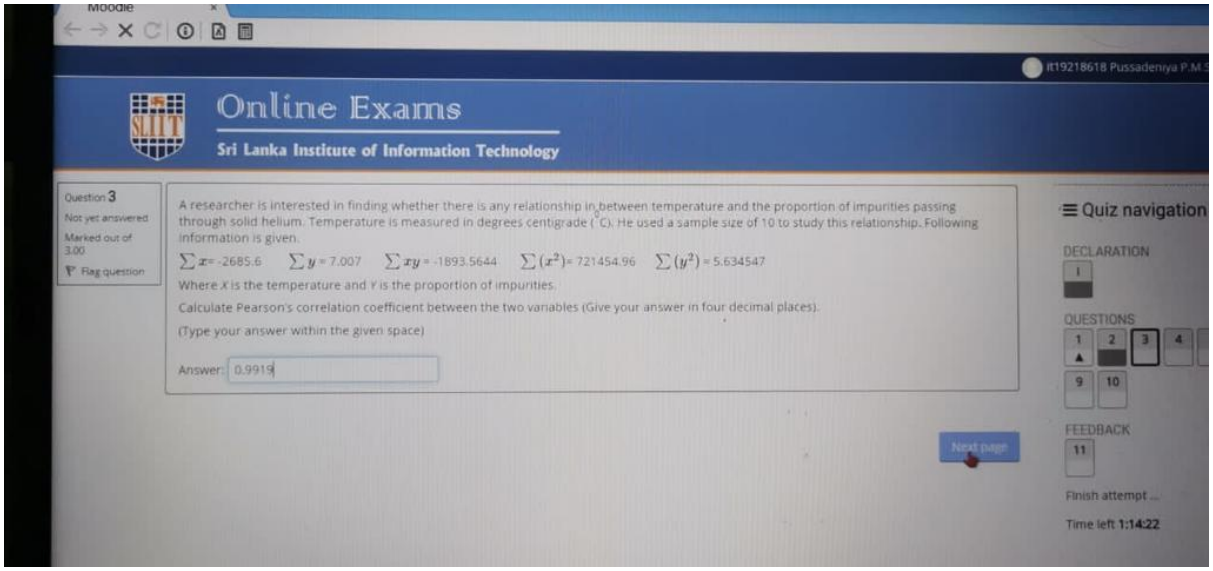
R outputs of the regression model are shown below.

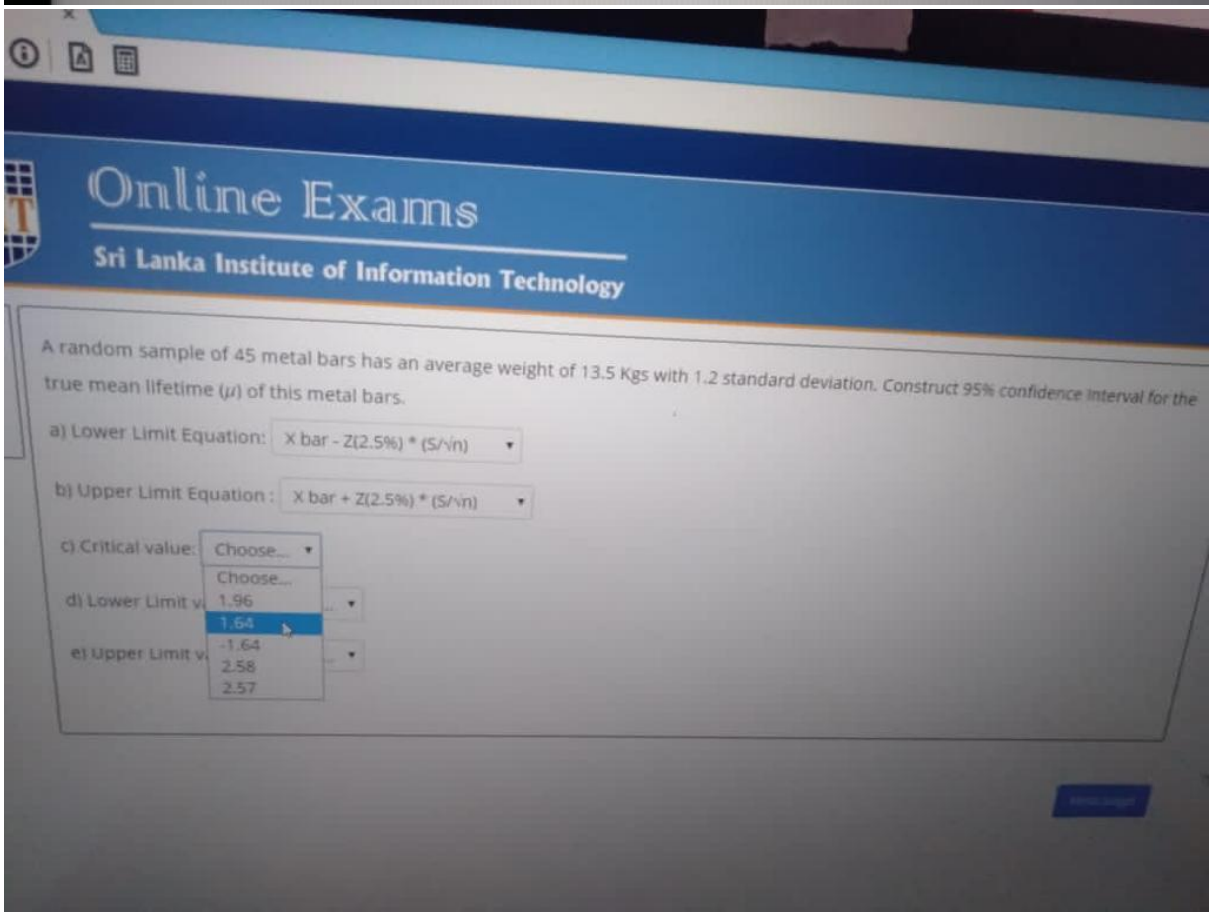
Regression Model

Coefficients

Intercept	Year
44.39213	-0.02095


A retail merchant in USA has conducted a survey to determine the relationship in between weekly advertising
weeks and weekly advertising expenditure ($) and weekly sales ($) have recorded for those 12 weeks. Follow
$\sum x = 405$ $\sum y = 5510$ $\sum xy = 192775$ $\sum (x^2) = 15275$ $\sum (y^2) = 2567600$
Where X is the weekly advertising expenditure and Y is the weekly sales.
Calculate Pearson's correlation coefficient between the two variables (Give your answer in four decimal place
(Type your answer within the given space)
Answer: 1.0021


Moodle
it19218618 Pussadeniya P.M.
Online Exams
Sri Lanka Institute of Information Technology
Question 3
Not yet answered
Marked out of 3.00
Flag question
A researcher is interested in finding whether there is any relationship in between temperature and the proportion of impurities passing through solid helium. Temperature is measured in degrees centigrade (°C). He used a sample size of 10 to study this relationship. Following information is given.
$\sum x$= -2685.6 $\sum y$ = 7.007 $\sum xy$ = -1893.5644 $\sum (x^2)$= 721454.96 $\sum (y^2)$ = 5.634547
Where X is the temperature and Y is the proportion of impurities.
Calculate Pearson's correlation coefficient between the two variables (Give your answer in four decimal places).
(Type your answer within the given space)
Answer: 0.9919
Next page
Quiz navigation
DECLARATION
QUESTIONS
1 2 3 4
9 10
FEEDBACK
11
Finish attempt ...
Time left 1:14:22


Online Exams
Sri Lanka Institute of Information Technology
A random sample of 45 metal bars has an average weight of 13.5 Kgs with 1.2 standard deviation. Construct 95% confidence interval for the true mean lifetime (μ) of this metal bars.
a) Lower Limit Equation: X bar - Z(2.5%) * (S/√n)
b) Upper Limit Equation : X bar + Z(2.5%) * (S/√n)
c) Critical value: Choose...
Choose...
1.96
1.64
-1.64
2.58
2.57
d) Lower Limit v
e) Upper Limit v

	≤ 4	5	6	≥ 7	
Abstainer	797	622	496	700	2615
Non-Binge	711	1139	984	2128	4962
Occasional Binge	247	443	471	1698	2859
Frequent Binge	167	448	360	2218	3193
Total	1922	2652	2311	6744	13629

1. Hypothesis:

H0: There is a relationship in between type of drinker and definition of binge drinking for men Vs. H1: There is no relationship in between

Choose...
H0: There is no relationship in between type of drinker and definition of binge drinking for men Vs. H1: There is a relationship in between type of
2. H0: Type of drinker and definition of binge drinking for men are dependent Vs. H1: Type of drinker and definition of binge drinking for men are inde
H0: There is an association in between type of drinker and definition of binge drinking for men Vs. H1: There is no association in between type of
3. H0: There is a relationship in between type of drinker and definition of binge drinking for men Vs. H1: There is no relationship in between type of
H0: Type of drinker and definition of binge drinking for men are related Vs. H1: Type of drinker and definition of binge drinking for men are not rela

4. Critical value: Choose...

5. Rejection criteria: Choose...

6. Test value (Round off to the nearest integer):

7. Conclusion (In Scientific term): Choose...

Online Exams

Sri Lanka Institute of Information Technology

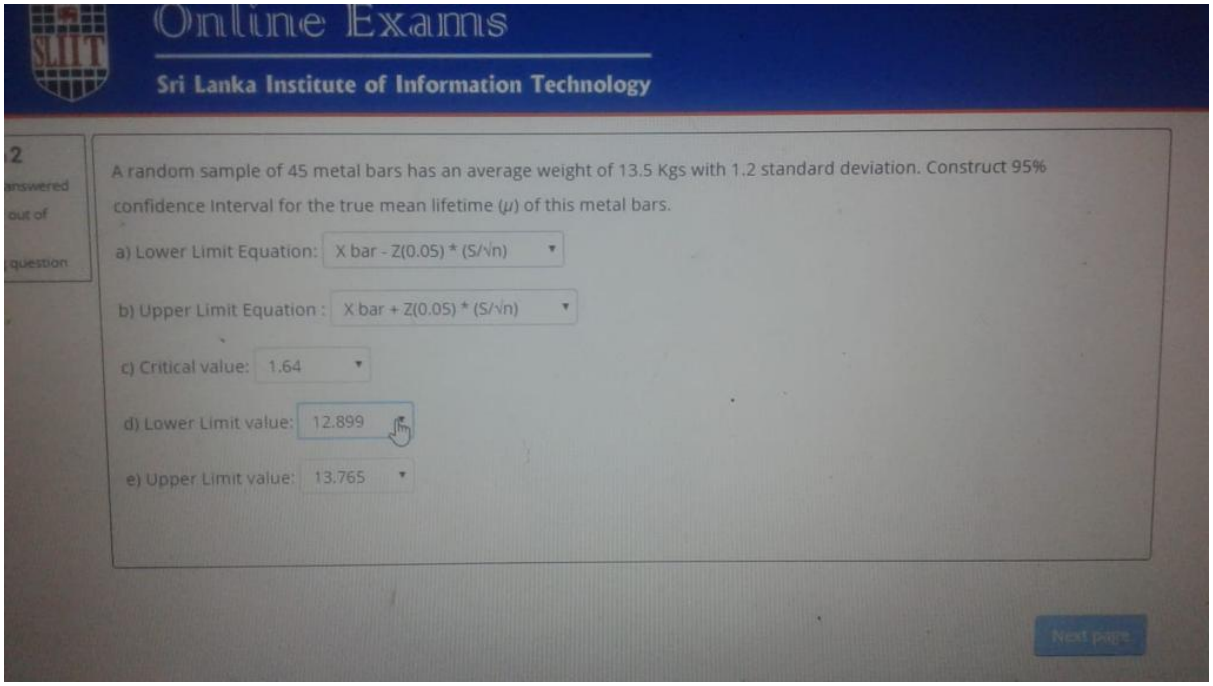
Group of researchers have found that, in a particular junction, on average, there will be 6 road accidents in a given month. W
approximation, calculate the probability that.

a) There will be at least 3 road accidents in a given month. 0.9380

b) Fewer than 2 road accidents in a given month. 0.0174

using a suitable approximation, find the probability that, there will be at least 4 road accidents in a given month. 0.7681

swers within the given spaces [Keep all decimal places of the final answer].


Online Exams
Sri Lanka Institute of Information Technology
2
answered
out of
question
A random sample of 45 metal bars has an average weight of 13.5 Kgs with 1.2 standard deviation. Construct 95% confidence Interval for the true mean lifetime (μ) of this metal bars.
a) Lower Limit Equation: X bar - Z(0.05) * (S/√n)
b) Upper Limit Equation : X bar + Z(0.05) * (S/√n)
c) Critical value: 1.64
d) Lower Limit value: 12.899
e) Upper Limit value: 13.765
Next page

Moodle

Question 1
Not yet answered
Marked out of 7.00
Flag question

U.S. Census Bureau estimates of the average number of persons per household in the United States for census yea 2000 are shown in the following table with the ANOVA output for the fitted regression model. (These data are in th companion website.)

Year	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000
Average number of persons per Household	5.55	5.28	5.09	5.04	4.93	4.76	4.54	4.34	4.11	3.67	3.37	3.35	3.14	2.76	2.63	2.59

Analysis of Variance Table

Response: Average number of persons per household

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Year	A	14.9164	F	G	5.875e-14***
Residuals	B	D	0.0174		
Total	C	E			

Signif. Codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Find values marked A, B, C, D, E, F and G in the ANOVA table.

1. A : 1
2. B : 14
3. C : 15
4. D : 0.2438 (Keep all the decimal places in the answer)
5. E : 15.1602 (Keep all the decimal places in the answer)
6. F : 14.9164 (Keep all the decimal places in the answer)
7. G : 856.4097 (Round off the answer up to the fourth decimal point)

(Type your answers within the given spaces)

Marked out of 7.00

Flag question

2000 are shown in the following table with the ANOVA output for the fitted regression model. (These data are in the file perho
companion website.)

Year	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000
Average number of persons per Household	5.55	5.28	5.09	5.04	4.93	4.76	4.54	4.34	4.11	3.67	3.37	3.35	3.14	2.76	2.63	2.59

Analysis of Variance Table

Response: Average number of persons per household

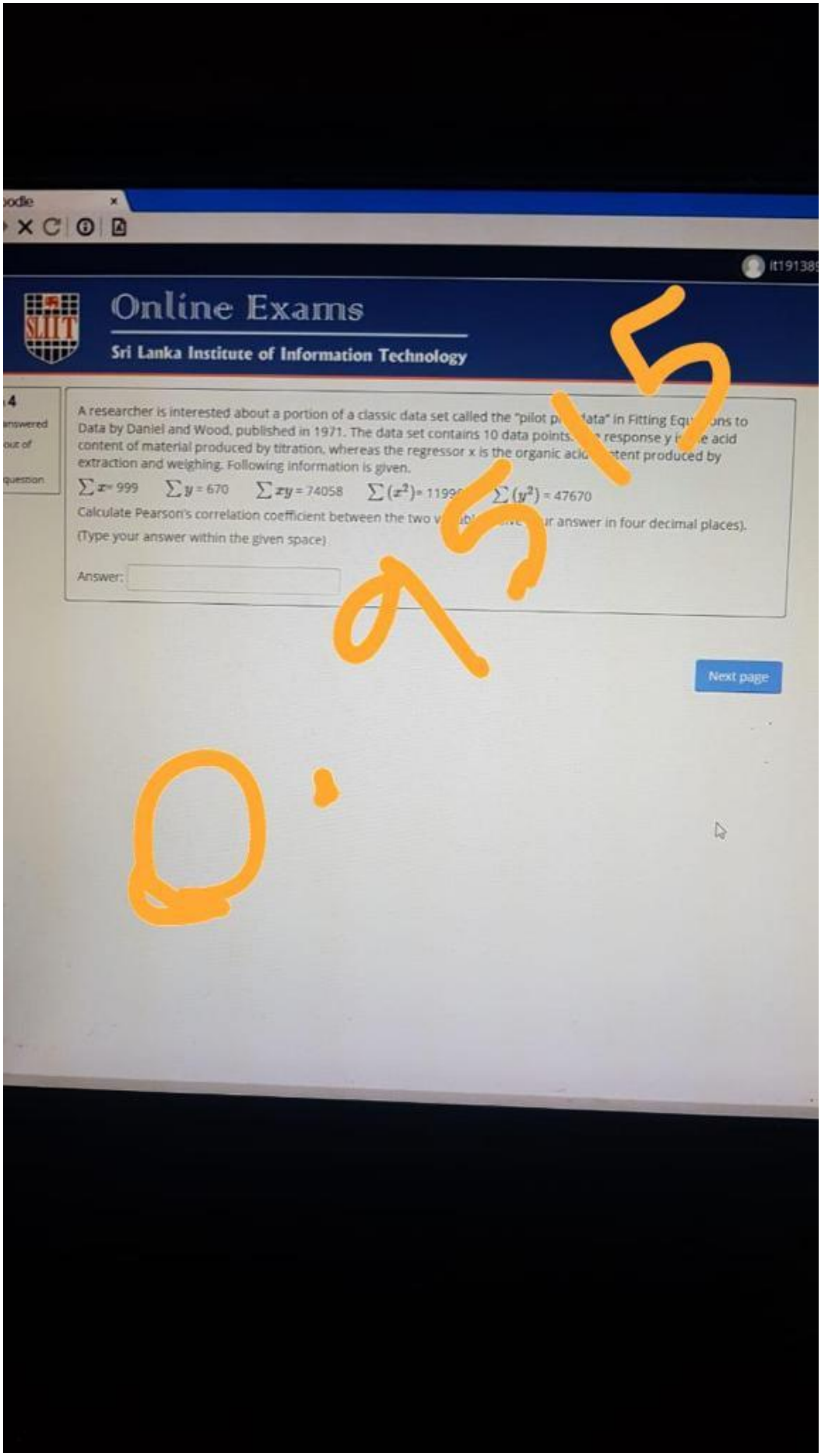
	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Year	A	14.9164	F	G	5.875e-14***
Residuals	B	D	0.0174		
Total	C	E			

Signif. Codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Find values marked A, B, C, D, E, F and G in the ANOVA table.

1. A: 1
2. B: 14
3. C: 15
4. D: 0.2436 (Keep all the decimal places in the answer)
5. E: 15.16 (Keep all the decimal places in the answer)
6. F: 14.9164 (Keep all the decimal places in the answer)
7. G: 857.2644 (Round off the answer up to the fourth decimal point)

(Type your answers within the given spaces)


Online Exams
Sri Lanka Institute of Information Technology
A researcher is interested about a portion of a classic data set called the "pilot p ata" in Fitting Equ ons to Data by Daniel and Wood, published in 1971. The data set contains 10 data points. response y i e acid content of material produced by titration, whereas the regressor x is the organic acid tent produced by extraction and weighing. Following information is given.
$\sum x = 999$ $\sum y = 670$ $\sum xy = 74058$ $\sum (x^2) = 1199$ $\sum (y^2) = 47670$
Calculate Pearson's correlation coefficient between the two v ur answer in four decimal places).
(Type your answer within the given space)
Answer:
Next page
0.9515

U.S. Census Bureau estimates of the average number of persons per household in the United States for census years between 1850 and 2000 are shown in the following table with the ANOVA output for the fitted regression model. (These data are in the file perhouse on the companion website.)

Year	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000
Average number of persons per Household	5.55	5.28	5.09	5.04	4.93	4.76	4.54	4.34	4.11	3.67	3.37	3.35	3.14	2.76	2.63	2.59

Analysis of Variance Table

Response: Average number of persons per household

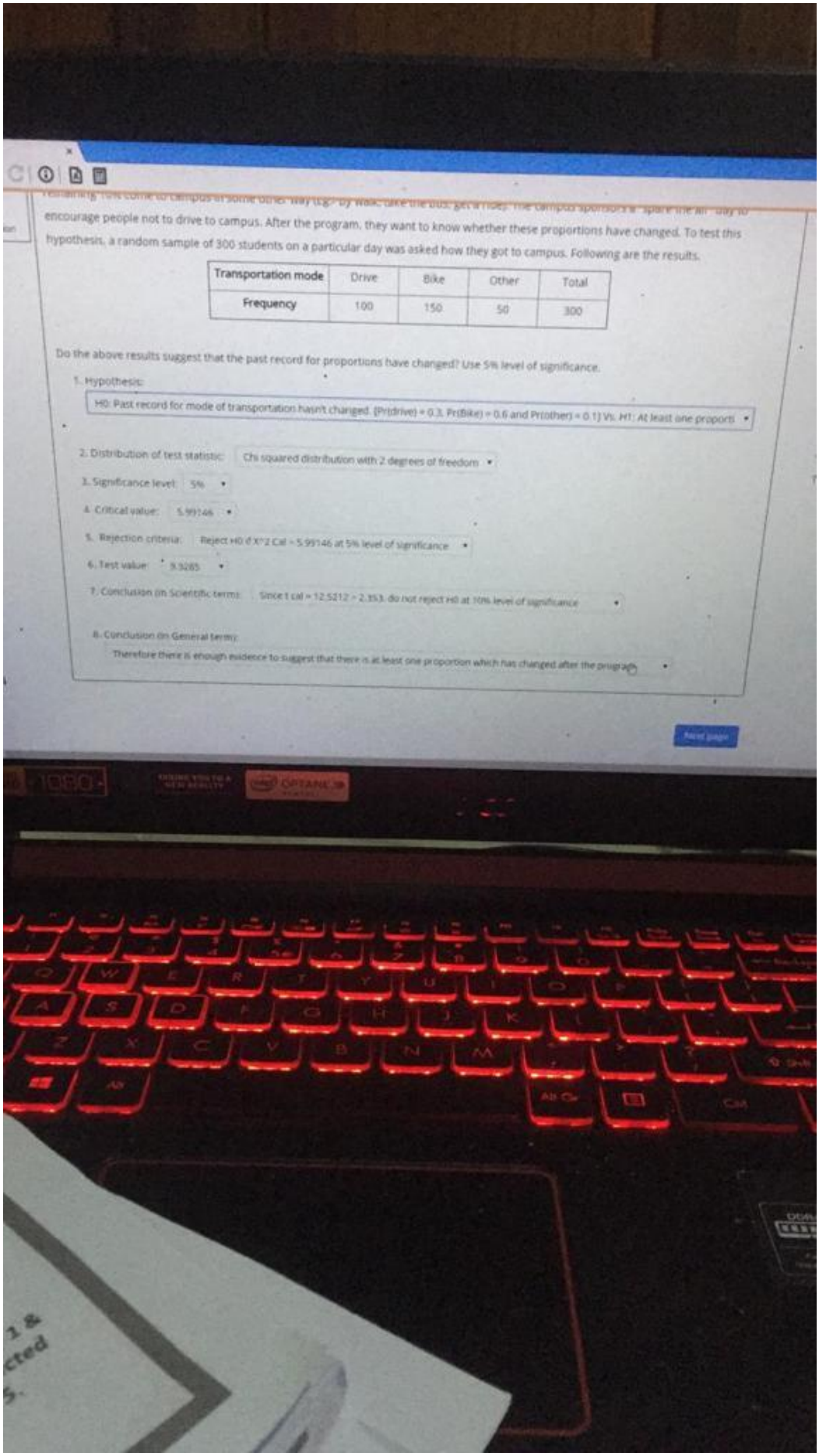
	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Year	A	14.9164	F	G	5.875e-14***
Residuals	B	D	0.0174		
Total	C	E			

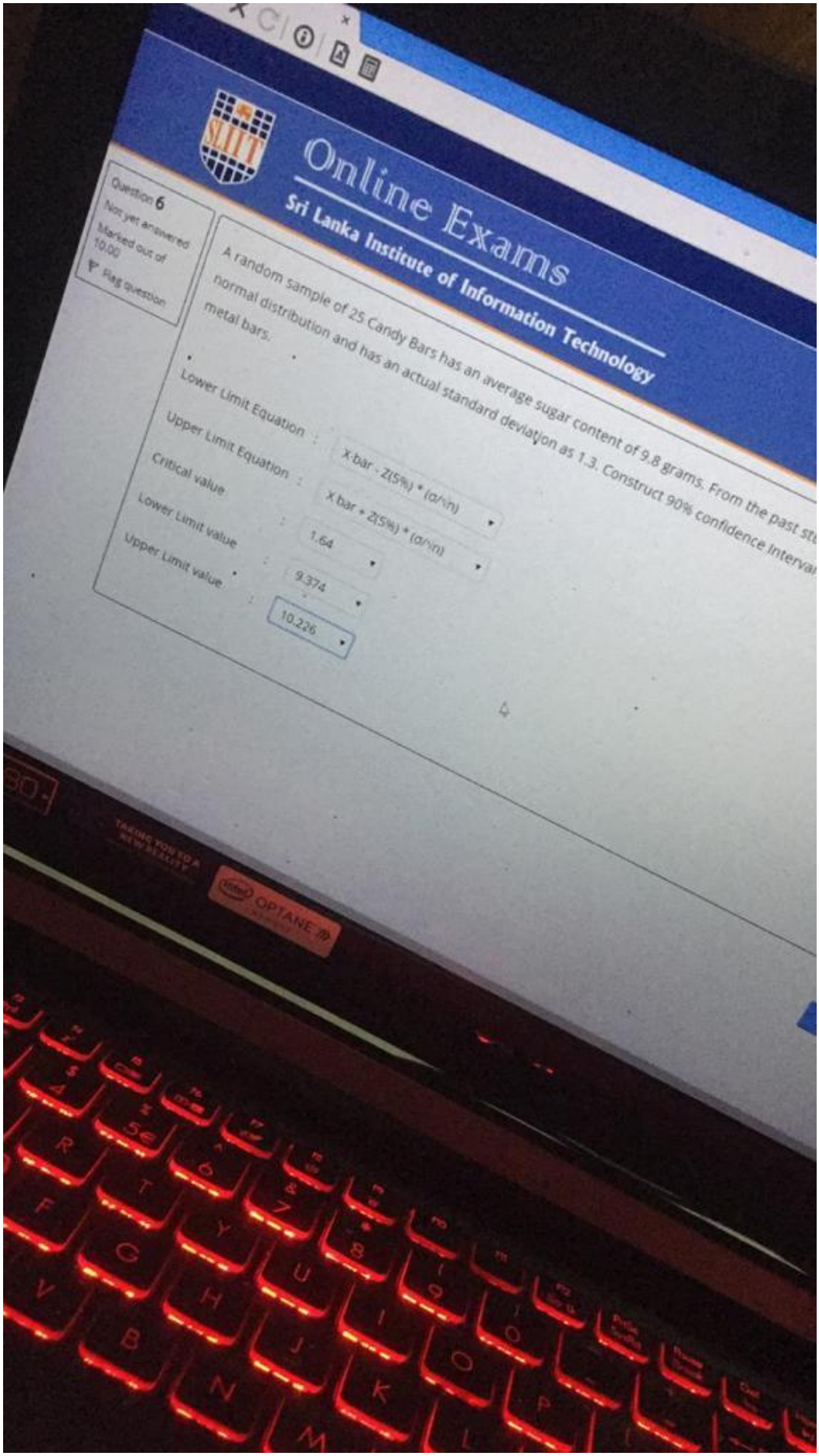
Signif. Codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Find values marked A, B, C, D, E, F and G in the ANOVA table.

1. A : 15
2. B :
3. C :
4. D : (Keep all the decimal places in the answer)
5. E : (Keep all the decimal places in the answer)
6. F : 944266667 (Keep all the decimal places in the answer)
7. G : (Round off the answer up to the fourth decimal point)

(Type your answers within the given spaces)


encourage people not to drive to campus. After the program, they want to know whether these proportions have changed. To test this
hypothesis, a random sample of 300 students on a particular day was asked how they got to campus. Following are the results.
Transportation mode | Drive | Bike | Other | Total
Frequency | 100 | 150 | 50 | 300
Do the above results suggest that the past record for proportions have changed? Use 5% level of significance.
1. Hypothesis:
H0: Past record for mode of transportation hasn't changed. (Pr(drive) = 0.3, Pr(Bike) = 0.6 and Pr(other) = 0.1) Vs. H1: At least one proporti
2. Distribution of test statistic: Chi squared distribution with 2 degrees of freedom
3. Significance level: 5%
4. Critical value: 5.99146
5. Rejection criteria: Reject H0 if X^2 Cal > 5.99146 at 5% level of significance
6. Test value: 9.3285
7. Conclusion (in Scientific terms): Since t cal = 12.5212 > 2.353, do not reject H0 at 10% level of significance
8. Conclusion (in General terms):
Therefore there is enough evidence to suggest that there is at least one proportion which has changed after the progra


Online Exams
Sri Lanka Institute of Information Technology
Question 6
Not yet answered
Marked out of 10.00
Flag question
A random sample of 25 Candy Bars has an average sugar content of 9.8 grams. From the past st
normal distribution and has an actual standard deviation as 1.3. Construct 90% confidence interva
metal bars.
Lower Limit Equation : X-bar - Z(5%) * (σ/√n)
Upper Limit Equation : X bar + Z(5%) * (σ/√n)
Critical value : 1.64
Lower Limit value : 9.374
Upper Limit value : 10.226
OPTANE

U.S. Census Bureau estimates of the average number of persons per household in the United States for census years between 1850 and 2000 are shown in the following table. (These data are in the file perhouse on the companion website

Year	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000
Average number of persons per Household	5.55	5.28	5.09	5.04	4.93	4.76	4.54	4.34	4.11	3.67	3.37	3.35	3.14	2.76	2.63	2.59

To examine the relationship between the year and average number of persons per household, following information has used.

$\sum x = 30800$ $\sum y = 65.15$ $\sum xy = 124701.6$ $\sum (x^2) = 59324000$ $\sum (y^2) = 280.4429$

Where X is the year and Y is the average number of persons per household in the United States.

Calculate Pearson's correlation coefficient between the two variables (Give your answer in four decimal places).

(Type your answer within the given space):

Answer:

1. Hypothesis:

H0: There is a relationship in between size of a family and level of education attained by father Vs. H1: There is no rela

2. Distribution of test statistic: Chi squared distribution with 4 degrees of freedom

3. Significance level: 1%

4. Critical value: 13.2767

5. Rejection criteria: Reject H0 if X^2 Cal > 13.2767 at 1% level of significance

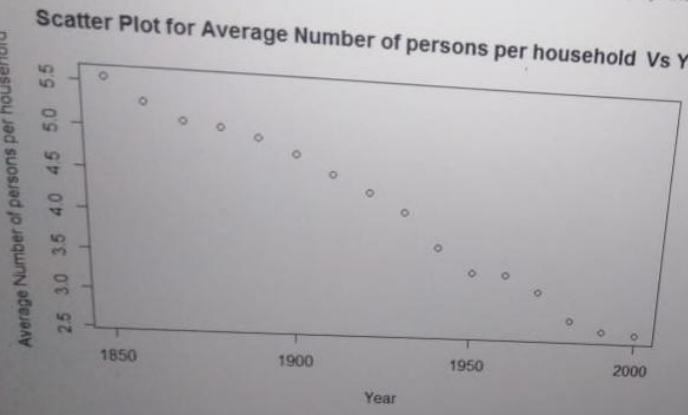
6. Test value (Round off to the nearest integer): 9

7. Conclusion (in Scientific term): Since X^2 Cal = 9 < 13.2767, do not reject H0 at 1% level of significance

8. Conclusion (in General term):

Therefore there is enough evidence to suggest that size of a family is dependent on the level of education attained by

U.S. Census Bureau estimates of the average number of persons per household in the United States for census years between 1850 and 2000 are extracted from the file perhouse on the companion website. Figure below displays the scatter plot for the data.



R outputs of the regression model are shown below.

Regression Model

Coefficients

Response: Acid content of material

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Organic acid content	A	C	2517.02	G	2.278e-05***
Residuals	B	262.98	E		
Total	9	D	F		

Signif. Codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Find values marked A, B, C, D, E, F and G in the ANOVA table.

1. A :
2. B :
3. C : (Keep all the decimal places in the answer)
4. D : (Keep all the decimal places in the answer)
5. E : (Keep all the decimal places in the answer)
6. F :
7. G : (Round off the answer up to the fourth decimal point)

(Type your answers within the given spaces except for "F")

i. What can be concluded using the scatter plot?

There is a positive linear relationship in between organic acid content and acid content of material.

ii. State the estimated regression equation.

Estimated Organic acid content = 31.7087 + 0.3533 (Acid content of material)

iii. State in how much acid content of material will change if organic acid content increased by one unit.

Acid content of material will increase by 31.7087 units.

iv. Does slope of the Regression line is significant ($\beta \neq 0$)? Use $\alpha = 5\%$. Yes. Regression line is significant.

v. Use the regression equation to predict the acid content of material if organic acid content is 143 units.

82.2306 units

7.00

Flag question

companion website.)

Year	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000
Average number of persons per Household	5.55	5.28	5.09	5.04	4.93	4.76	4.54	4.34	4.11	3.67	3.37	3.35	3.14	2.76	2.63	2.59

Analysis of Variance Table

Response: Average number of persons per household

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Year	A	14.9164	F	G	5.875e-14***
Residuals	B	D	0.0174		
Total	C	E			

Signif. Codes: 0 *** 0.001 ** 0.01 * 0.05 . 0.1 ' ' 1

Find values marked A, B, C, D, E, F and G in the ANOVA table.

1. A : 1
2. B : 14
3. C : 15
4. D : 0.2436 (Keep all the decimal places in the answer)
5. E : 15.16 (Keep all the decimal places in the answer)
6. F : 14.9164 (Keep all the decimal places in the answer)
7. G : 857.2644 (Round off the answer up to the fourth decimal point)

Type your answers within the given spaces

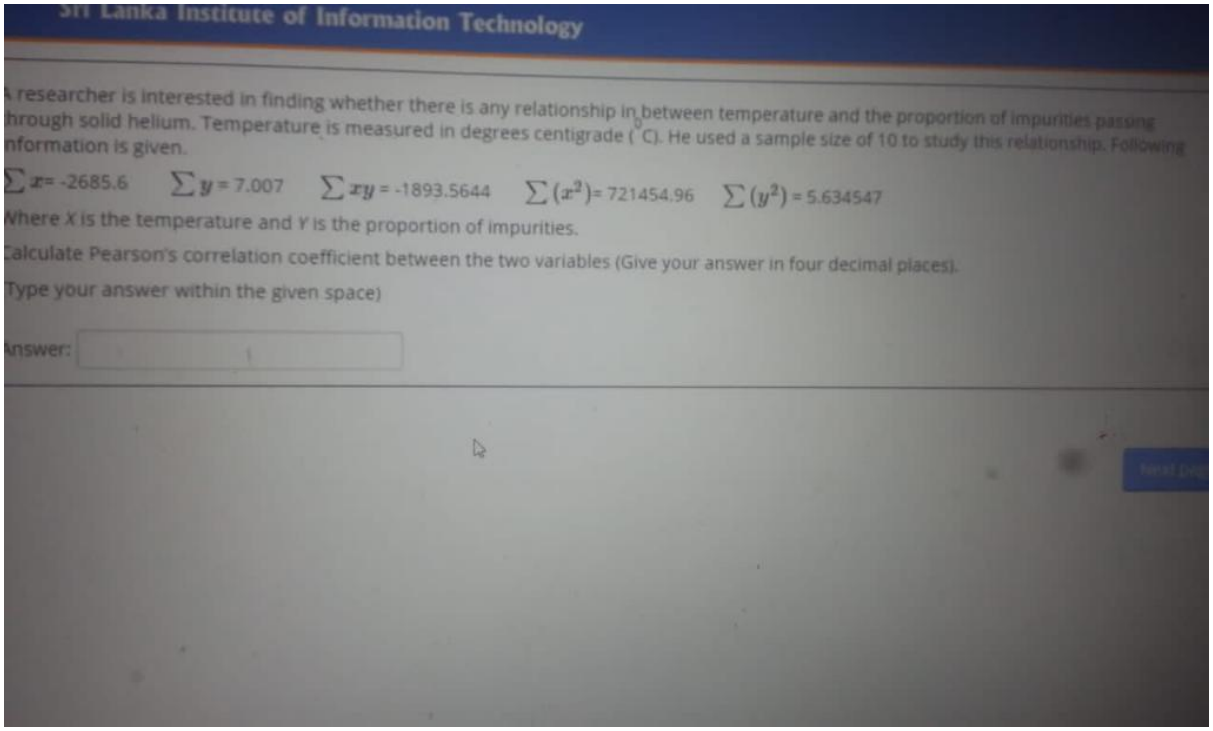
DEC

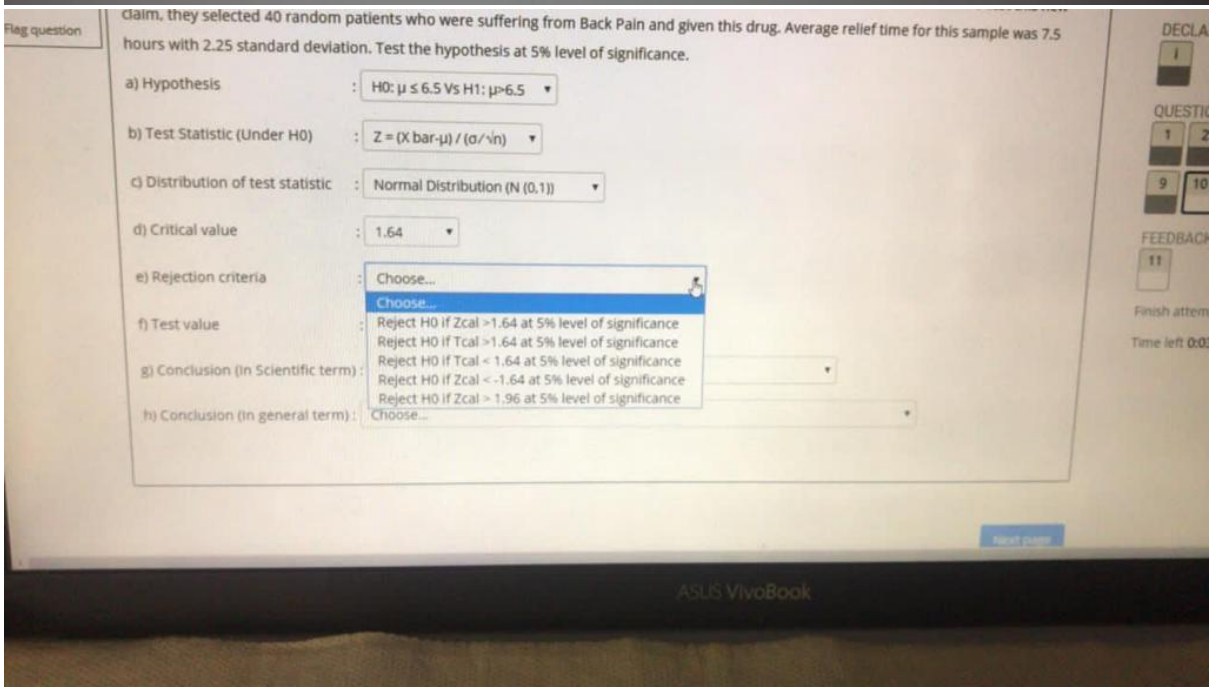
QUES

FEEDB

Finish a

Time left


Sri Lanka Institute of Information Technology
A researcher is interested in finding whether there is any relationship in between temperature and the proportion of impurities passing through solid helium. Temperature is measured in degrees centigrade (°C). He used a sample size of 10 to study this relationship. Following information is given.
$\sum x$= -2685.6 $\sum y$ = 7.007 $\sum xy$ = -1893.5644 $\sum (x^2)$= 721454.96 $\sum (y^2)$ = 5.634547
Where X is the temperature and Y is the proportion of impurities.
Calculate Pearson's correlation coefficient between the two variables (Give your answer in four decimal places).
Type your answer within the given space)
Answer:


Flag question
claim, they selected 40 random patients who were suffering from Back Pain and given this drug. Average relief time for this sample was 7.5 hours with 2.25 standard deviation. Test the hypothesis at 5% level of significance.
a) Hypothesis : H0: μ ≤ 6.5 Vs H1: μ>6.5
b) Test Statistic (Under H0) : Z = (X bar-μ) / (σ/√n)
c) Distribution of test statistic : Normal Distribution (N (0,1))
d) Critical value : 1.64
e) Rejection criteria : Choose...
f) Test value :
g) Conclusion (In Scientific term) :
h) Conclusion (In general term) : Choose...
Choose...
Reject H0 if Zcal >1.64 at 5% level of significance
Reject H0 if Tcal >1.64 at 5% level of significance
Reject H0 if Tcal < 1.64 at 5% level of significance
Reject H0 if Zcal < -1.64 at 5% level of significance
Reject H0 if Zcal > 1.96 at 5% level of significance
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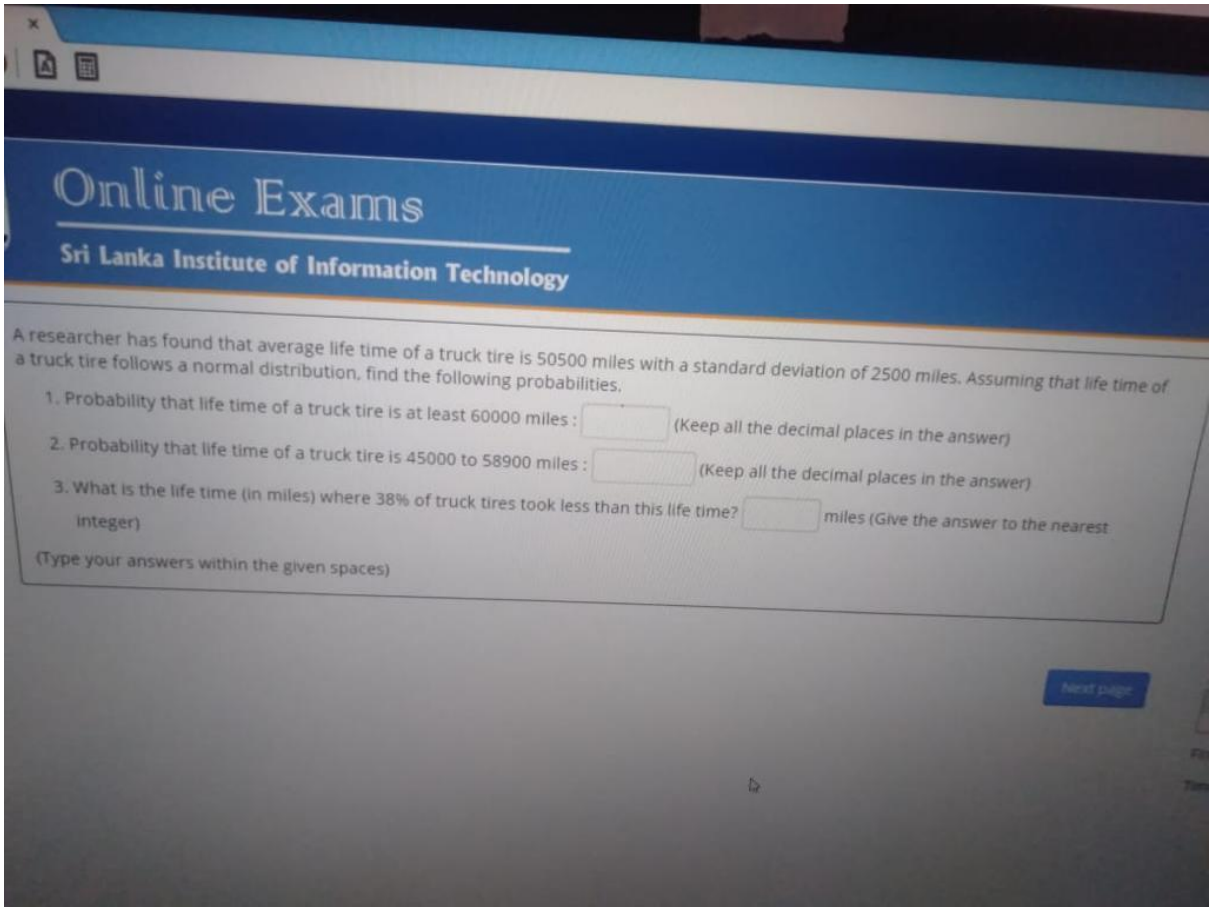
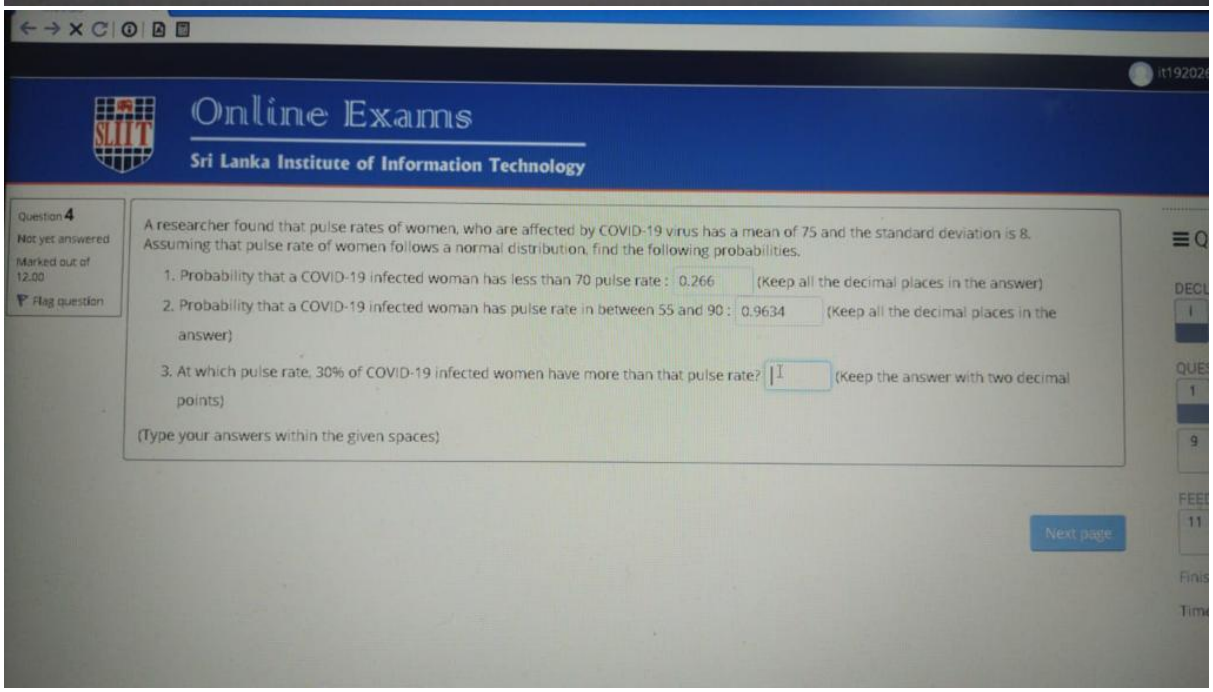
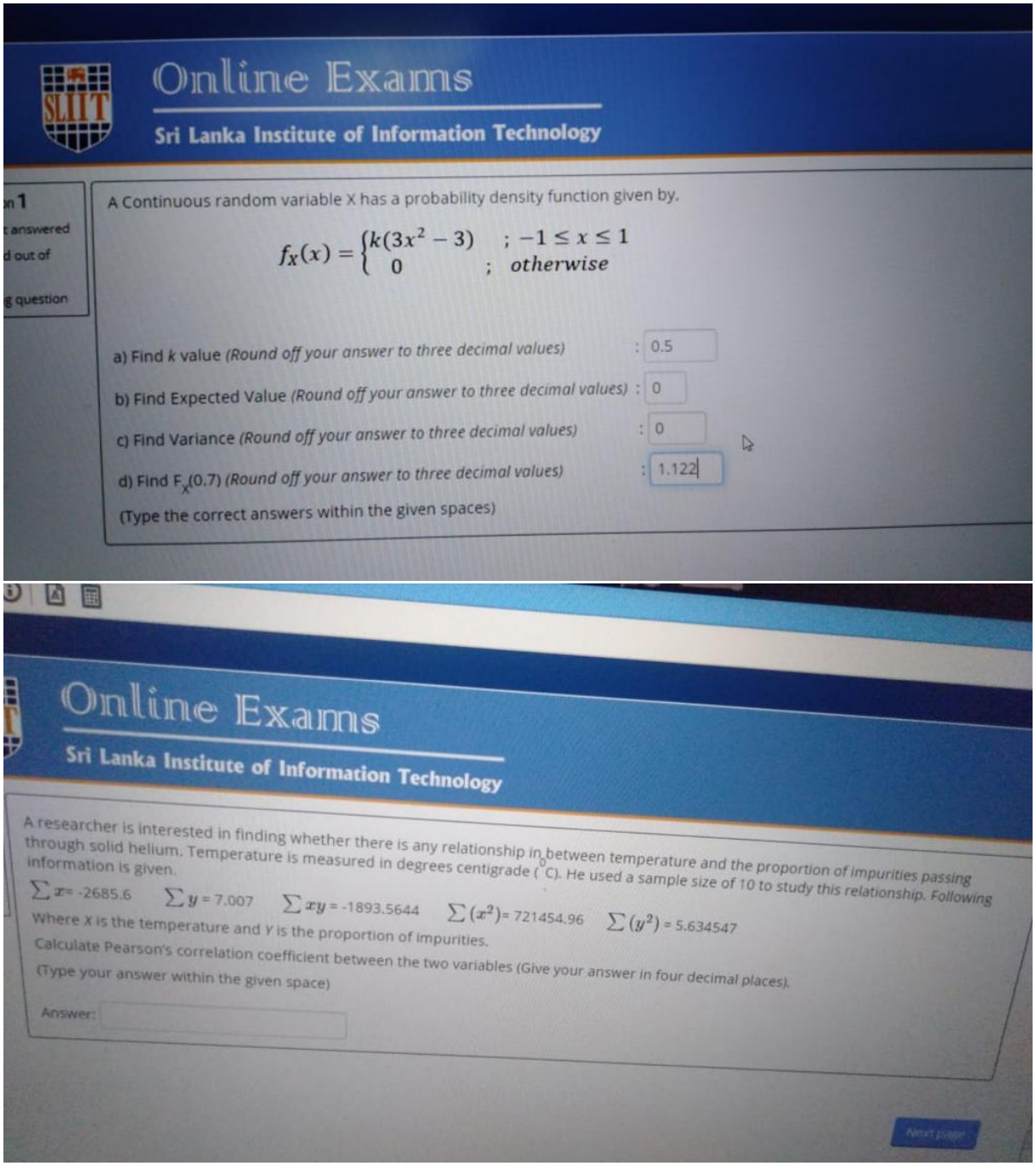

Online Exams
Sri Lanka Institute of Information Technology
A researcher has found that average life time of a truck tire is 50500 miles with a standard deviation of 2500 miles. Assuming that life time of a truck tire follows a normal distribution, find the following probabilities.
1. Probability that life time of a truck tire is at least 60000 miles : (Keep all the decimal places in the answer)
2. Probability that life time of a truck tire is 45000 to 58900 miles : (Keep all the decimal places in the answer)
3. What is the life time (in miles) where 38% of truck tires took less than this life time? miles (Give the answer to the nearest integer)
(Type your answers within the given spaces)
Next page


Online Exams
Sri Lanka Institute of Information Technology
Question 4
Not yet answered
Marked out of 12.00
Flag question
A researcher found that pulse rates of women, who are affected by COVID-19 virus has a mean of 75 and the standard deviation is 8. Assuming that pulse rate of women follows a normal distribution, find the following probabilities.
1. Probability that a COVID-19 infected woman has less than 70 pulse rate : 0.266 (Keep all the decimal places in the answer)
2. Probability that a COVID-19 infected woman has pulse rate in between 55 and 90 : 0.9634 (Keep all the decimal places in the answer)
3. At which pulse rate, 30% of COVID-19 infected women have more than that pulse rate? (Keep the answer with two decimal points)
(Type your answers within the given spaces)
Next page



Online Exams

Sri Lanka Institute of Information Technology

n 1
t answered
d out of
g question

A Continuous random variable X has a probability density function given by.

$$f_X(x) = \begin{cases} k(3x^2 - 3) & ; -1 \le x \le 1 \\ 0 & ; \ otherwise \end{cases}$$

a) Find *k* value *(Round off your answer to three decimal values)* : 0.5

b) Find Expected Value *(Round off your answer to three decimal values)* : 0

c) Find Variance *(Round off your answer to three decimal values)* : 0

d) Find $F_X(0.7)$ *(Round off your answer to three decimal values)* : 1.122

(Type the correct answers within the given spaces)

Online Exams

Sri Lanka Institute of Information Technology

A researcher is interested in finding whether there is any relationship in between temperature and the proportion of impurities passing through solid helium. Temperature is measured in degrees centigrade (^{0}C). He used a sample size of 10 to study this relationship. Following information is given.

$\sum x$= -2685.6 $\sum y$ = 7.007 $\sum xy$ = -1893.5644 $\sum (x^2)$= 721454.96 $\sum (y^2)$ = 5.634547

Where *X* is the temperature and *Y* is the proportion of impurities.

Calculate Pearson's correlation coefficient between the two variables (Give your answer in four decimal places).

(Type your answer within the given space)

Answer:

Question 2
Not yet answered
Marked out of 16.00
Flag question

Fertilizer manufacturing company required to test whether the potassium content in a one fertilizer packet is less than the value mentioned in the packet cover. In the cover it mentioned as 15.5 g. They took a random sample of 25 fertilizer packs and mean and standard deviation of the sample were calculated as 15.0 g and 2.2. Test the manufacturing company's claim at 5%level of significance.

a) Hypothesis : H0: μ ≥ 15.5 Vs H1: μ < 15.5

b) Test Statistic : Z= (X bar-μ) / (S / n)

c) Distribution of test statistic : Normal distribution (N(0,1))

d) Critical value : -1.711

e) Rejection criteria : Reject H0 if Tcal< -1.711 at 5% level of significance.

f) Test value : -1.14

g) Conclusion (In Scientific term) : Since Tcal = -1.14 is greater than -1.711, we do not reject H0 at 5% level of significance

h) Conclusion (In general term) :

We don't have enough evidence to suggest that actual mean potassium content is less than the mentioned value

Next page

A company, which produced candy products, required to test whether the average sugar content of a single toffee is different with the value which is marked on the label. In the label it is marked as 2.5 g. From the previous studies it has been discovered that, sugar content has standard deviation of 0.15 and it is normally distributed. A group of researchers conducted an experiment to test this by taking a random sample of 28 toffees. Sample average sugar content was 2.4 g. Test the hypothesis at 5% level of significance.

a) Hypothesis : Choose...

b) Test Statistic : Choose...

c) Distribution of test statistic : Choose...

d) Critical value : Choose...

e) Rejection criteria : Choose...

f) Test value : Choose...

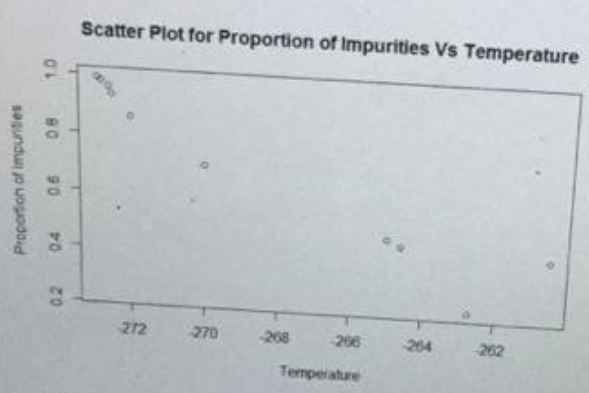
g) Conclusion (In Scientific term): Choose...

h) Conclusion (In general term : Choose...

Online Exams

Sri Lanka Institute of Information Technology

A researcher is interested in finding whether there is any relationship in between temperature and the proportion of impurities passing through solid helium. Temperature is measured in degrees centigrade (^{0}C). He used a sample size of 10 to study this relationship. Figure below displays the scatter plot for the data.



R outputs of the regression model are shown below.

A Continuous random variable X has a probability density function given by,

$$f_X(x) = \begin{cases} k(3x^2 - 3) & ; -1 \le x \le 1 \\ 0 & ; \ otherwise \end{cases}$$

a) Find k value *(Round off your answer to three decimal values)* :

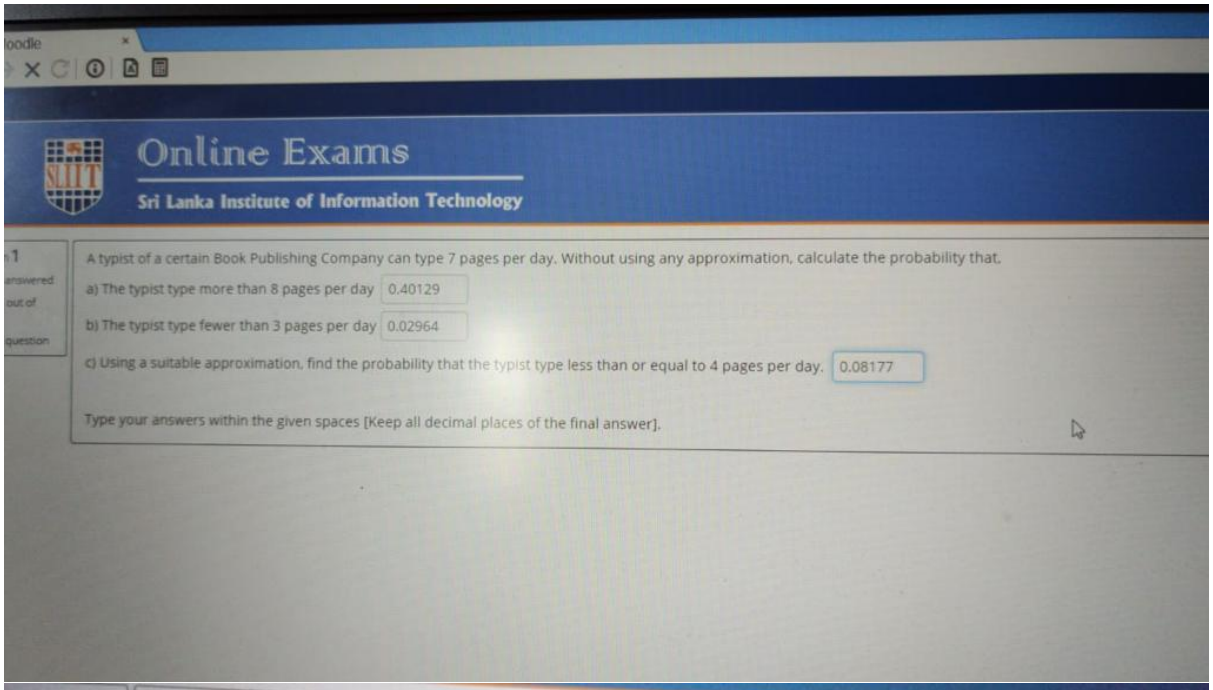
b) Find Expected Value *(Round off your answer to three decimal values)* :

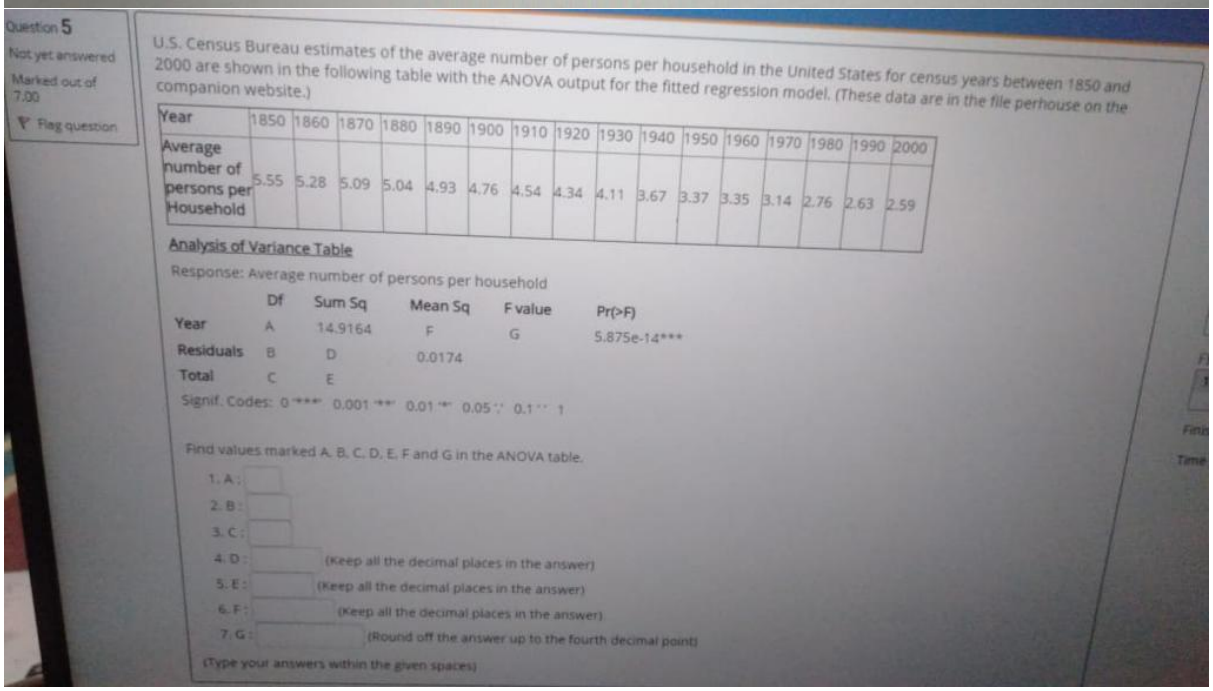
c) Find Variance *(Round off your answer to three decimal values)* :

d) Find $F_X(0.7)$ *(Round off your answer to three decimal values)* :

(Type the correct answers within the given spaces)

Exams
Institute of Information Technology
that average life time of a truck tire is 50500 miles with a standard deviation of 2500 mile
lities.
of a truck tire is at least 60000 miles : 0.9999 (Keep all the decimal places in the answe
uck tire is 45000 to 58900 miles : 0.9861 (Keep all the decimal places in the answer)
e 38% of truck tires took less than this life time? 51264 miles (Give the answer to the ne


Online Exams
Sri Lanka Institute of Information Technology
A typist of a certain Book Publishing Company can type 7 pages per day. Without using any approximation, calculate the probability that.
a) The typist type more than 8 pages per day 0.40129
b) The typist type fewer than 3 pages per day 0.02964
c) Using a suitable approximation, find the probability that the typist type less than or equal to 4 pages per day. 0.08177
Type your answers within the given spaces [Keep all decimal places of the final answer].


Question 5
Not yet answered
Marked out of 7.00
Flag question
U.S. Census Bureau estimates of the average number of persons per household in the United States for census years between 1850 and 2000 are shown in the following table with the ANOVA output for the fitted regression model. (These data are in the file perhouse on the companion website.)
Year 1850 1860 1870 1880 1890 1900 1910 1920 1930 1940 1950 1960 1970 1980 1990 2000
Average number of persons per Household 5.55 5.28 5.09 5.04 4.93 4.76 4.54 4.34 4.11 3.67 3.37 3.35 3.14 2.76 2.63 2.59
Analysis of Variance Table
Response: Average number of persons per household
Df Sum Sq Mean Sq F value Pr(>F)
Year A 14.9164 F G 5.875e-14***
Residuals B D 0.0174
Total C E
Signif. Codes: 0 *** 0.001 ** 0.01 * 0.05 . 0.1 1
Find values marked A, B, C, D, E, F and G in the ANOVA table.
1. A :
2. B :
3. C :
4. D : (Keep all the decimal places in the answer)
5. E : (Keep all the decimal places in the answer)
6. F : (Keep all the decimal places in the answer)
7. G : (Round off the answer up to the fourth decimal point)
(Type your answers within the given spaces)

From past records, suppose that on a typical day, 30% of students drive to campus, 60% of the students come to campus by bike and the remaining 10% come to campus in some other way (Eg:- By walk, take the bus, get a ride). The campus sponsors a "spare the air" day to encourage people not to drive to campus. After the program, they want to know whether these proportions have changed. To test this hypothesis, a random sample of 300 students on a particular day was asked how they got to campus. Following are the results.

Transportation mode	Drive	Bike	Other	Total
Frequency	100	150	50	300

Do the above results suggest that the past record for proportions have changed? Use 5% level of significance.

1. Hypothesis: Choose...
2. Distribution of test statistic: Choose...
3. Significance level:
4. Critical value: Choose...
5. Rejection criteria: Choose...
6. Test value: Choose...
7. Conclusion (in Scientific term): Choose...
8. Conclusion (in General term): Choose...

Online Exams

Sri Lanka Institute of Information Technology

A researcher found that pulse rates of women, who are affected by COVID-19 virus has a mean of 75 and the standard deviation is 8. Assuming that pulse rate of women follows a normal distribution, find the following probabilities.

1. Probability that a COVID-19 infected woman has less than 70 pulse rate : 0.73237 (Keep all the decimal places in the answer)
2. Probability that a COVID-19 infected woman has pulse rate in between 55 and 90 : 0.96305 (Keep all the decimal places in the answer)
3. At which pulse rate, 30% of COVID-19 infected women have more than that pulse rate? 79.16 (Keep the answer with two decimal points)

(Type your answers within the given spaces)

Next page

Quiz navig

DECLARATION

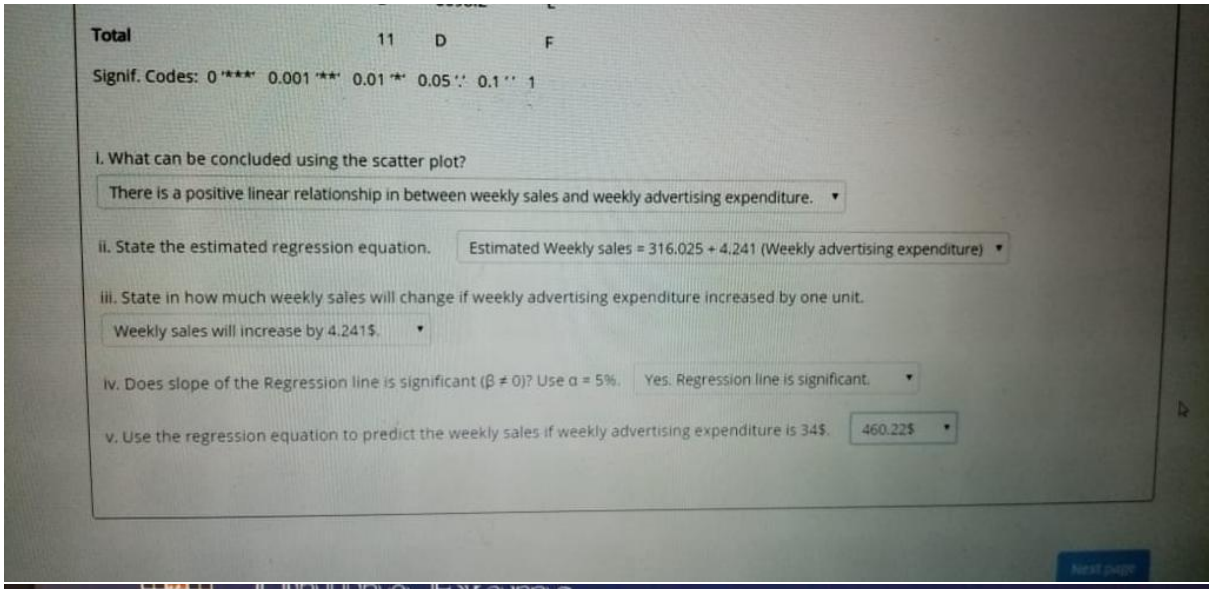
QUESTIONS

1 2 3 8 9 10 11

FEEDBACK

Finish attempt

Time left 0:53:12



Total	11	D	F

Signif. Codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

i. What can be concluded using the scatter plot?

There is a positive linear relationship in between weekly sales and weekly advertising expenditure.

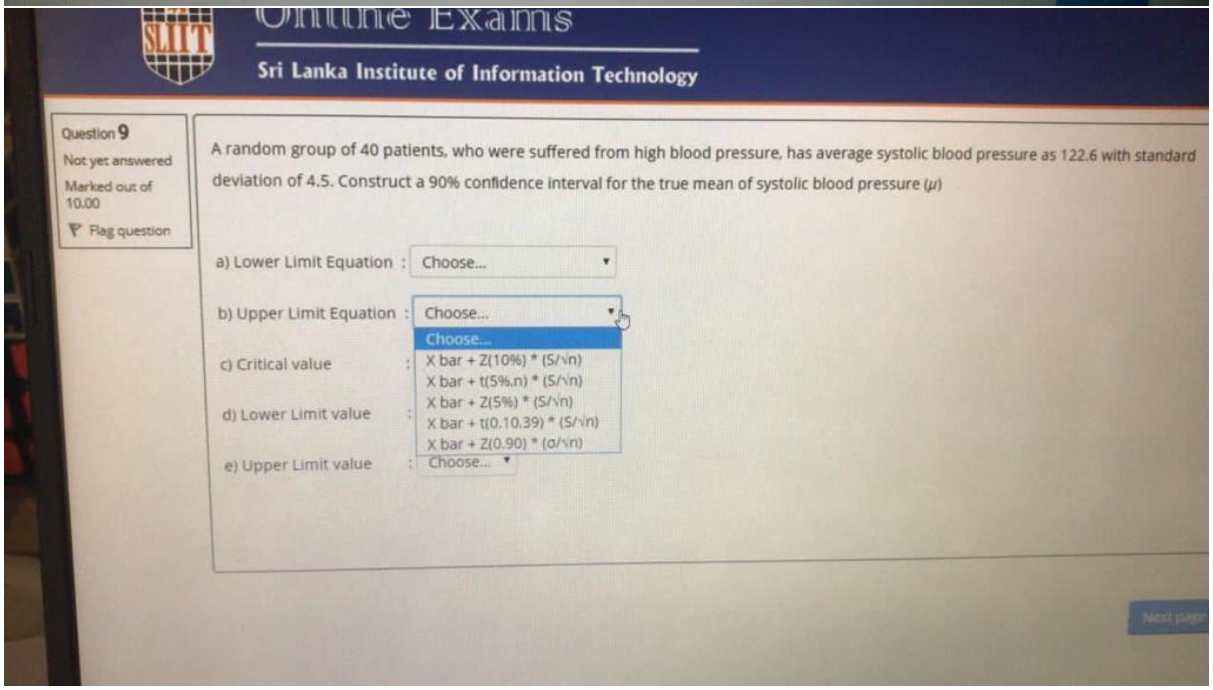
ii. State the estimated regression equation. Estimated Weekly sales = 316.025 + 4.241 (Weekly advertising expenditure)

iii. State in how much weekly sales will change if weekly advertising expenditure increased by one unit.

Weekly sales will increase by 4.241$.

iv. Does slope of the Regression line is significant ($\beta \neq 0$)? Use $\alpha = 5\%$. Yes. Regression line is significant.

v. Use the regression equation to predict the weekly sales if weekly advertising expenditure is 34$. 460.22$



Online Exams

Sri Lanka Institute of Information Technology

Question 9

Not yet answered

Marked out of 10.00

Flag question

A random group of 40 patients, who were suffered from high blood pressure, has average systolic blood pressure as 122.6 with standard deviation of 4.5. Construct a 90% confidence interval for the true mean of systolic blood pressure (μ)

a) Lower Limit Equation : Choose...

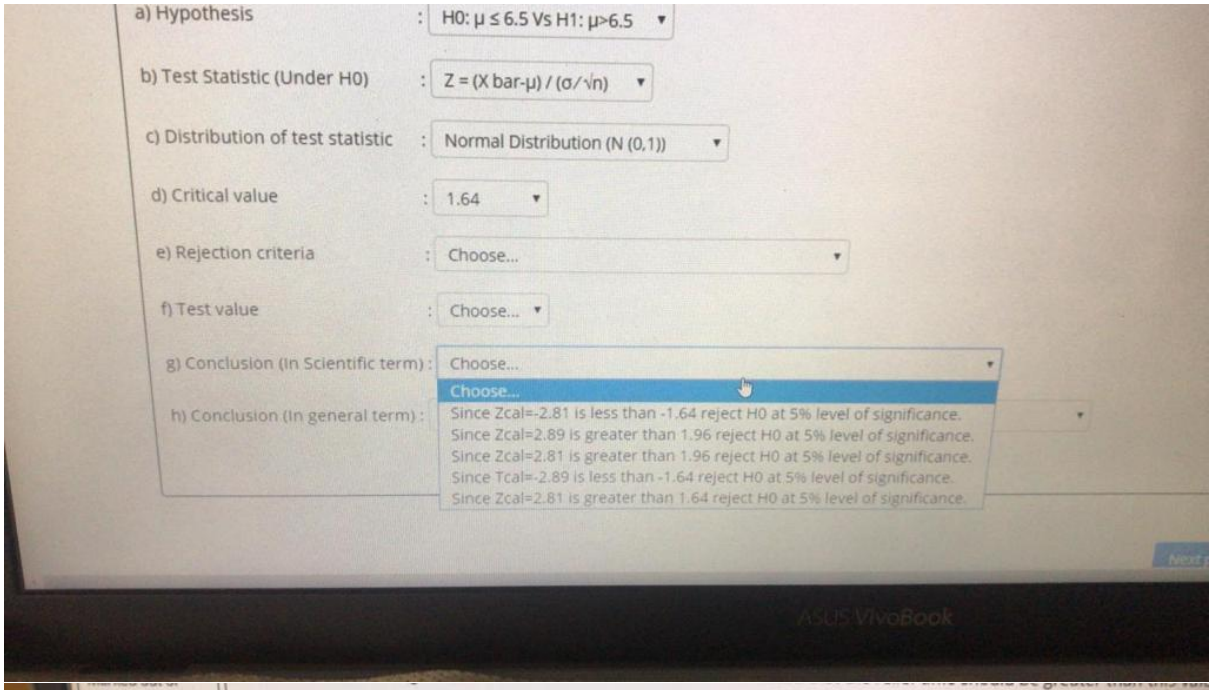
b) Upper Limit Equation : Choose...

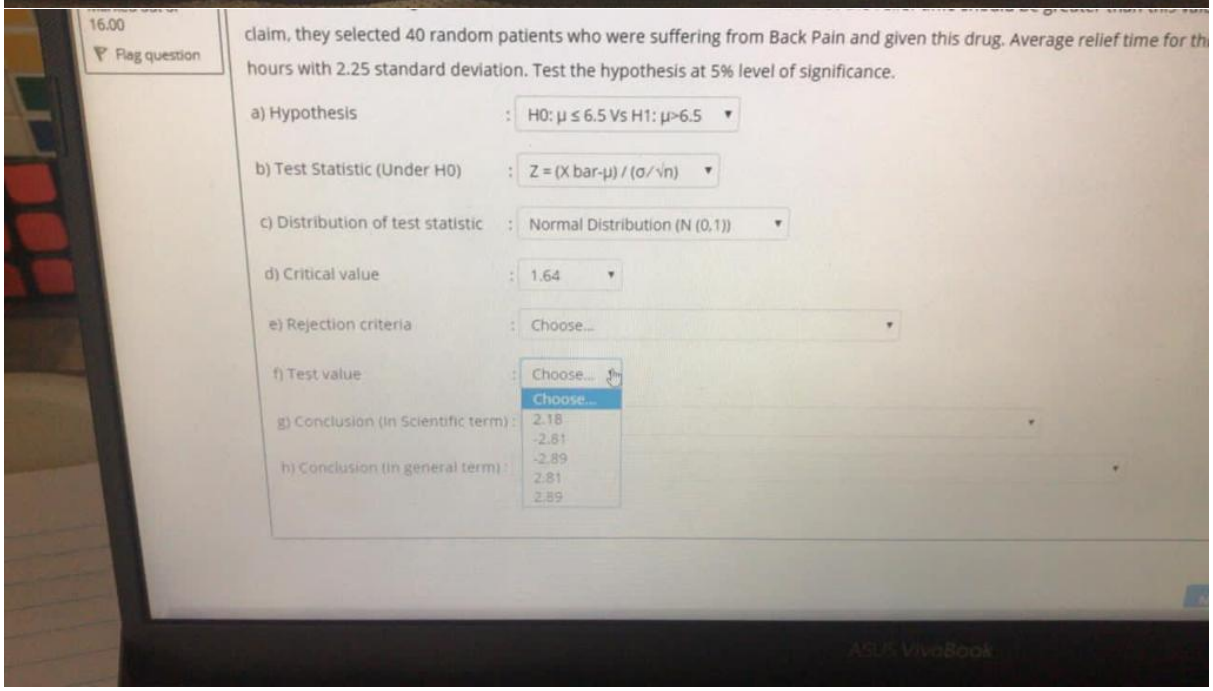
c) Critical value :

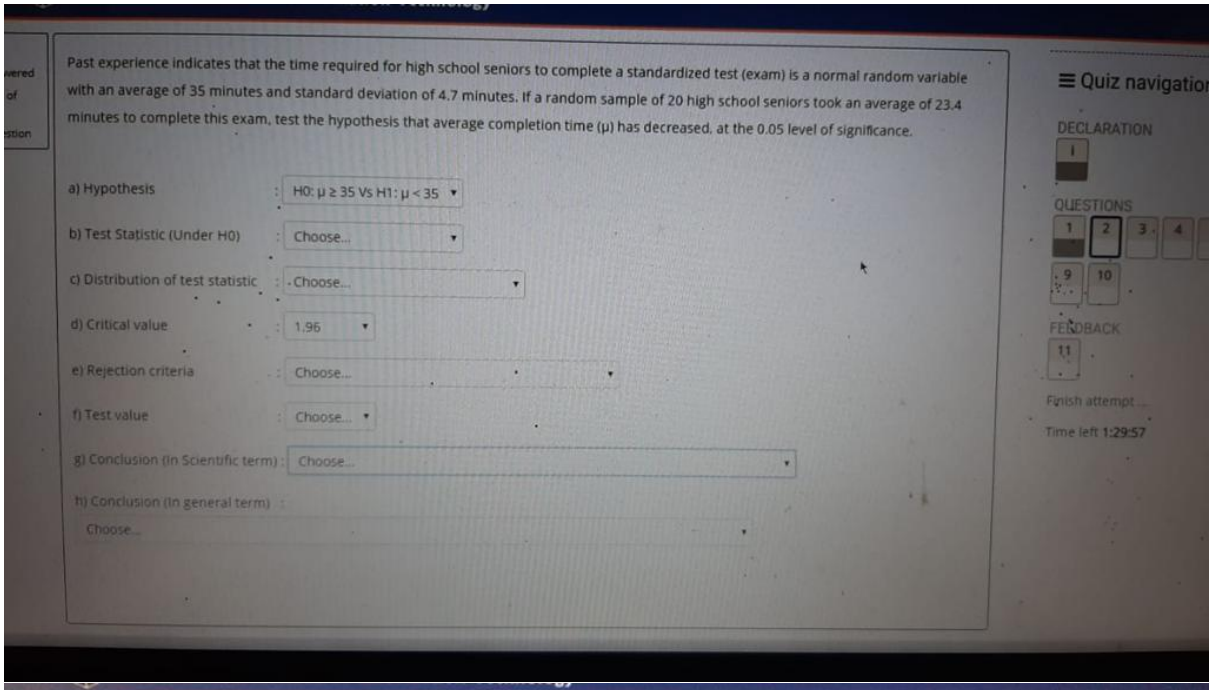
d) Lower Limit value :

e) Upper Limit value : Choose...

Choose...
X bar + Z(10%) * (S/√n)
X bar + t(5%,n) * (S/√n)
X bar + Z(5%) * (S/√n)
X bar + t(0.10,39) * (S/√n)
X bar + Z(0.90) * (σ/√n)


a) Hypothesis : H0: μ ≤ 6.5 Vs H1: μ>6.5
b) Test Statistic (Under H0) : Z = (X bar-μ) / (σ/√n)
c) Distribution of test statistic : Normal Distribution (N (0,1))
d) Critical value : 1.64
e) Rejection criteria : Choose...
f) Test value : Choose...
g) Conclusion (In Scientific term) : Choose...
h) Conclusion (In general term) :
Choose...
Since Zcal=-2.81 is less than -1.64 reject H0 at 5% level of significance.
Since Zcal=2.89 is greater than 1.96 reject H0 at 5% level of significance.
Since Zcal=2.81 is greater than 1.96 reject H0 at 5% level of significance.
Since Tcal=-2.89 is less than -1.64 reject H0 at 5% level of significance.
Since Zcal=2.81 is greater than 1.64 reject H0 at 5% level of significance.
ASUS VivoBook


16.00
Flag question
claim, they selected 40 random patients who were suffering from Back Pain and given this drug. Average relief time for th
hours with 2.25 standard deviation. Test the hypothesis at 5% level of significance.
a) Hypothesis : H0: μ ≤ 6.5 Vs H1: μ>6.5
b) Test Statistic (Under H0) : Z = (X bar-μ) / (σ/√n)
c) Distribution of test statistic : Normal Distribution (N (0,1))
d) Critical value : 1.64
e) Rejection criteria : Choose...
f) Test value : Choose...
g) Conclusion (In Scientific term) :
h) Conclusion (In general term) :
Choose...
2.18
-2.81
-2.89
2.81
2.89
ASUS VivoBook



Past experience indicates that the time required for high school seniors to complete a standardized test (exam) is a normal random variable with an average of 35 minutes and standard deviation of 4.7 minutes. If a random sample of 20 high school seniors took an average of 23.4 minutes to complete this exam, test the hypothesis that average completion time (μ) has decreased, at the 0.05 level of significance.

a) Hypothesis : H0: μ ≥ 35 Vs H1: μ < 35

b) Test Statistic (Under H0) : Choose...

c) Distribution of test statistic : Choose...

d) Critical value : 1.96

e) Rejection criteria : Choose...

f) Test value : Choose...

g) Conclusion (In Scientific term) : Choose...

h) Conclusion (In general term) :

Choose...

≡ Quiz navigation

DECLARATION

QUESTIONS

1 2 3 4 9 10

FEEDBACK

11

Finish attempt ...

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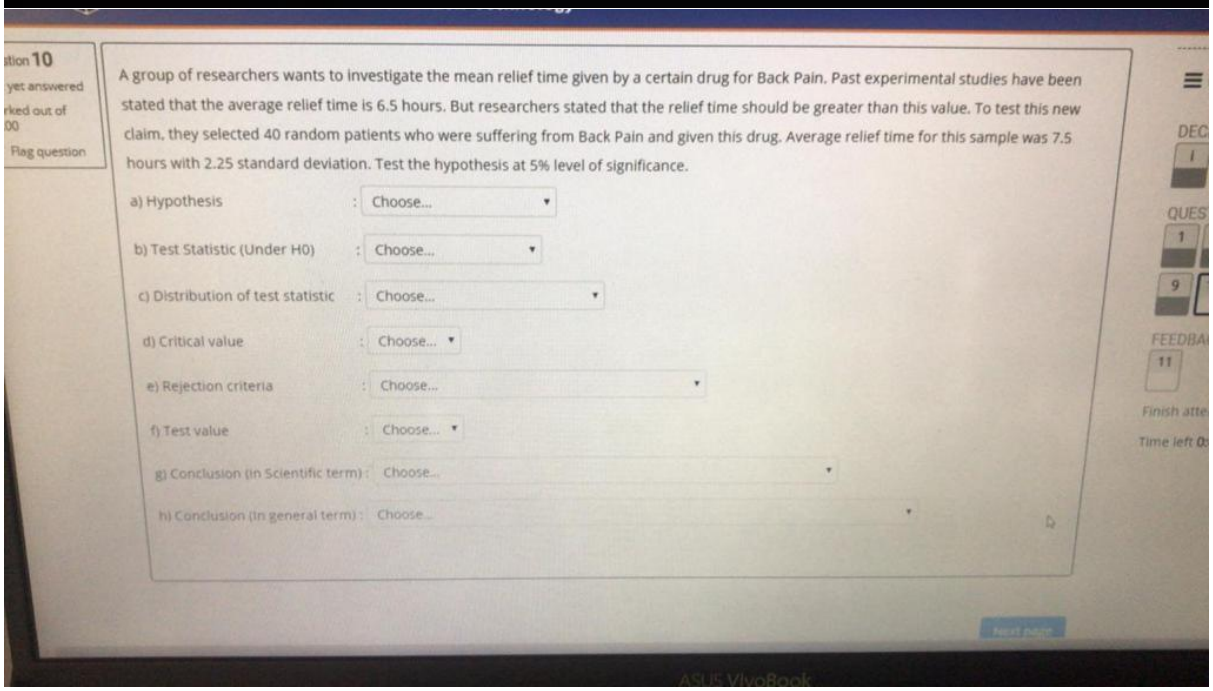

tion 10

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Flag question

A group of researchers wants to investigate the mean relief time given by a certain drug for Back Pain. Past experimental studies have been stated that the average relief time is 6.5 hours. But researchers stated that the relief time should be greater than this value. To test this new claim, they selected 40 random patients who were suffering from Back Pain and given this drug. Average relief time for this sample was 7.5 hours with 2.25 standard deviation. Test the hypothesis at 5% level of significance.

a) Hypothesis : Choose...

b) Test Statistic (Under H0) : Choose...

c) Distribution of test statistic : Choose...

d) Critical value : Choose...

e) Rejection criteria : Choose...

f) Test value : Choose...

g) Conclusion (In Scientific term) : Choose...

h) Conclusion (In general term) : Choose...

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DEC

QUES

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FEEDBA

11

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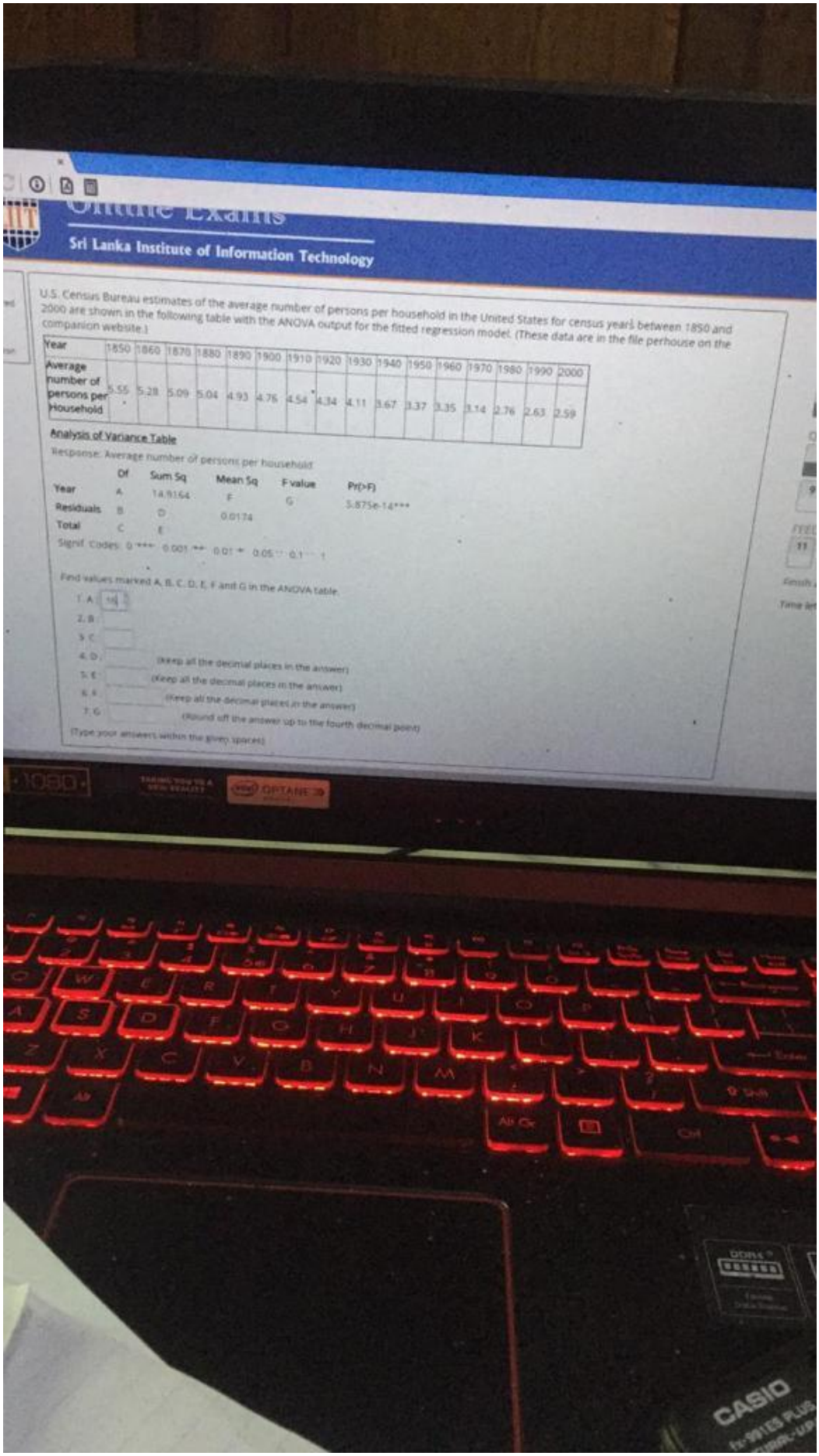
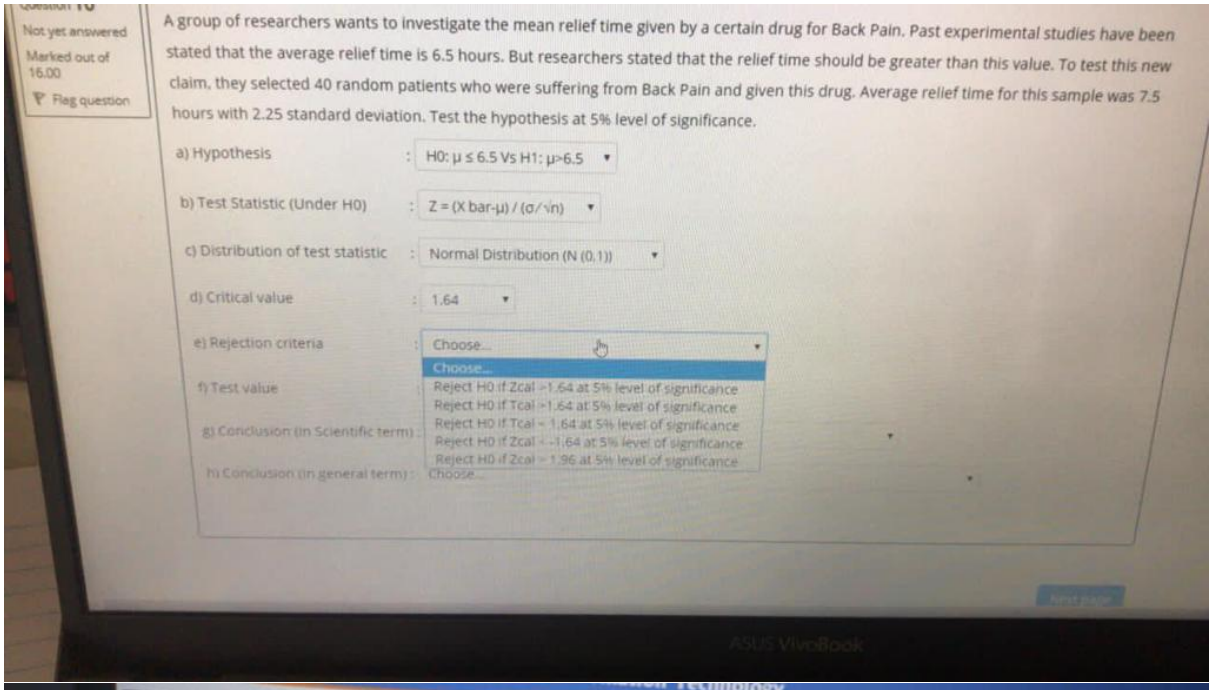
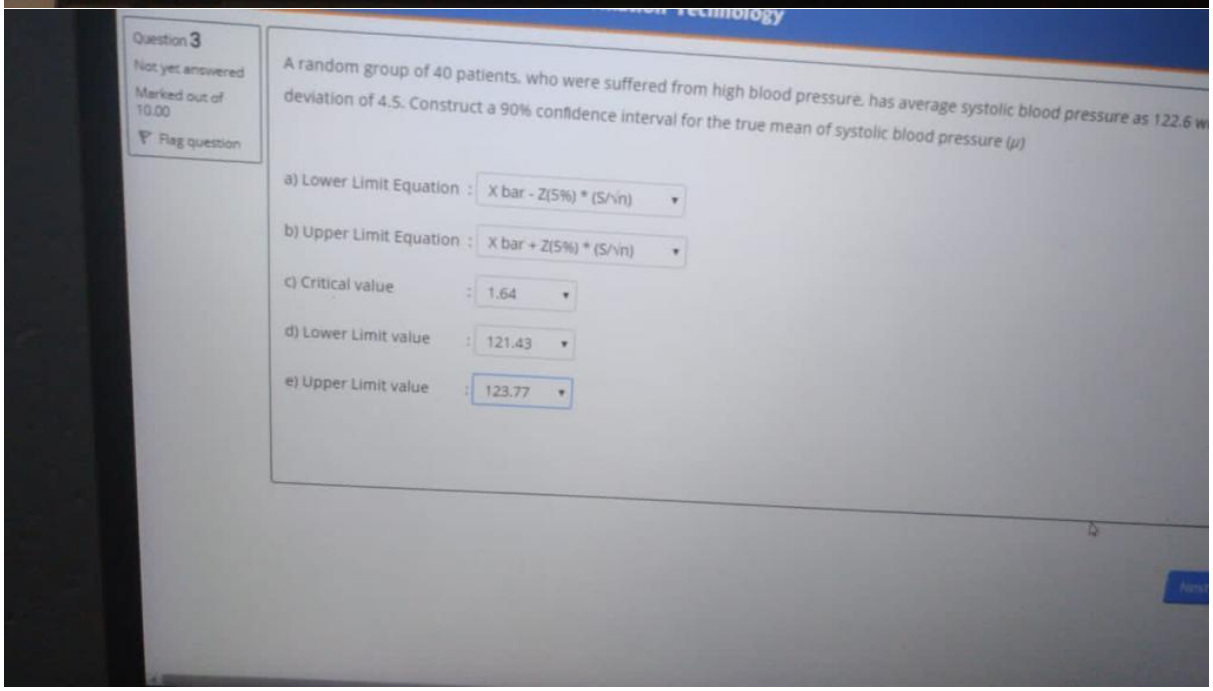
Next page

ASUS VivoBook

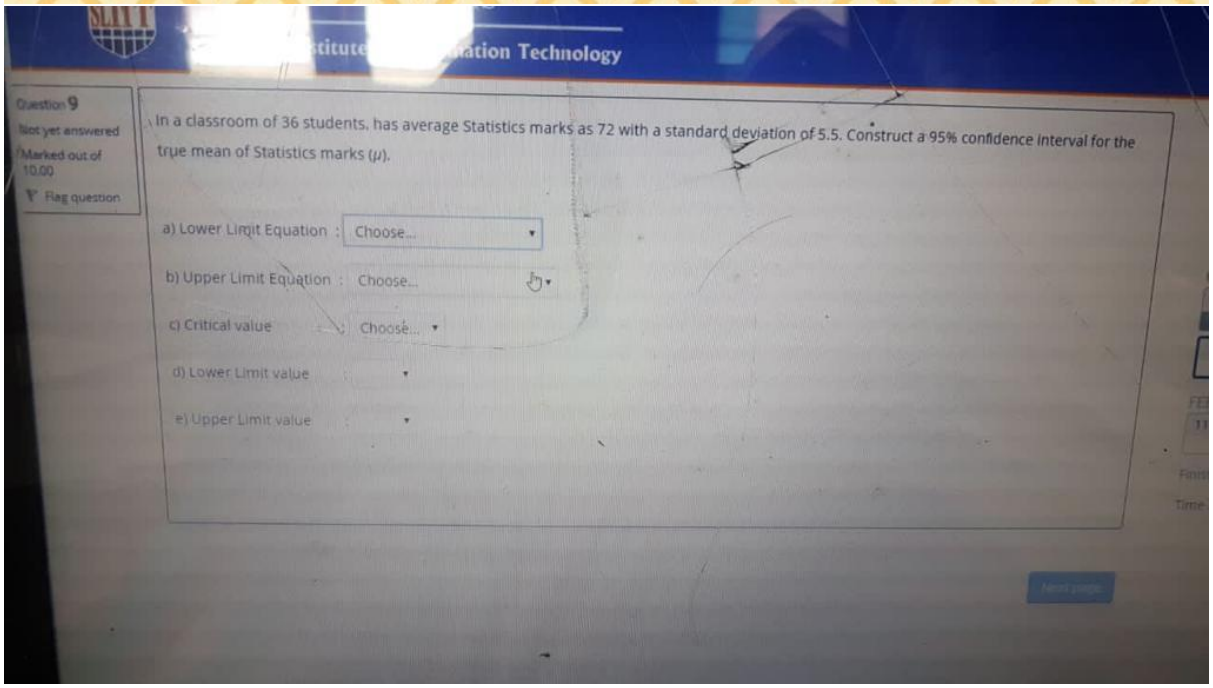

Online Exams
Sri Lanka Institute of Information Technology
U.S. Census Bureau estimates of the average number of persons per household in the United States for census years between 1850 and 2000 are shown in the following table with the ANOVA output for the fitted regression model. (These data are in the file perhouse on the companion website.)
Year 1850 1860 1870 1880 1890 1900 1910 1920 1930 1940 1950 1960 1970 1980 1990 2000
Average number of persons per household 5.55 5.28 5.09 5.04 4.93 4.76 4.54 4.34 4.11 3.67 3.37 3.35 3.14 2.76 2.63 2.59
Analysis of Variance Table
Response: Average number of persons per household
Df Sum Sq Mean Sq F value Pr(>F)
Year A 14.9164 F G 5.875e-14***
Residuals B D 0.0174
Total C E
Signif. Codes: 0 *** 0.001 ** 0.01 * 0.05 . 0.1 1
Find values marked A, B, C, D, E, F and G in the ANOVA table.
1. A
2. B
3. C
4. D (Keep all the decimal places in the answer)
5. E (Keep all the decimal places in the answer)
6. F (Keep all the decimal places in the answer)
7. G (Round off the answer up to the fourth decimal point)
(Type your answers within the given spaces)
CASIO

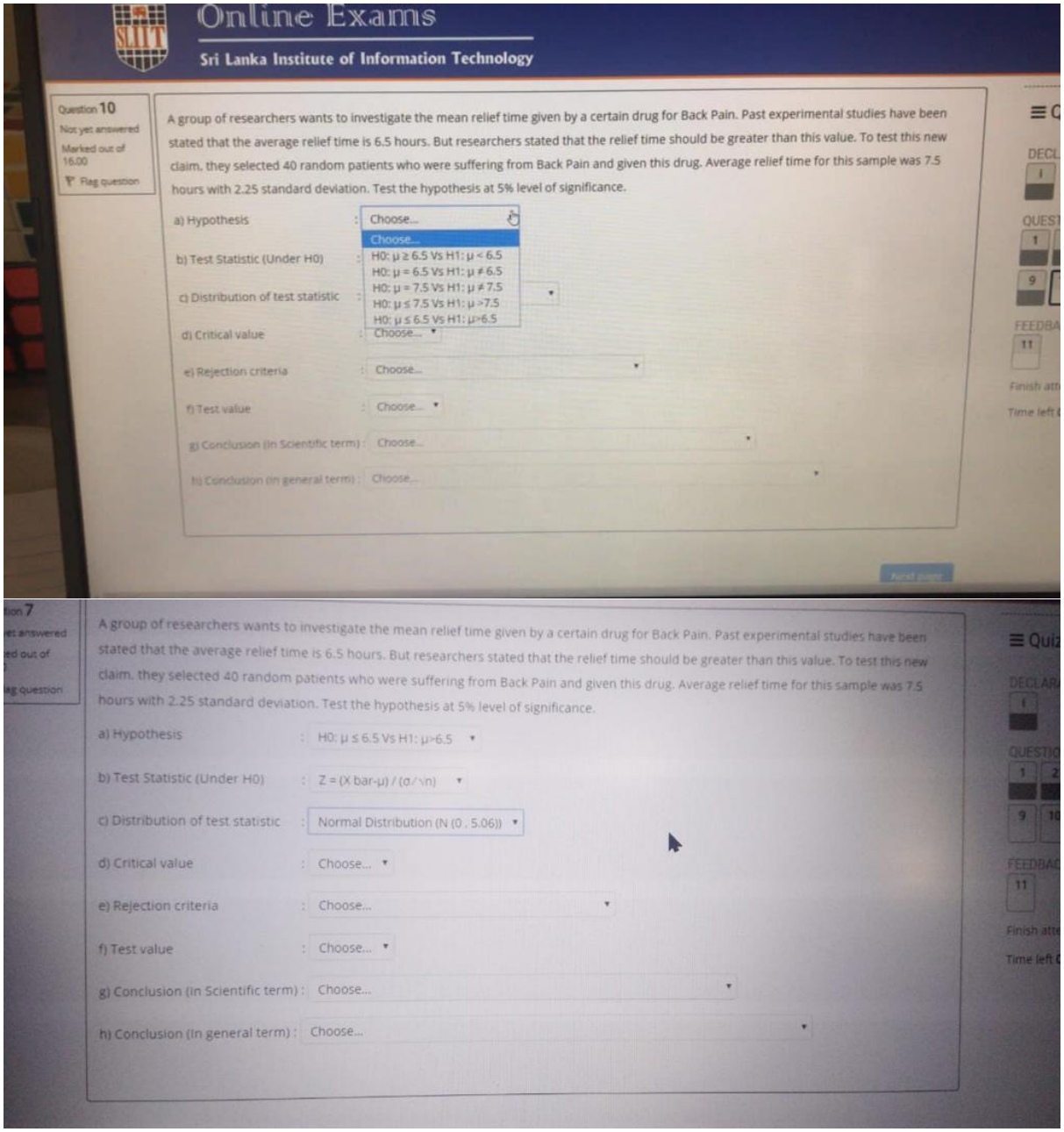

Not yet answered
Marked out of 16.00
Flag question
A group of researchers wants to investigate the mean relief time given by a certain drug for Back Pain. Past experimental studies have been stated that the average relief time is 6.5 hours. But researchers stated that the relief time should be greater than this value. To test this new claim, they selected 40 random patients who were suffering from Back Pain and given this drug. Average relief time for this sample was 7.5 hours with 2.25 standard deviation. Test the hypothesis at 5% level of significance.
a) Hypothesis : H0: μ ≤ 6.5 Vs H1: μ>6.5
b) Test Statistic (Under H0) : Z = (X bar-μ) / (σ/√n)
c) Distribution of test statistic : Normal Distribution (N (0,1))
d) Critical value : 1.64
e) Rejection criteria : Choose...
Choose...
Reject H0 if Zcal >1.64 at 5% level of significance
Reject H0 if Tcal >1.64 at 5% level of significance
Reject H0 if Tcal < 1.64 at 5% level of significance
Reject H0 if Zcal < -1.64 at 5% level of significance
Reject H0 if Zcal = 1.96 at 5% level of significance
f) Test value
g) Conclusion (in Scientific term) :
h) Conclusion (in general term) : Choose...
ASUS VivoBook


Question 3
Not yet answered
Marked out of 10.00
Flag question
A random group of 40 patients, who were suffered from high blood pressure, has average systolic blood pressure as 122.6 w
deviation of 4.5. Construct a 90% confidence interval for the true mean of systolic blood pressure (μ)
a) Lower Limit Equation : X bar - Z(5%) * (S/√n)
b) Upper Limit Equation : X bar + Z(5%) * (S/√n)
c) Critical value : 1.64
d) Lower Limit value : 121.43
e) Upper Limit value : 123.77

The Symbol	What It Means
$<$	less than fewer than
$\leq$	less than or equal to no more than does not exceed at most
$>$	greater than more than exceeds
$\geq$	greater than or equal to at least no less than

www.atltgames.com




Online Exams
Sri Lanka Institute of Information Technology
Question 10
Not yet answered
Marked out of 16.00
Flag question
A group of researchers wants to investigate the mean relief time given by a certain drug for Back Pain. Past experimental studies have been stated that the average relief time is 6.5 hours. But researchers stated that the relief time should be greater than this value. To test this new claim, they selected 40 random patients who were suffering from Back Pain and given this drug. Average relief time for this sample was 7.5 hours with 2.25 standard deviation. Test the hypothesis at 5% level of significance.
a) Hypothesis : Choose...
Choose...
H0: μ ≥ 6.5 Vs H1: μ < 6.5
H0: μ = 6.5 Vs H1: μ ≠ 6.5
H0: μ = 7.5 Vs H1: μ ≠ 7.5
H0: μ ≤ 7.5 Vs H1: μ >7.5
H0: μ ≤ 6.5 Vs H1: μ>6.5
b) Test Statistic (Under H0) : Choose...
c) Distribution of test statistic : Choose...
d) Critical value : Choose...
e) Rejection criteria : Choose...
f) Test value : Choose...
g) Conclusion (In Scientific term) : Choose...
h) Conclusion (In general term) : Choose...

A group of researchers wants to investigate the mean relief time given by a certain drug for Back Pain. Past experimental studies have been stated that the average relief time is 6.5 hours. But researchers stated that the relief time should be greater than this value. To test this new claim, they selected 40 random patients who were suffering from Back Pain and given this drug. Average relief time for this sample was 7.5 hours with 2.25 standard deviation. Test the hypothesis at 5% level of significance.
a) Hypothesis : H0: μ ≤ 6.5 Vs H1: μ>6.5
b) Test Statistic (Under H0) : Z = (X bar-μ) / (σ/√n)
c) Distribution of test statistic : Normal Distribution (N (0 , 5.06))
d) Critical value : Choose...
e) Rejection criteria : Choose...
f) Test value : Choose...
g) Conclusion (In Scientific term) : Choose...
h) Conclusion (In general term) : Choose...

Question 1

Not yet answered

Marked out of 7.00

Flag question

A study of the amount of rainfall (X) and the quantity of air pollution removed (Y) produced the following infor relationship between the daily rainfall and particulate removed ($\mu g/m^3$), data were collected for 9 days and AN regression model is as follows.

Analysis of Variance Table

Response: Particulate Removed

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Rainfall	A	770.26	F	G	4.579e-06***
Residuals	B	D	4.85		
Total	C	E			

Signif. Codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Find values marked A, B, C, D, E, F and G in the ANOVA table.

1. A : 1
2. B : 7
3. C : 8
4. D : 33.95 (Keep all the decimal places in the answer)
5. E : 804.21 (Keep all the decimal places in the answer)
6. F : 770.26 (Keep all the decimal places in the answer)
7. G : 158.82 (Round off the answer up to the second decimal point)

(Type your answers within the given spaces)

Online Exams

Sri Lanka Institute of Information Technology

on 9

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lag question

A random group of 40 patients, who were suffered from high blood pressure, has average systolic blood pressure as 122.6 with standard deviation of 4.5. Construct a 90% confidence interval for the true mean of systolic blood pressure (μ)

a) Lower Limit Equation : Choose...

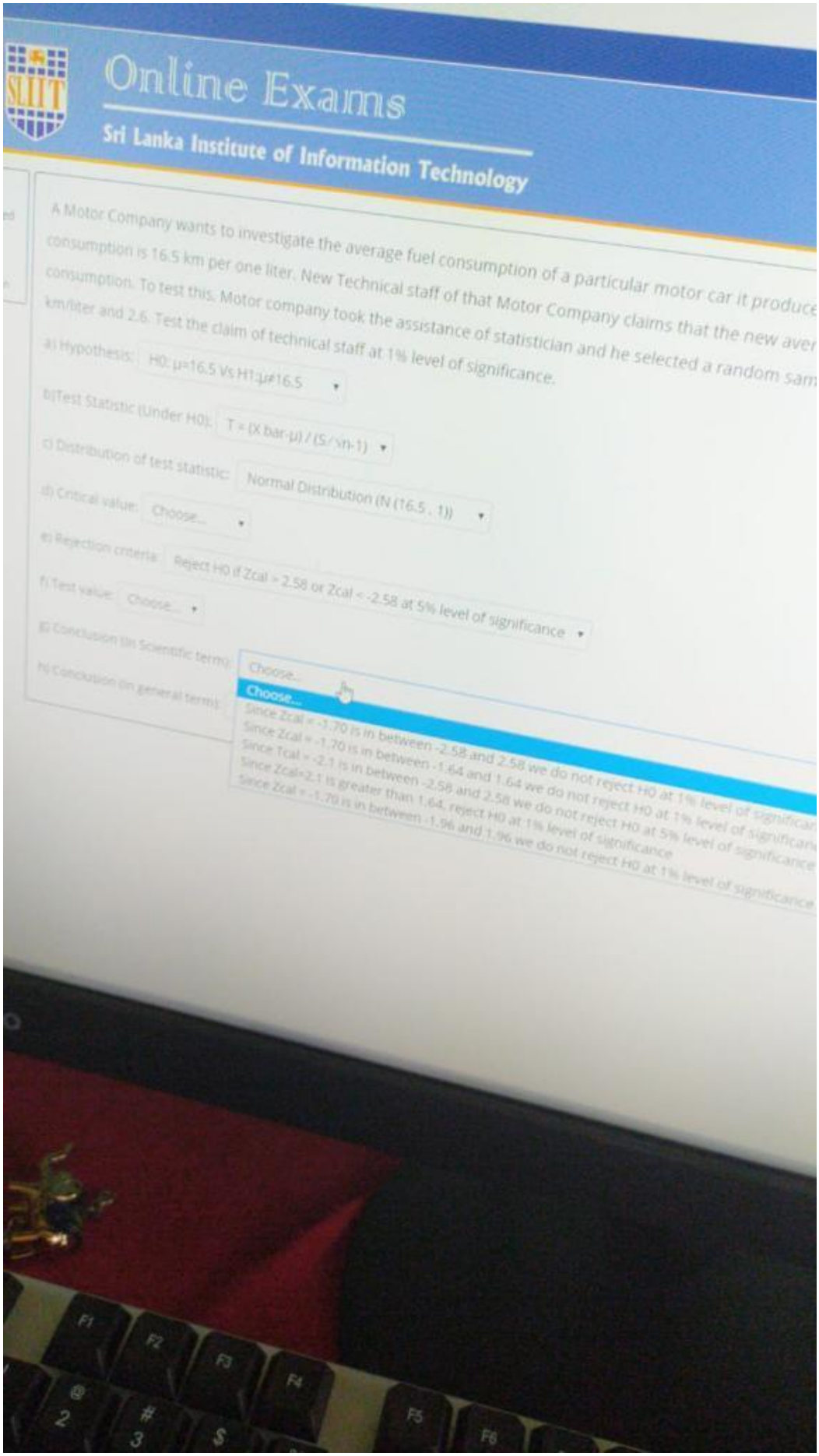
b) Upper Limit Equation : Choose...

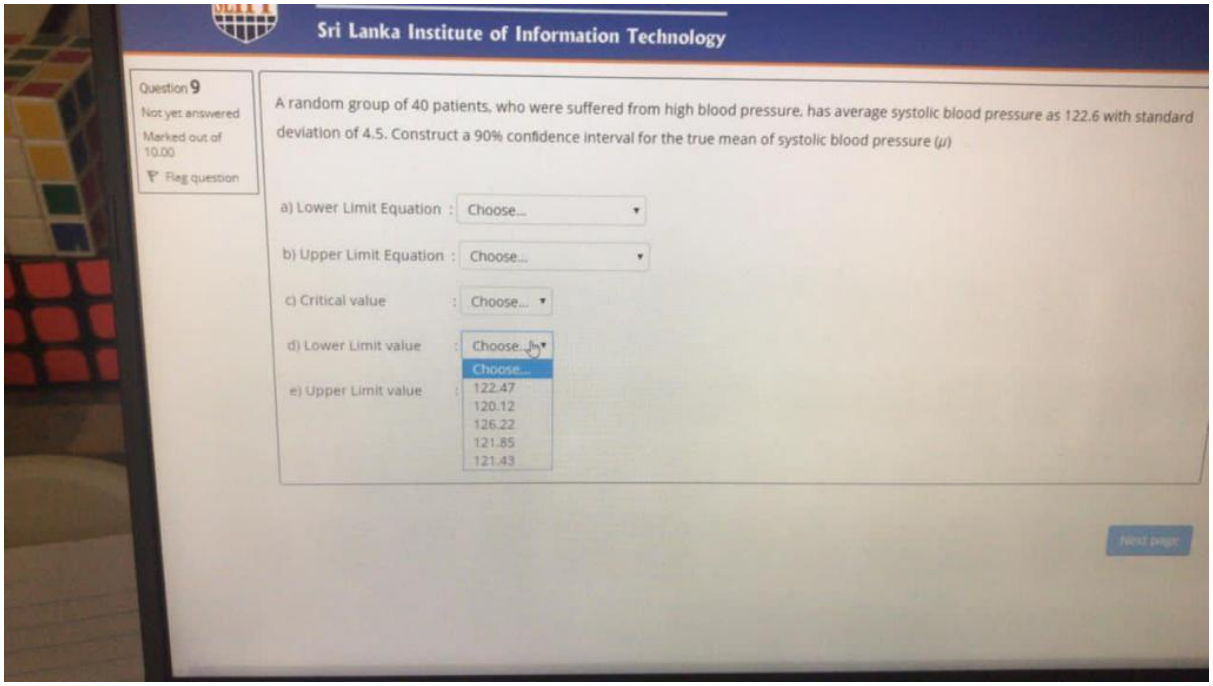
c) Critical value : Choose...

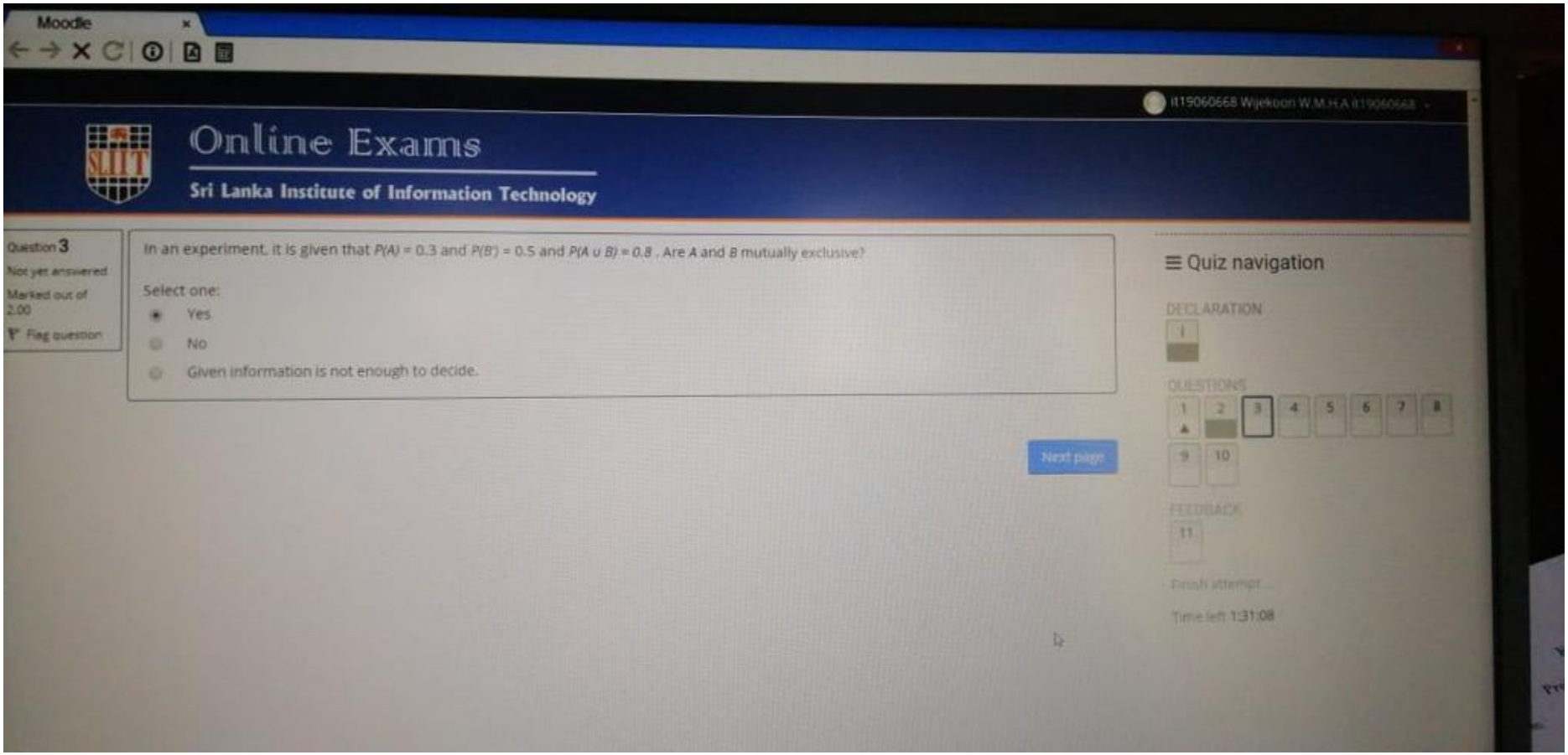
d) Lower Limit value : Choose...

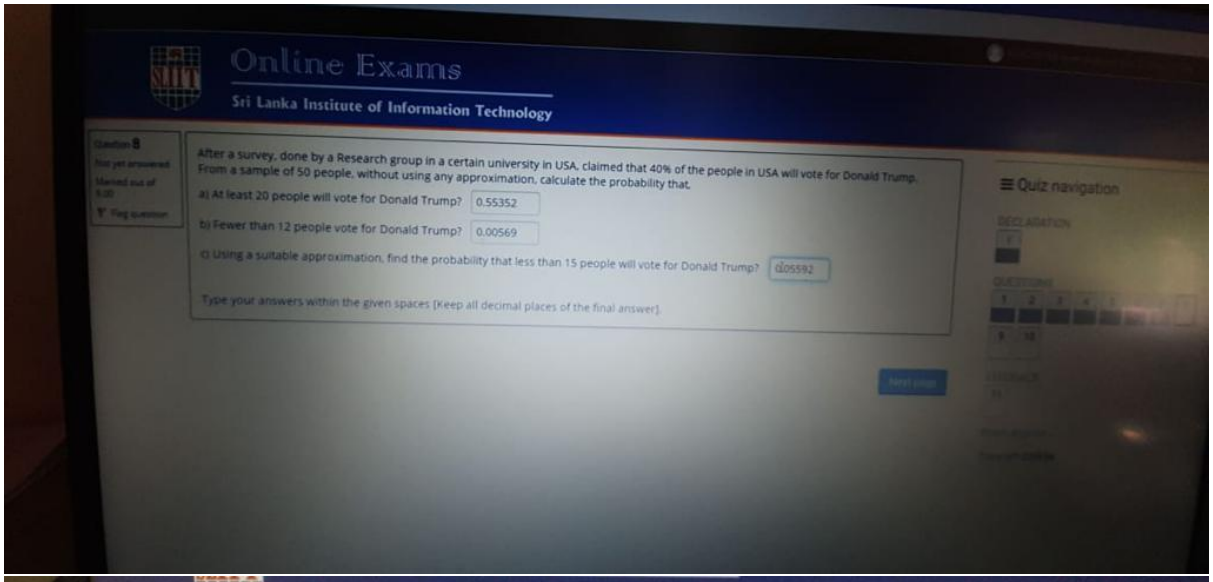
e) Upper Limit value : Choose...

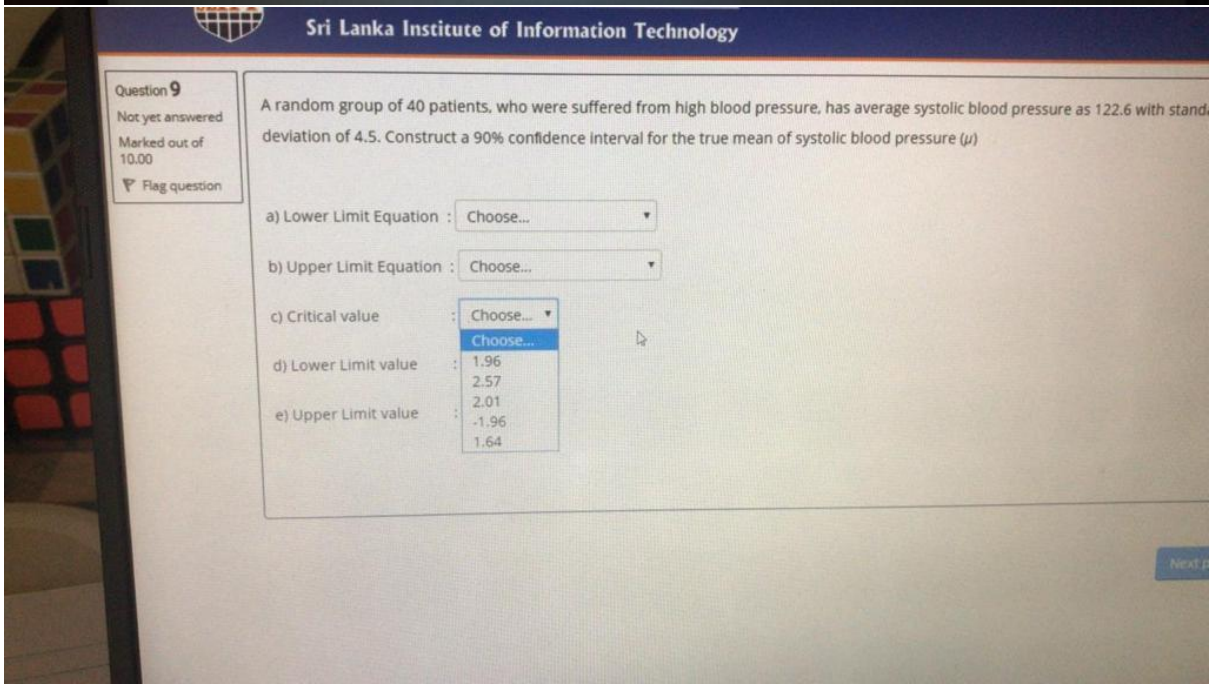
Next page

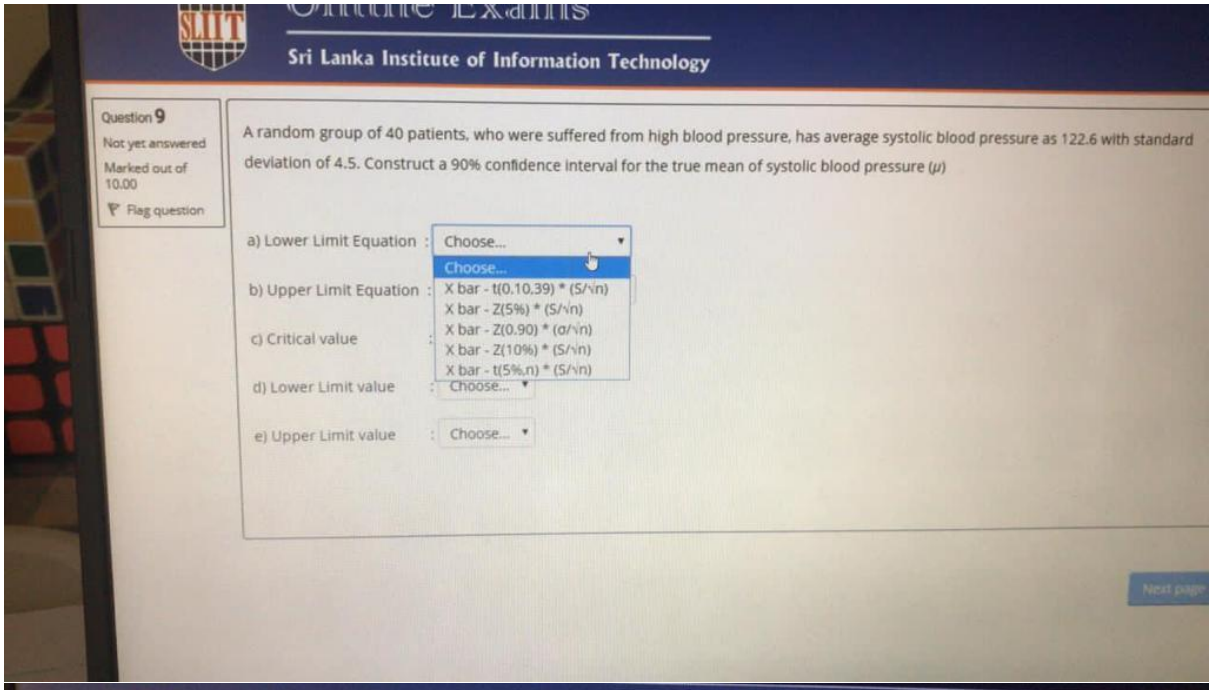

Online Exams
Sri Lanka Institute of Information Technology
A Motor Company wants to investigate the average fuel consumption of a particular motor car it produce
consumption is 16.5 km per one liter. New Technical staff of that Motor Company claims that the new aver
consumption. To test this, Motor company took the assistance of statistician and he selected a random sam
km/liter and 2.6. Test the claim of technical staff at 1% level of significance.
a) Hypothesis: H0: μ=16.5 Vs H1:μ≠16.5
b)Test Statistic (Under H0): T = (X bar-μ) / (S/√n-1)
c) Distribution of test statistic: Normal Distribution (N (16.5 , 1))
d) Critical value: Choose...
e) Rejection criteria: Reject H0 if Zcal > 2.58 or Zcal < -2.58 at 5% level of significance
f) Test value: Choose...
g) Conclusion (in Scientific term): Choose...
h) Conclusion on general term): Choose...
Since Zcal = -1.70 is in between -2.58 and 2.58 we do not reject H0 at 1% level of significan
Since Zcal = -1.70 is in between -1.64 and 1.64 we do not reject H0 at 1% level of significan
Since Tcal = -2.1 is in between -2.58 and 2.58 we do not reject H0 at 5% level of significance
Since Zcal=2.1 is greater than 1.64, reject H0 at 1% level of significance
Since Zcal = -1.79 is in between -1.96 and 1.96 we do not reject H0 at 1% level of significance


Sri Lanka Institute of Information Technology
Question 9
Not yet answered
Marked out of 10.00
Flag question
A random group of 40 patients, who were suffered from high blood pressure, has average systolic blood pressure as 122.6 with standard deviation of 4.5. Construct a 90% confidence interval for the true mean of systolic blood pressure (μ)
a) Lower Limit Equation : Choose...
b) Upper Limit Equation : Choose...
c) Critical value : Choose...
d) Lower Limit value : Choose...
e) Upper Limit value :
Choose...
122.47
120.12
126.22
121.85
121.43
Next page


Moodle
it19060668 Wijekoon W.M.H.A it19060668
Online Exams
Sri Lanka Institute of Information Technology
Question 3
Not yet answered
Marked out of 2.00
Flag question
In an experiment, it is given that P(A) = 0.3 and P(B') = 0.5 and P(A ∪ B) = 0.8 . Are A and B mutually exclusive?
Select one:
Yes
No
Given information is not enough to decide.
Next page
Quiz navigation
DECLARATION
QUESTIONS
1 2 3 4 5 6 7 8
9 10
FEEDBACK
11
Finish attempt ...
Time left 1:31:08


Online Exams
Sri Lanka Institute of Information Technology
After a survey, done by a Research group in a certain university in USA, claimed that 40% of the people in USA will vote for Donald Trump. From a sample of 50 people, without using any approximation, calculate the probability that.
a) At least 20 people will vote for Donald Trump? 0.55352
b) Fewer than 12 people vote for Donald Trump? 0.00569
c) Using a suitable approximation, find the probability that less than 15 people will vote for Donald Trump? 0.05592
Type your answers within the given spaces (Keep all decimal places of the final answer).
Quiz navigation


Sri Lanka Institute of Information Technology
Question 9
Not yet answered
Marked out of 10.00
Flag question
A random group of 40 patients, who were suffered from high blood pressure, has average systolic blood pressure as 122.6 with stand
deviation of 4.5. Construct a 90% confidence interval for the true mean of systolic blood pressure (μ)
a) Lower Limit Equation : Choose...
b) Upper Limit Equation : Choose...
c) Critical value : Choose...
d) Lower Limit value :
e) Upper Limit value :
Choose...
1.96
2.57
2.01
-1.96
1.64


Online Exams
Sri Lanka Institute of Information Technology
Question 9
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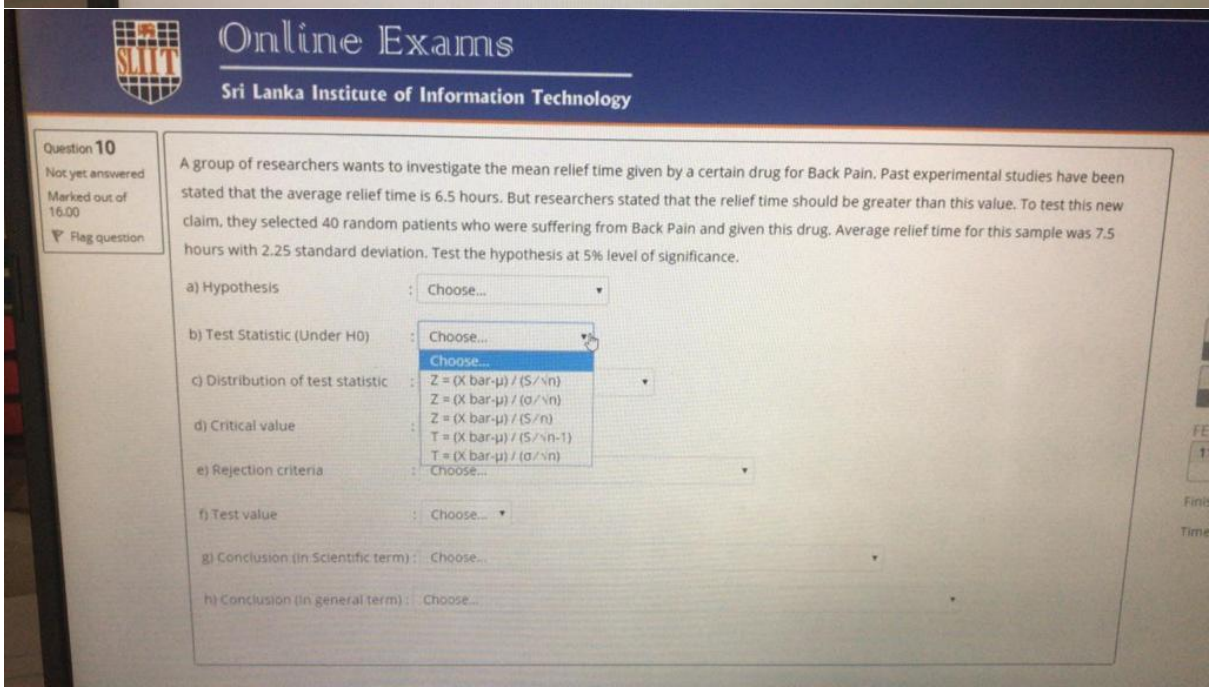
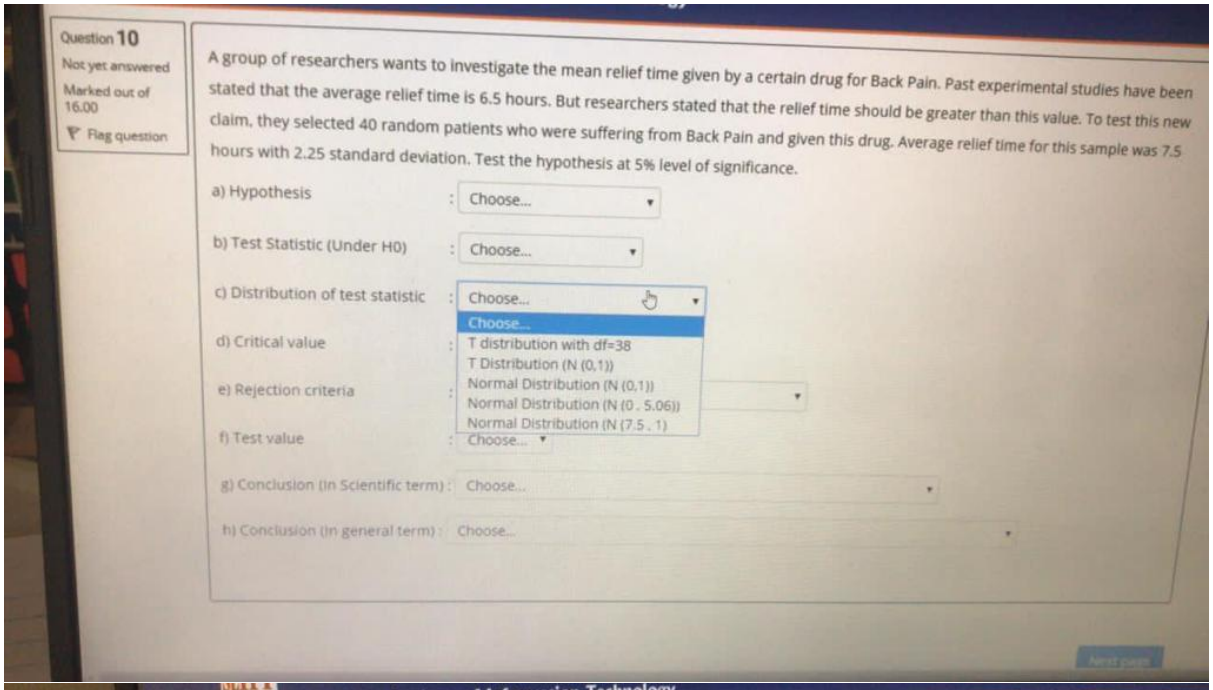
Marked out of 10.00
Flag question
A random group of 40 patients, who were suffered from high blood pressure, has average systolic blood pressure as 122.6 with standard deviation of 4.5. Construct a 90% confidence interval for the true mean of systolic blood pressure (μ)
a) Lower Limit Equation : Choose...
b) Upper Limit Equation :
c) Critical value :
d) Lower Limit value : Choose...
e) Upper Limit value : Choose...
Choose...
X bar - t(0.10,39) * (S/√n)
X bar - Z(5%) * (S/√n)
X bar - Z(0.90) * (σ/√n)
X bar - Z(10%) * (S/√n)
X bar - t(5%,n) * (S/√n)
Next page


Online Exams
Sri Lanka Institute of Information Technology
Question 10
Not yet answered
Marked out of 16.00
Flag question
A group of researchers wants to investigate the mean relief time given by a certain drug for Back Pain. Past experimental studies have been stated that the average relief time is 6.5 hours. But researchers stated that the relief time should be greater than this value. To test this new claim, they selected 40 random patients who were suffering from Back Pain and given this drug. Average relief time for this sample was 7.5 hours with 2.25 standard deviation. Test the hypothesis at 5% level of significance.
a) Hypothesis : Choose...
b) Test Statistic (Under H0) : Choose...
c) Distribution of test statistic :
d) Critical value :
e) Rejection criteria : Choose...
f) Test value : Choose...
g) Conclusion (In Scientific term) : Choose...
h) Conclusion (In general term) : Choose...
Choose...
Z = (X bar-μ) / (S/√n)
Z = (X bar-μ) / (σ/√n)
Z = (X bar-μ) / (S/n)
T = (X bar-μ) / (S/√n-1)
T = (X bar-μ) / (σ/√n)


Question 10
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Marked out of 16.00
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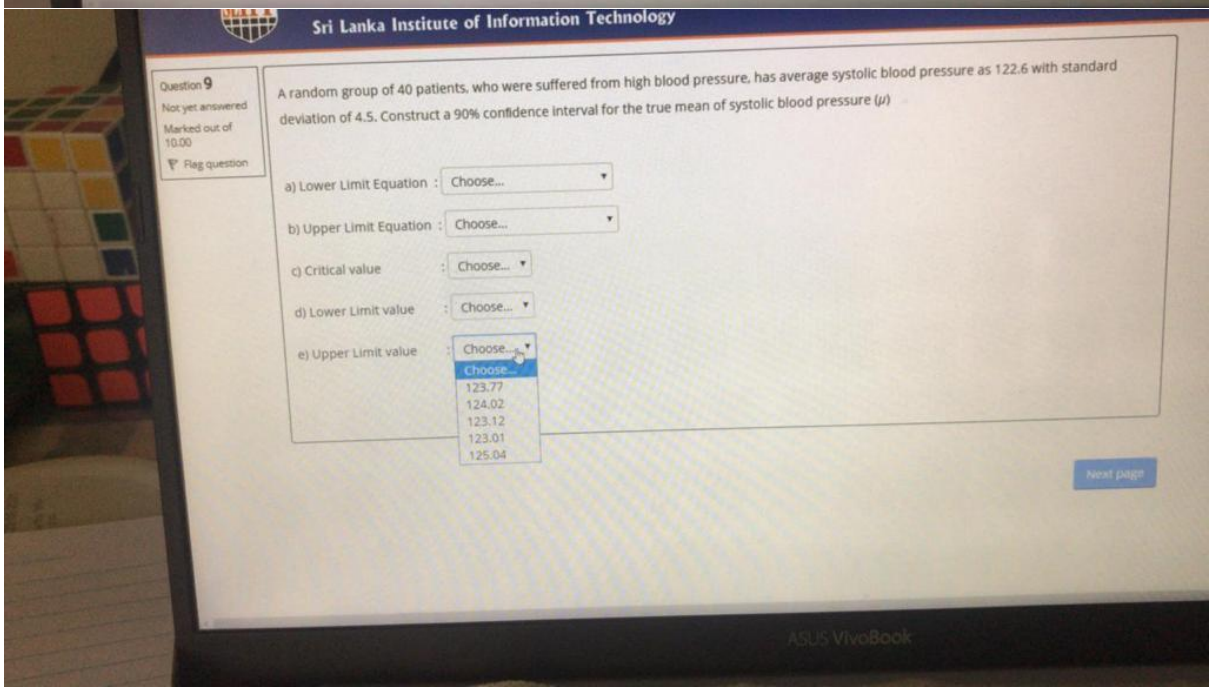
A group of researchers wants to investigate the mean relief time given by a certain drug for Back Pain. Past experimental studies have been stated that the average relief time is 6.5 hours. But researchers stated that the relief time should be greater than this value. To test this new claim, they selected 40 random patients who were suffering from Back Pain and given this drug. Average relief time for this sample was 7.5 hours with 2.25 standard deviation. Test the hypothesis at 5% level of significance.
a) Hypothesis : Choose...
b) Test Statistic (Under H0) : Choose...
c) Distribution of test statistic : Choose...
Choose...
T distribution with df=38
T Distribution (N (0,1))
Normal Distribution (N (0,1))
Normal Distribution (N (0 , 5.06))
Normal Distribution (N (7.5 , 1)
d) Critical value :
e) Rejection criteria :
f) Test value : Choose...
g) Conclusion (In Scientific term) : Choose...
h) Conclusion (In general term) : Choose...


Sri Lanka Institute of Information Technology
Question 9
Not yet answered
Marked out of 10.00
Flag question
A random group of 40 patients, who were suffered from high blood pressure, has average systolic blood pressure as 122.6 with standard deviation of 4.5. Construct a 90% confidence interval for the true mean of systolic blood pressure (μ)
a) Lower Limit Equation : Choose...
b) Upper Limit Equation : Choose...
c) Critical value : Choose...
d) Lower Limit value : Choose...
e) Upper Limit value : Choose...
Choose...
123.77
124.02
123.12
123.01
125.04
Next page
ASUS VivoBook

Online Exams

Sri Lanka Institute of Information Technology

A typist of a certain Book Publishing Company can type 7 pages per day. Without using any approximation, calcul

a) The typist type more than 8 pages per day

b) The typist type fewer than 3 pages per day

c) Using a suitable approximation, find the probability that the typist type less than or equal to 4 pages per day.

Type your answers within the given spaces [Keep all decimal places of the final answer].

Residuals	B	2019.0	E
Total	24	D	F

Signif. Codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

i. What can be concluded using the scatter plot? There is a positive linear relationship in between arm strength and dynamic lift.

ii. State the estimated regression equation. Estimated Arm Strength = 12.561+1.789 (Dynamic Lift)

iii. State in how much dynamic lift will change if arm strength increased by one unit. Dynamic lift will decrease by 12.561 units.

iv. Does slope of the Regression line is significant ($\beta \neq 0$)? Use $\alpha = 5\%$. Yes. Regression line is significant.

v. Use the regression equation to predict dynamic lift if arm strength is 43.4 units. 17.2381 units

g question

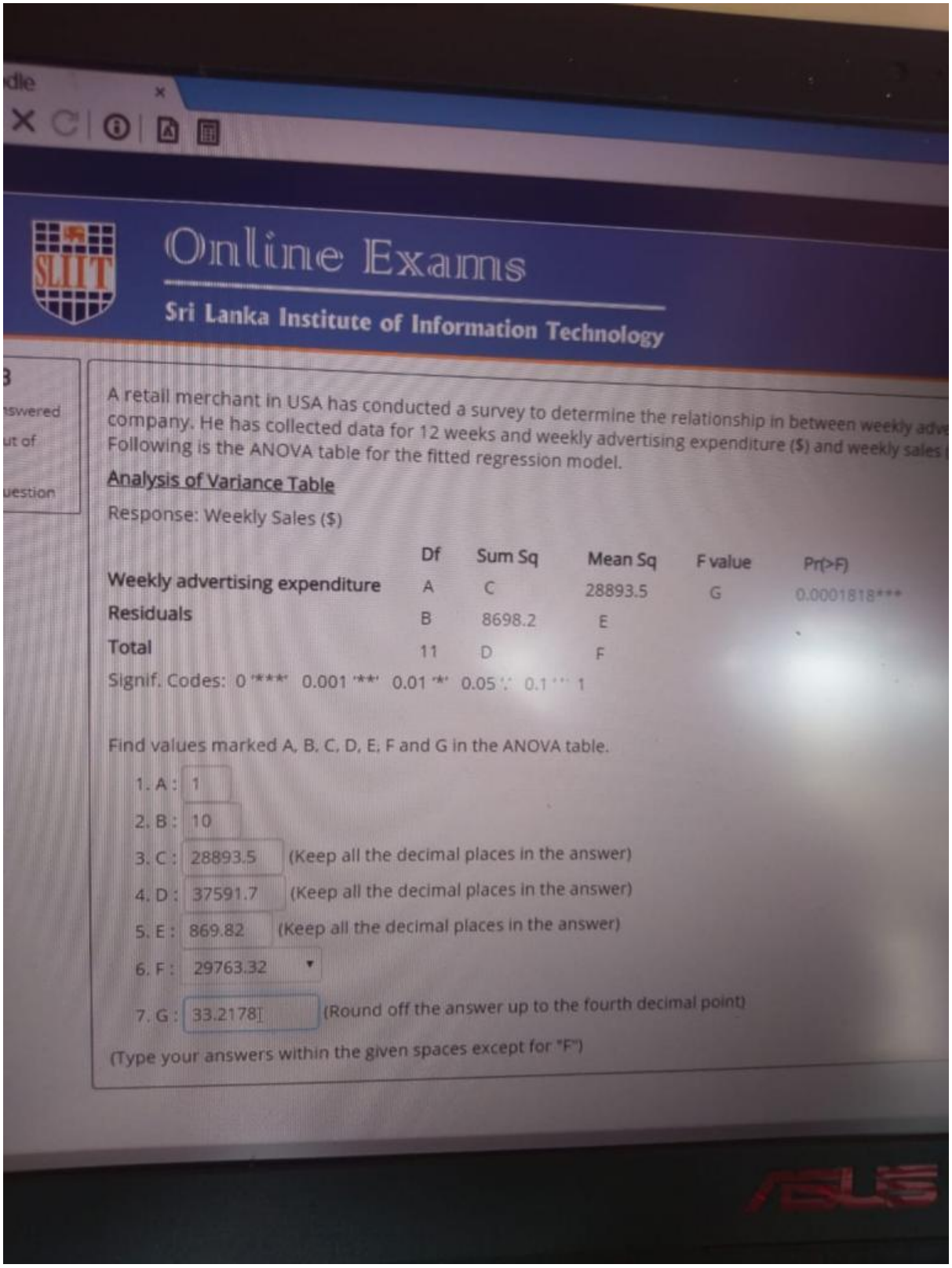
a) Find *k* value *(Round off to three decimal values)* : 0.375

b) Find the Expected value of X. *(Round off to three decimal values)* : 0.500

c)Find the variance of X (V(X)) : *(Round off to three decimal values)* : 0.017

d) Find $F_X(0.5)$: *(Round off to three decimal values)* : 0.484

(Type the correct answers within the given spaces)



Online Exams

Sri Lanka Institute of Information Technology

A retail merchant in USA has conducted a survey to determine the relationship in between weekly adv company. He has collected data for 12 weeks and weekly advertising expenditure ($) and weekly sales Following is the ANOVA table for the fitted regression model.

Analysis of Variance Table

Response: Weekly Sales ($)

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Weekly advertising expenditure	A	C	28893.5	G	0.0001818***
Residuals	B	8698.2	E		
Total	11	D	F		

Signif. Codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Find values marked A, B, C, D, E, F and G in the ANOVA table.

1. A : 1
2. B : 10
3. C : 28893.5 (Keep all the decimal places in the answer)
4. D : 37591.7 (Keep all the decimal places in the answer)
5. E : 869.82 (Keep all the decimal places in the answer)
6. F : 29763.32
7. G : 33.2178 (Round off the answer up to the fourth decimal point)

(Type your answers within the given spaces except for "F")

Online Exams

Sri Lanka Institute of Information Technology

n 1
t answered
d out of
t question

A manufacturer claims that a jar of peanut butter contains mean of 500 grams with a standard deviation of 15.5 grams. Assuming that content of jar of peanut butter follows a normal distribution, find the following probabilities.

1. Probability that jar of peanut butter contains at most 530 grams : 0.9732 (Keep all the decimal places in the answer)
2. Probability that jar of peanut butter contains in between 470 grams and 520 grams : -0.00062 (Keep all the decimal places in the answer)
3. At which content (grams), 78% of jars of peanut butter have more than that content? grams (Keep the answer with two decimal points)

(Type your answers within the given spaces)

Next page

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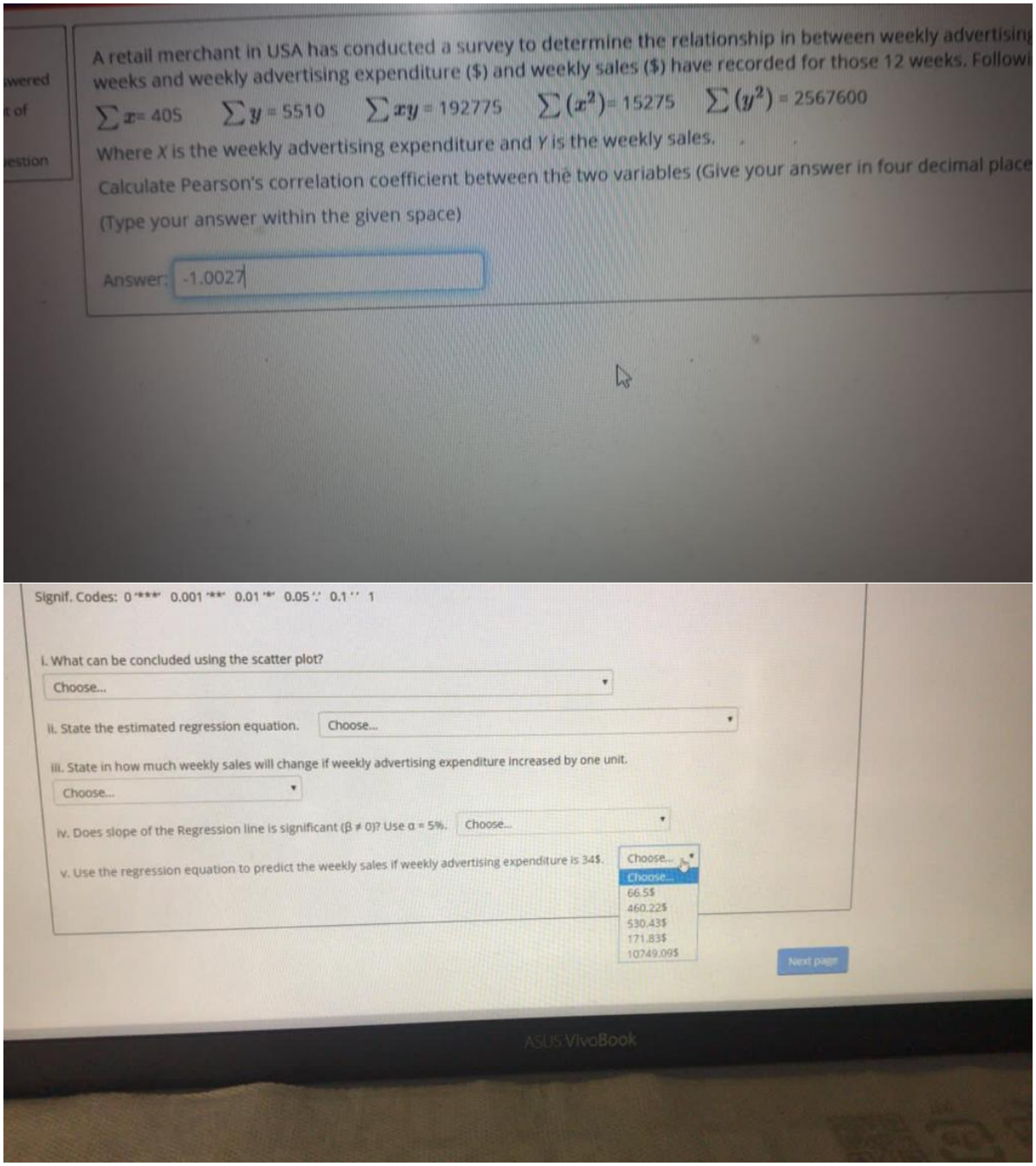

wered
t of
estion
A retail merchant in USA has conducted a survey to determine the relationship in between weekly advertising
weeks and weekly advertising expenditure ($) and weekly sales ($) have recorded for those 12 weeks. Follow
$\sum x = 405$ $\sum y = 5510$ $\sum xy = 192775$ $\sum (x^2) = 15275$ $\sum (y^2) = 2567600$
Where X is the weekly advertising expenditure and Y is the weekly sales.
Calculate Pearson's correlation coefficient between the two variables (Give your answer in four decimal place
(Type your answer within the given space)
Answer: -1.0027
Signif. Codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
i. What can be concluded using the scatter plot?
Choose...
ii. State the estimated regression equation.
Choose...
iii. State in how much weekly sales will change if weekly advertising expenditure increased by one unit.
Choose...
iv. Does slope of the Regression line is significant (β ≠ 0)? Use α = 5%.
Choose...
v. Use the regression equation to predict the weekly sales if weekly advertising expenditure is 34$.
Choose...
Choose...
66.5$
460.22$
530.43$
171.83$
10749.09$
Next page
ASUS VivoBook

2. Distribution of test statistic: Choose...

3. Significance level:

4. Critical value: Choose...

5. Rejection criteria: Choose...

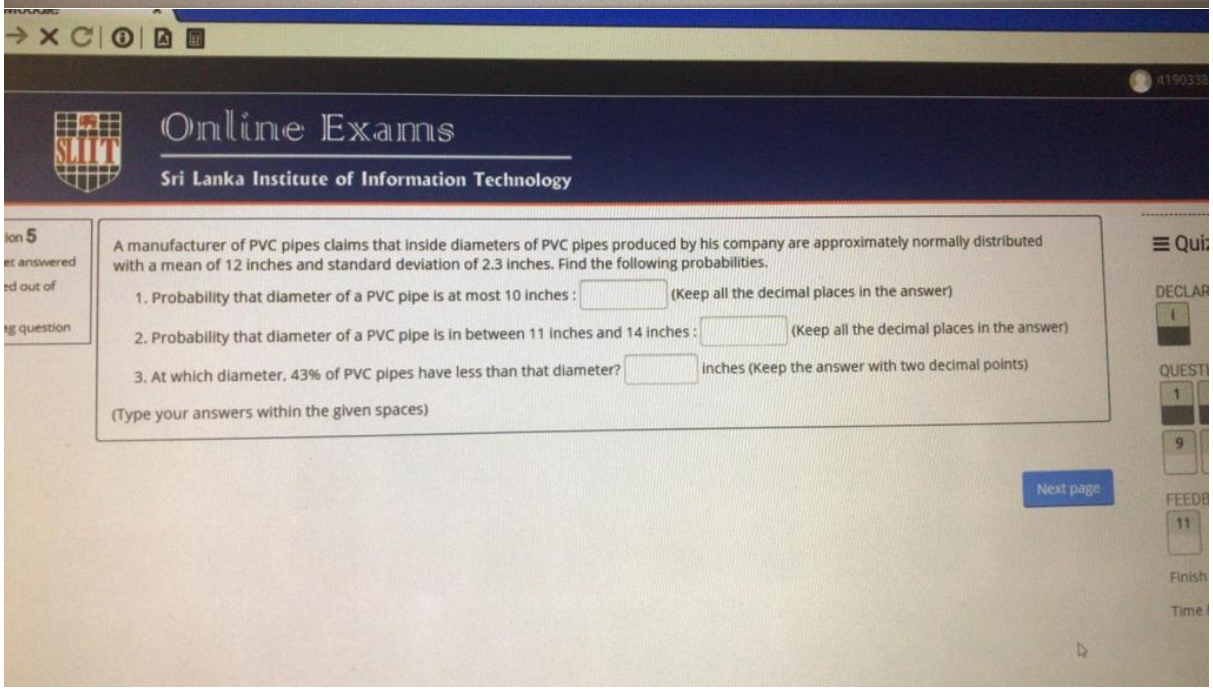
6. Test value (Round off to the nearest integer):

7. Conclusion (In Scientific term): Choose...

11
83
76
109
123

8. Conclusion (In General term):

Choose...



2. Distribution of test statistic: Choose...

3. Significance level:

4. Critical value: Choose...

5. Rejection criteria: Choose...

6. Test value (Round of

7. Conclusion (In Scien

8. Conclusion (In General term):

Choose...

- Choose...
- Reject H0 if X^2 cal < 18.0261 at 1% level of significance
- Reject H0 if X^2 Cal > 9.48773 at 5% level of significance
- Reject H0 if X^2 cal > 9.48773 at 0.5% level of significance
- Reject H0 if t cal > 4.604 at 2.5% level of significance
- Reject H0 if t cal < 2.776 at 10% level of significance

			285	2057
C's	568	83	47	698
D's and F's	85	15	3	103
Total	1975	548	335	2858

1. Hypothesis:

Choose...

2. Distribution of test statistic: Choose...

3. Significance level:

4. Critical value: Choose...

5. Rejection criteria: Choose...

6. Test value (Round off to the nearest integer):

7. Conclusion (In Scientific term): Choose...

8. Conclusion (In General term):

Choose...

9

FEEDBA

11

Finish att

Time left

Sri Lanka Institute of Information Technology

The following table shows data for grades usually achieved in school and how often the respondent puts on sunscreen when going out in the sun for more than 1 hour. Respondents are 12th-grade participants in the 2003 Youth Risk Behavior Surveillance System survey. The survey, sponsored by the U.S. Centers for Disease Control and Prevention, is a national survey of high school students. Test whether there is any association between sunscreen use and grade. Consider 5% level of significance.

Grade	Sunscreen Use			Total
	Never or rarely	Sometimes	Always or Most times	
A's and B's	1322	450	285	2057
C's	568	83	47	698
D's and F's	85	15	3	103
Total	1975	548	335	2858

1. Hypothesis:
Choose...

2. Distribution of test statistic: Choose...

3. Significance level:

4. Critical value: Choose...

5. Rejection criteria: Choose...

Online Exams

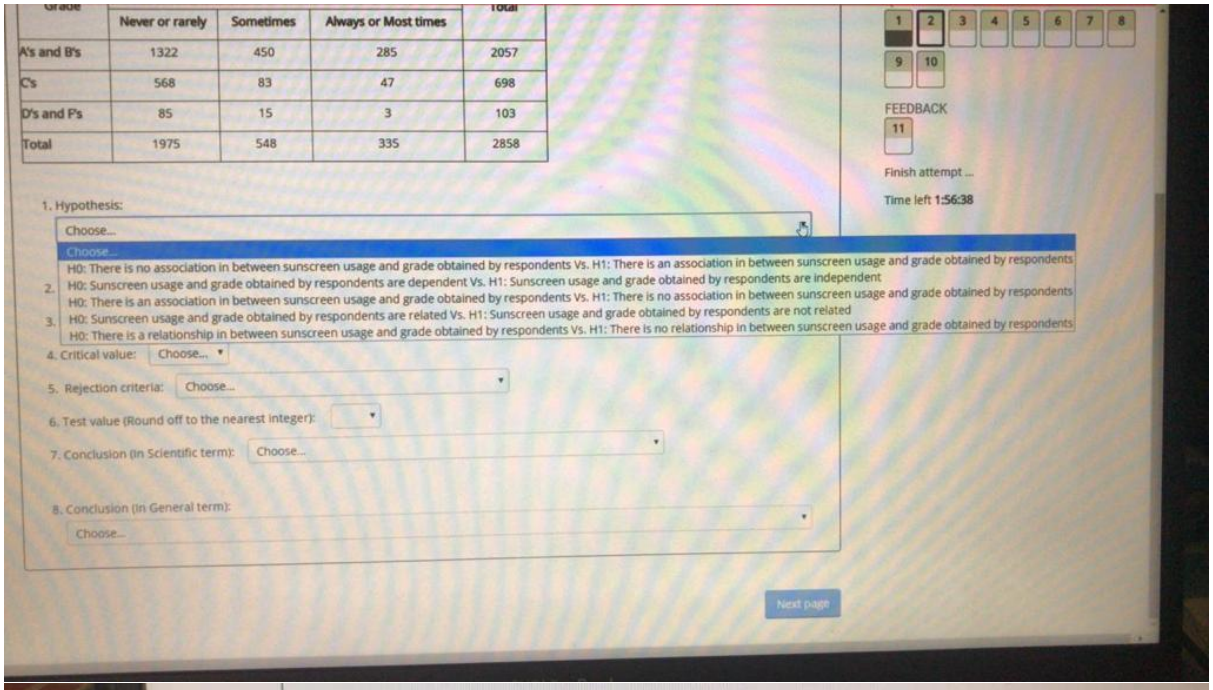
Sri Lanka Institute of Information Technology

A researcher reports that mice will live an average of 45 months when their diets are sharply restricted and then enriched with vitamins and proteins. Assuming that the lifetimes of such mice are normally distributed with a standard deviation of 7.3 months, find the probability that a given mouse will live.

1. More than 30 months : 0.97982 (Keep all the decimal places in the answer)
2. Between 38 and 47 months : 0.43789 (Keep all the decimal places in the answer)
3. What is the life time (in months) of a mouse where 20% of all mice have less than this life time? 38.868 months (Give your answer to the nearest integer)

Type your answers within the given spaces)

Next page



Grade	Never or rarely	Sometimes	Always or Most times	Total
A's and B's	1322	450	285	2057
C's	568	83	47	698
D's and F's	85	15	3	103
Total	1975	548	335	2858

1 2 3 4 5 6 7 8 9 10

FEEDBACK 11

Finish attempt ...

Time left 1:56:38

1. Hypothesis:

Choose...

Choose...
H0: There is no association in between sunscreen usage and grade obtained by respondents Vs. H1: There is an association in between sunscreen usage and grade obtained by respondents
2. H0: Sunscreen usage and grade obtained by respondents are dependent Vs. H1: Sunscreen usage and grade obtained by respondents are independent
H0: There is an association in between sunscreen usage and grade obtained by respondents Vs. H1: There is no association in between sunscreen usage and grade obtained by respondents
3. H0: Sunscreen usage and grade obtained by respondents are related Vs. H1: Sunscreen usage and grade obtained by respondents are not related
H0: There is a relationship in between sunscreen usage and grade obtained by respondents Vs. H1: There is no relationship in between sunscreen usage and grade obtained by respondents

4. Critical value: Choose...

5. Rejection criteria: Choose...

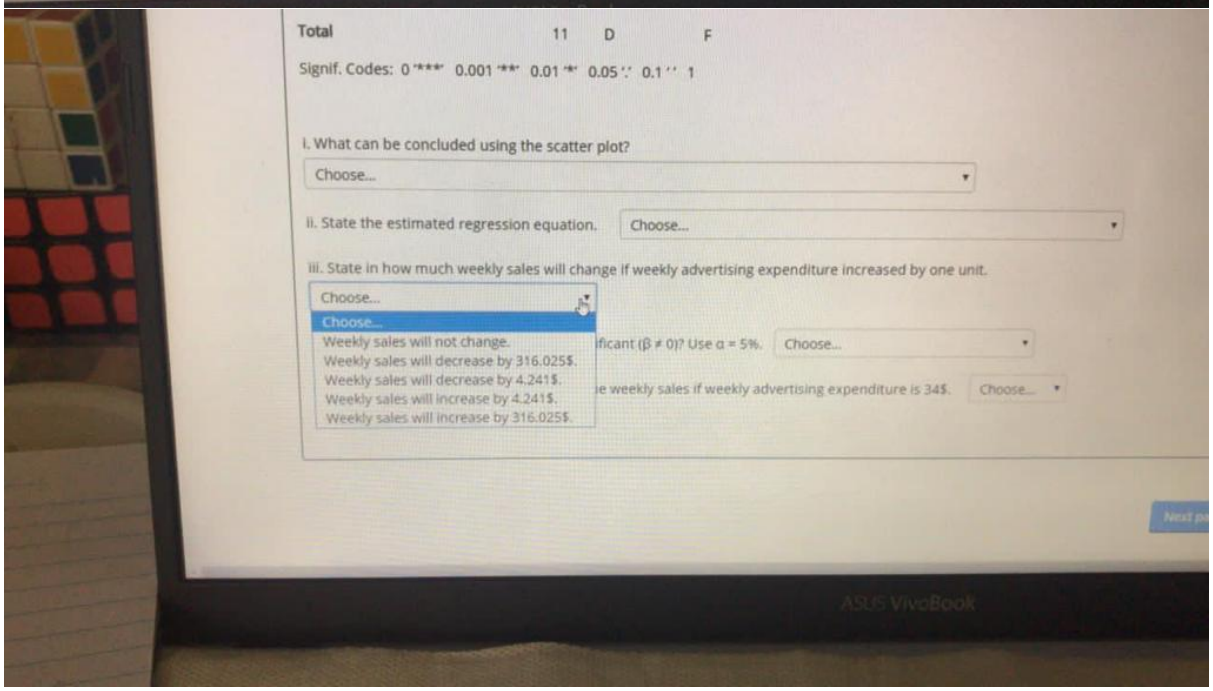
6. Test value (Round off to the nearest integer):

7. Conclusion (In Scientific term): Choose...

8. Conclusion (In General term):

Choose...

Next page



Total 11 D F

Signif. Codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

i. What can be concluded using the scatter plot?

Choose...

ii. State the estimated regression equation. Choose...

iii. State in how much weekly sales will change if weekly advertising expenditure increased by one unit.

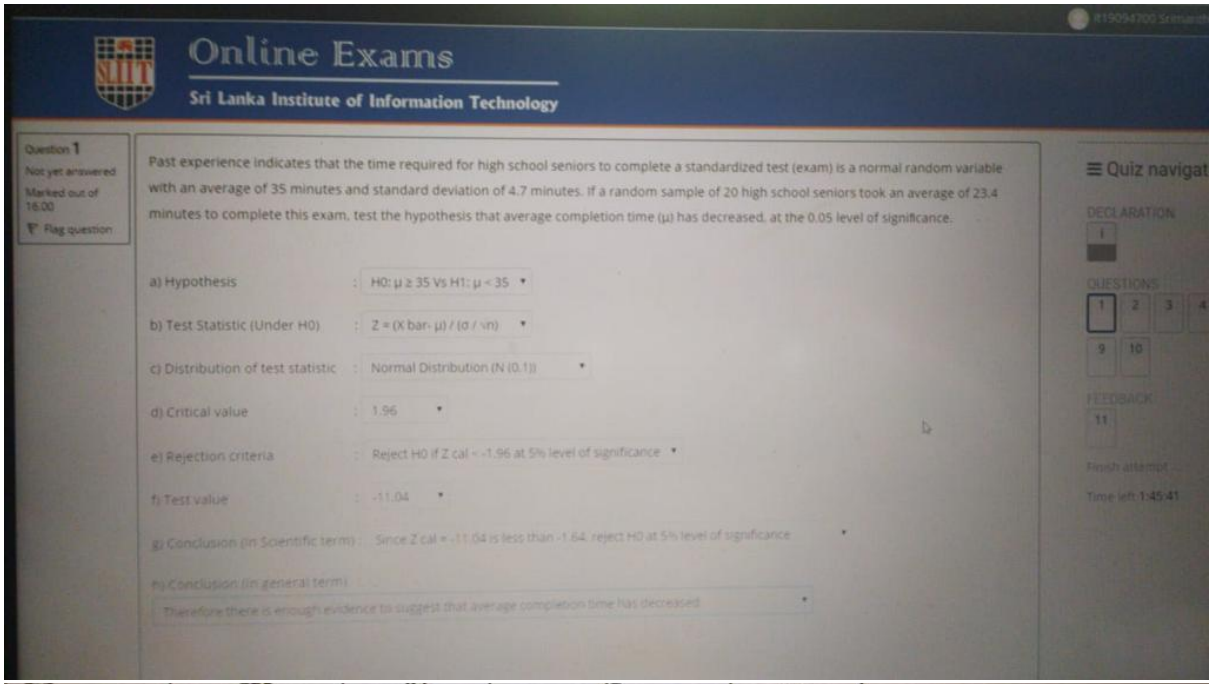
Choose...

Choose...
Weekly sales will not change.
Weekly sales will decrease by 316.025$.
Weekly sales will decrease by 4.241$.
Weekly sales will increase by 4.241$.
Weekly sales will increase by 316.025$.

ificant ($\beta \neq 0$)? Use $\alpha = 5\%$. Choose...

e weekly sales if weekly advertising expenditure is 34$. Choose...

ASUS VivoBook



	568	83	47	698
D's and P's	85	15	3	103
Total	1975	548	335	2858

1. Hypothesis:
Choose...

2. Distribution of test statistic: Choose...
3. Significance level:
4. Critical value: Choose...
5. Rejection criteria: Choose...
6. Test value (Round off to the nearest integer):
7. Conclusion (In Scientific term): Choose...
8. Conclusion (In General term):

Choose...
Chi squared distribution with 4 degrees of freedom
t distribution with 4 degrees of freedom
Chi squared distribution with 6 degrees of freedom
t distribution with 6 degrees of freedom
Chi squared distribution with 9 degrees of freedom

Total 11 D F

Signif. Codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

i. What can be concluded using the scatter plot?

There is a positive linear relationship in between weekly sales and weekly advertising expenditure.

ii. State the estimated regression equation. Estimated Weekly sales = 316.025 + 4.241 (Weekly advertising expenditure)

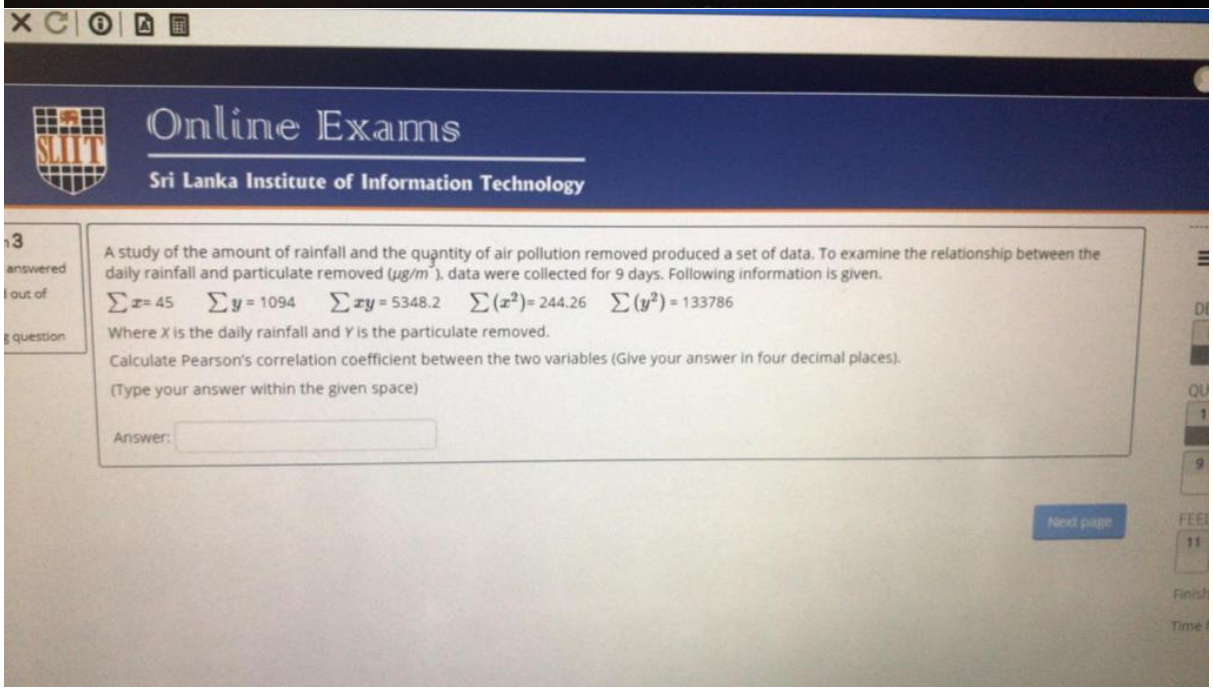
iii. State in how much weekly sales will change if weekly advertising expenditure increased by one unit.

Weekly sales will increase by 4.241$.

iv. Does slope of the Regression line is significant ($\beta \neq 0$)? Use $\alpha = 5\%$. Yes. Regression line is significant.

v. Use the regression equation to predict the weekly sales if weekly advertising expenditure is 34$. 460.22$

Next page



Online Exams

Sri Lanka Institute of Information Technology

3

answered

out of

question

A study of the amount of rainfall and the quantity of air pollution removed produced a set of data. To examine the relationship between the daily rainfall and particulate removed ($\mu g/m^3$), data were collected for 9 days. Following information is given.

$\sum x = 45$ $\sum y = 1094$ $\sum xy = 5348.2$ $\sum (x^2) = 244.26$ $\sum (y^2) = 133786$

Where X is the daily rainfall and Y is the particulate removed.

Calculate Pearson's correlation coefficient between the two variables (Give your answer in four decimal places).

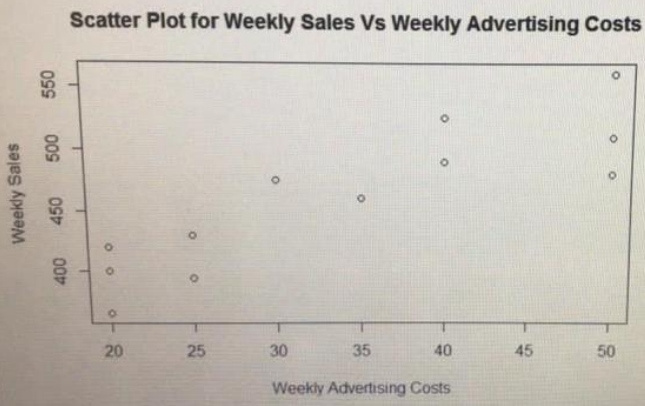
(Type your answer within the given space)

Answer:

Next page

on 6
et answered
ed out of
lag question

A retail merchant in USA has conducted a survey to determine the relationship in between weekly advertising expenditures and sales of his company. He has collected data for 12 weeks and weekly advertising expenditure ($) and weekly sales ($) have recorded for those 12 weeks. Figure below displays the scatter plot for the data.



R outputs of the regression model are shown below.

Regression Model

Choose...

2. Distribution of test statistic: Choose...

3. Significance level:

4. Critical value: Choose...

Choose...
4.604
1.64
9.48773
18.0261
2.776

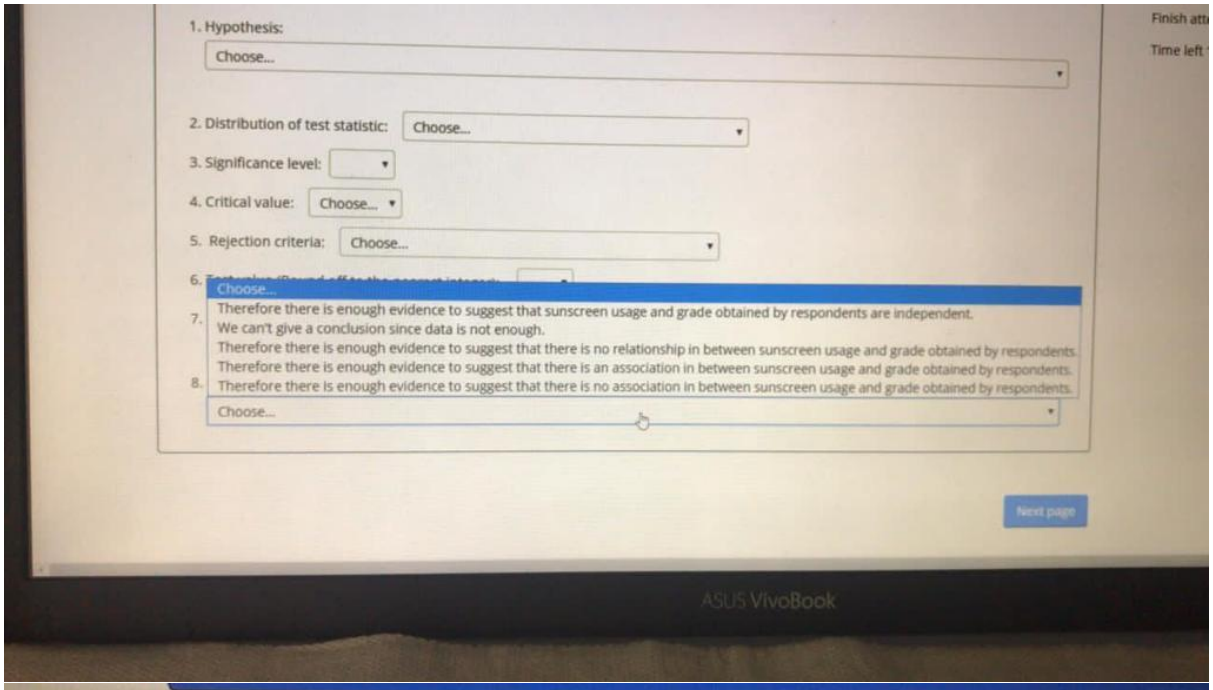
5. Rejection criter

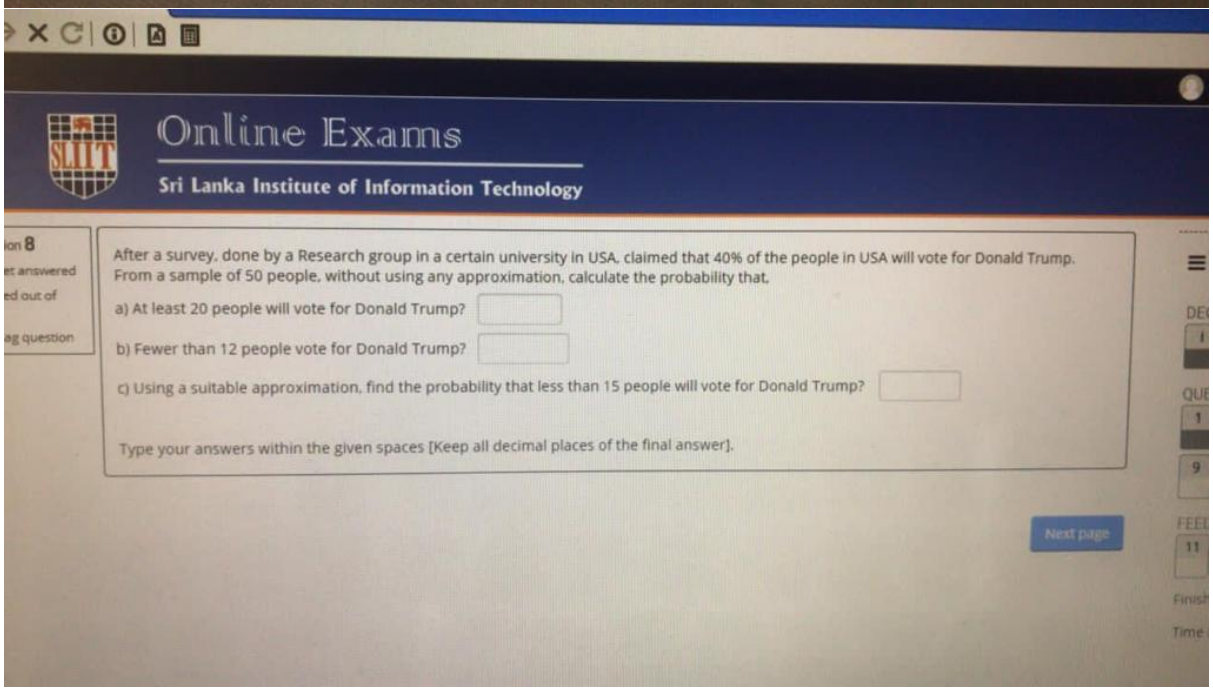
6. Test value (Rou earest integer):

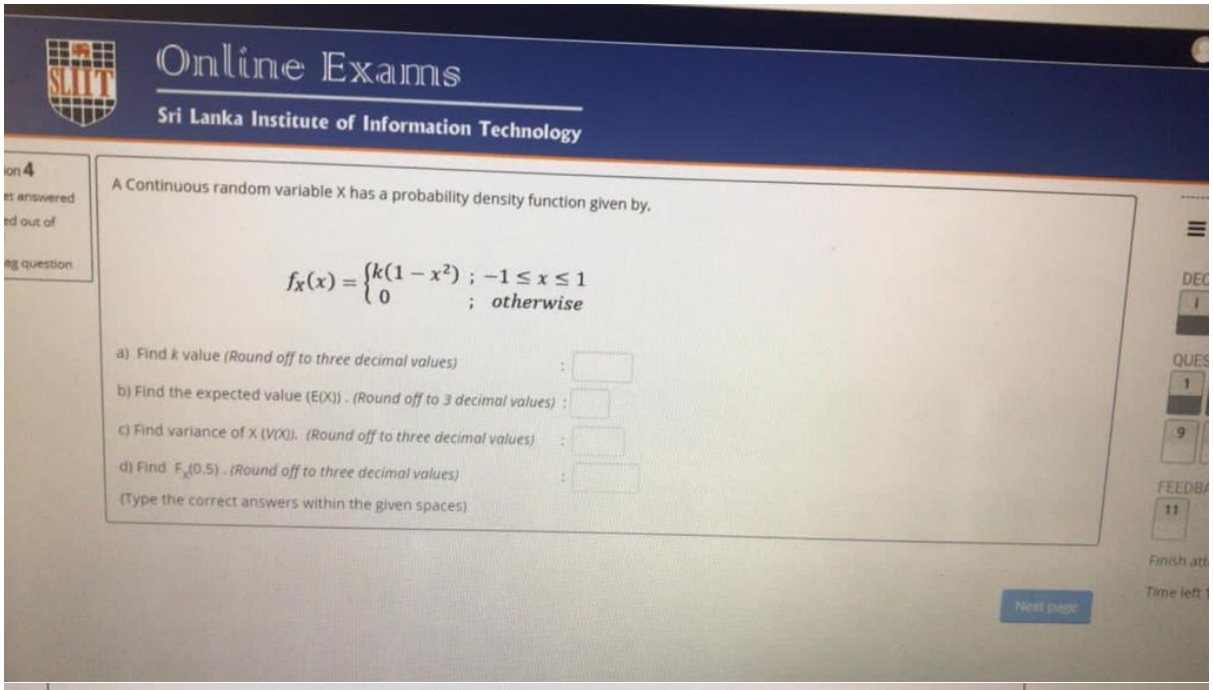
7. Conclusion (In S Choose...

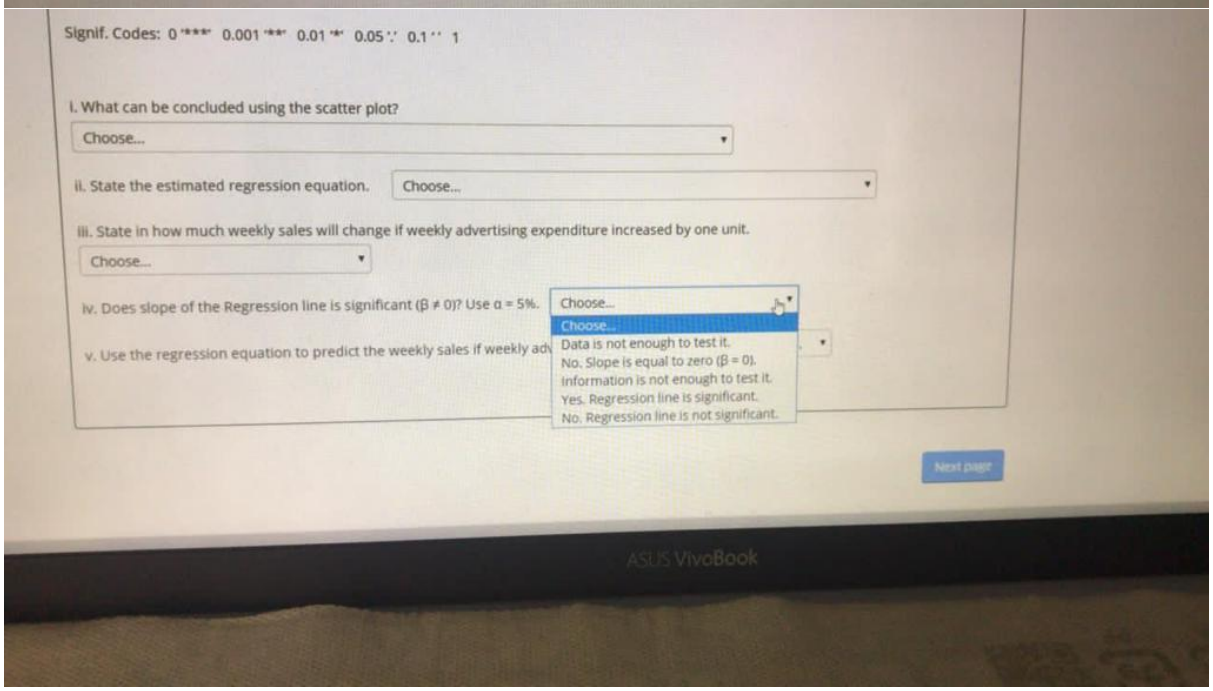
8. Conclusion (In General term):

Choose...


1. Hypothesis:
Choose...
2. Distribution of test statistic:
Choose...
3. Significance level:
4. Critical value:
Choose...
5. Rejection criteria:
Choose...
Choose...
Therefore there is enough evidence to suggest that sunscreen usage and grade obtained by respondents are independent.
We can't give a conclusion since data is not enough.
Therefore there is enough evidence to suggest that there is no relationship in between sunscreen usage and grade obtained by respondents.
Therefore there is enough evidence to suggest that there is an association in between sunscreen usage and grade obtained by respondents.
Therefore there is enough evidence to suggest that there is no association in between sunscreen usage and grade obtained by respondents.
Choose...
Next page
ASUS VivoBook


Online Exams
Sri Lanka Institute of Information Technology
After a survey, done by a Research group in a certain university in USA, claimed that 40% of the people in USA will vote for Donald Trump. From a sample of 50 people, without using any approximation, calculate the probability that,
a) At least 20 people will vote for Donald Trump?
b) Fewer than 12 people vote for Donald Trump?
c) Using a suitable approximation, find the probability that less than 15 people will vote for Donald Trump?
Type your answers within the given spaces [Keep all decimal places of the final answer].
Next page


Online Exams
Sri Lanka Institute of Information Technology
A Continuous random variable X has a probability density function given by,
$f_X(x) = \begin{cases} k(1-x^2) & ; -1 \le x \le 1 \\ 0 & ; \ otherwise \end{cases}$
a) Find k value (Round off to three decimal values) :
b) Find the expected value (E(X)) . (Round off to 3 decimal values) :
c) Find variance of X (V(X)). (Round off to three decimal values) :
d) Find $F_X(0.5)$. (Round off to three decimal values) :
(Type the correct answers within the given spaces)
Next page


Signif. Codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
i. What can be concluded using the scatter plot?
Choose...
ii. State the estimated regression equation.
Choose...
iii. State in how much weekly sales will change if weekly advertising expenditure increased by one unit.
Choose...
iv. Does slope of the Regression line is significant (β ≠ 0)? Use α = 5%.
Choose...
Choose...
Data is not enough to test it.
No. Slope is equal to zero (β = 0).
Information is not enough to test it.
Yes. Regression line is significant.
No. Regression line is not significant.
v. Use the regression equation to predict the weekly sales if weekly adv
Next page
ASUS VivoBook

Weekly advertising expenditure	A	C	28893.5	G	0.0001818***
Residuals	B	8698.2	E		
Total	11	D	F		

Signif. Codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

i. What can be concluded using the scatter plot?

Choose...

ii. State the estimated regression equation. Choose...

iii. State in how much weekly sales will change if weekly advertising expenditure increased by one unit.

Choose...

iv. Does slope of the Regression line is significant ($\beta \neq 0$)? Use $\alpha = 5\%$. Choose...

v. Use the regression equation to predict the weekly sales if weekly advertising expenditure is 34$. Choose...

Next page

ASUS VivoBook

Residuals	B	D	4.85	
Total	C	E		

Signif. Codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

i. What can be concluded using the scatter plot?

There is a negative linear relationship in between daily rainfall and particulate removed.

ii. State the estimated regression equation. Estimated Particulate Removed = 153.175 - 6.324 (Daily Rainfall)

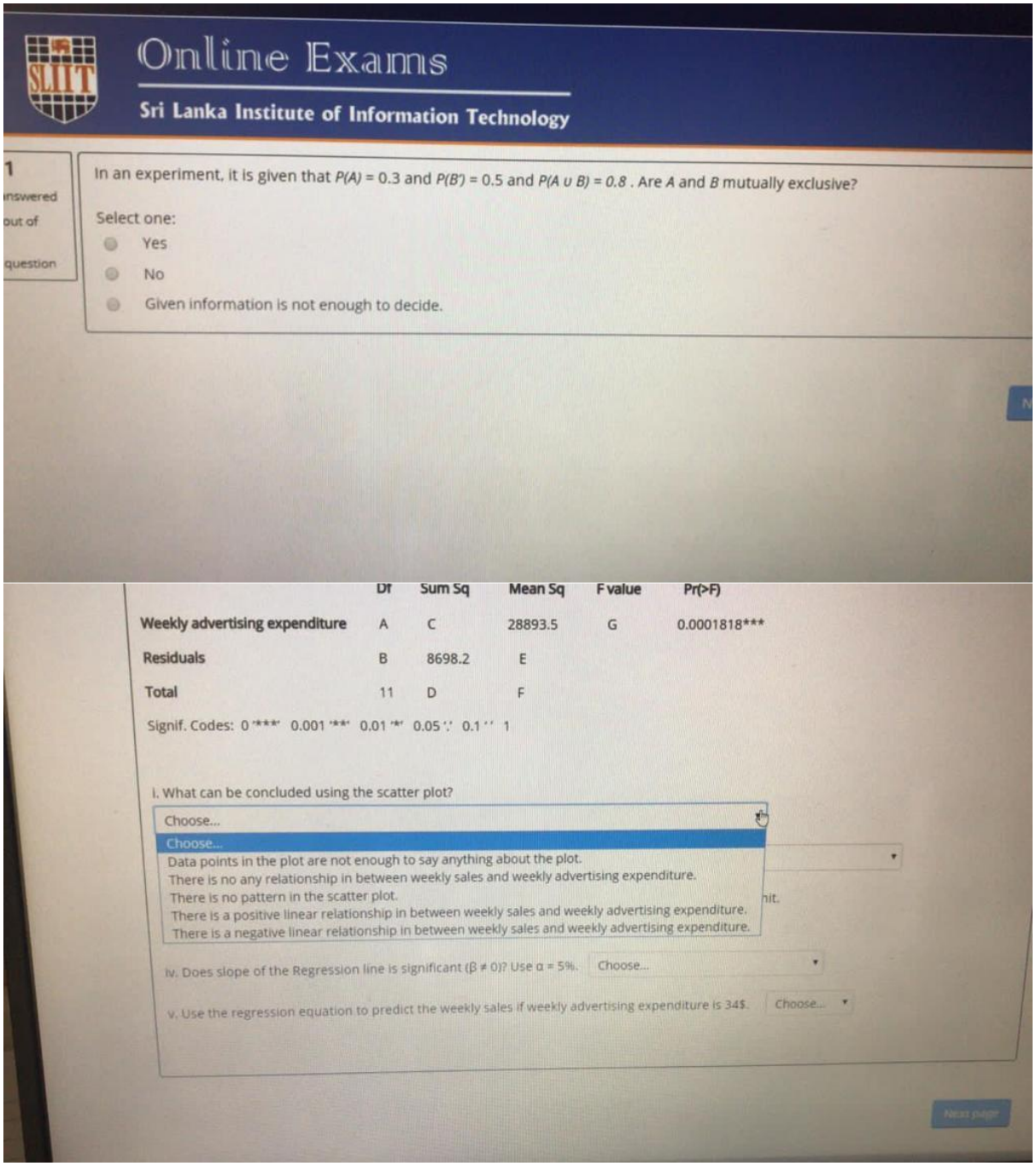
iii. State in how much particulate removed will change if daily rainfall increase by 1mm.

Particulate removed will decrease by 153.175 units

iv. Does slope of the Regression line is significant ($\beta \neq 0$)? Use $\alpha = 5\%$. Yes. Regression line is significant.

v. Use the regression equation to predict particulate removed if daily rainfall is 6.4mm. Choose...

Next page



Online Exams

Sri Lanka Institute of Information Technology

1
nswered
out of
question

In an experiment, it is given that $P(A) = 0.3$ and $P(B') = 0.5$ and $P(A \cup B) = 0.8$. Are A and B mutually exclusive?

Select one:

- Yes
- No
- Given information is not enough to decide.

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Weekly advertising expenditure	A	C	28893.5	G	0.0001818***
Residuals	B	8698.2	E		
Total	11	D	F		

Signif. Codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

i. What can be concluded using the scatter plot?

Choose...

Choose...
Data points in the plot are not enough to say anything about the plot.
There is no any relationship in between weekly sales and weekly advertising expenditure.
There is no pattern in the scatter plot.
There is a positive linear relationship in between weekly sales and weekly advertising expenditure.
There is a negative linear relationship in between weekly sales and weekly advertising expenditure.

iv. Does slope of the Regression line is significant ($\beta \neq 0$)? Use $\alpha = 5\%$. Choose...

v. Use the regression equation to predict the weekly sales if weekly advertising expenditure is 34$. Choose...

Sri Lanka Institute of Information Technology

Question 1
Not yet answered
Marked out of 12.00
Flag question

A Continuous random variable X has a probability density function given by,

$$f_X(x) = \begin{cases} k(1-x^2) & ; -1 \le x \le 1 \\ 0 & ; \ otherwise \end{cases}$$

a) Find *k* value *(Round off to three decimal values)* : 0.75

b) Find the expected value (E(X)) . *(Round off to 3 decimal values)* : .188

c) Find variance of X (V(X)). *(Round off to three decimal values)* : 0.165

d) Find $F_X(0.5)$. *(Round off to three decimal values)* : 0.563

(Type the correct answers within the given spaces)

Next page

g question

a) Find *k* value *(Round off to three decimal values)* : 0.375

b) Find the Expected value of X. *(Round off to three decimal values)* : 0.500

c)Find the variance of X (V(X)) : *(Round off to three decimal values)* : 0.017

d) Find $F_X(0.5)$: *(Round off to three decimal values)* : 0.484

(Type the correct answers within the given spaces)

Online Exams

Sri Lanka Institute of Information Technology

A researcher reports that mice will live an average of 45 months when their diets are sharply restricted and then enriched with vitamins and proteins. Assuming that the lifetimes of such mice are normally distributed with a standard deviation of 7.3 months, find the probability that a given mouse will live,

1. More than 30 months : 0.98 (Keep all the decimal places in the answer)
2. Between 38 and 47 months : 0.439 (Keep all the decimal places in the answer)
3. What is the life time (in months) of a mouse where 20% of all mice have less than this life time? 39 months

(Give your answer to the nearest integer)

(Type your answers within the given spaces)

Next page

Regression Model

Coefficients

Intercept	Weekly Advertising Expenditure
316.025	4.241

Analysis of Variance Table

Response: Weekly Sales ($)

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Weekly advertising expenditure	A	C	28893.5	G	0.0001818***
Residuals	B	8698.2	E		
Total	11	D	F		

Signif. Codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

stion 7
t yet answered
arked out of
00
Flag question

A retail merchant in USA has conducted a survey to determine the relationship in between weekly advertising expenditures and sales of his company. He has collected data for 12 weeks and weekly advertising expenditure ($) and weekly sales ($) have recorded for those 12 weeks. Following is the ANOVA table for the fitted regression model.

Analysis of Variance Table

Response: Weekly Sales ($)

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Weekly advertising expenditure	A	C	28893.5	G	0.0001818***
Residuals	B	8698.2	E		
Total	11	D	F		

Signif. Codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Find values marked A, B, C, D, E, F and G in the ANOVA table.

1. A :
2. B :
3. C : (Keep all the decimal places in the answer)
4. D : (Keep all the decimal places in the answer)
5. E : (Keep all the decimal places in the answer)
6. F :
7. G : (Round off the answer up to the fourth decimal point)

(Type your answers within the given spaces except for "F")

Weekly advertising expenditure A C 28893.5 G 0.0001818***

Residuals B 8698.2 E

Total 11 D F

Signif. Codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

i. What can be concluded using the scatter plot?

Choose...

ii. State the estimated regression equation.

Choose...

- Choose...
- Estimated Weekly sales = 316.025 - 4.241 (Weekly advertising expenditure)
- Estimated Weekly sales = 4.241 + 316.025 (Weekly advertising expenditure)
- Estimated Weekly advertising expenditure = 4.241 + 316.025 (Weekly sales)
- Estimated Weekly advertising expenditure = 316.025 + 4.241 (Weekly sales)
- Estimated Weekly sales = 316.025 + 4.241 (Weekly advertising expenditure)

iii. State in how much weekly sales will change

Choose...

iv. Does slope of the Regression line is significa

v. Use the regression equation to predict the weekly sales if weekly advertising expenditure is 34$. Choose...

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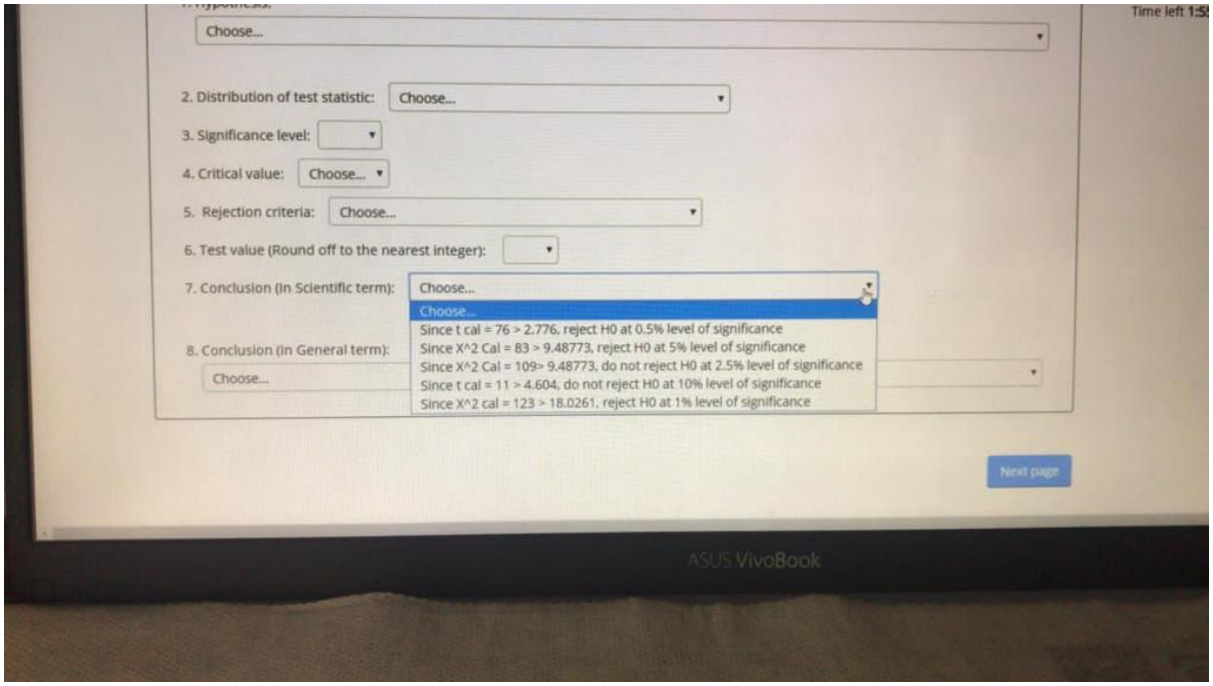
Time left 1:5
Choose...
2. Distribution of test statistic:
Choose...
3. Significance level:
4. Critical value:
Choose...
5. Rejection criteria:
Choose...
6. Test value (Round off to the nearest integer):
7. Conclusion (In Scientific term):
Choose...
Choose...
Since t cal = 76 > 2.776, reject H0 at 0.5% level of significance
Since X^2 Cal = 83 > 9.48773, reject H0 at 5% level of significance
Since X^2 Cal = 109> 9.48773, do not reject H0 at 2.5% level of significance
Since t cal = 11 > 4.604, do not reject H0 at 10% level of significance
Since X^2 cal = 123 > 18.0261, reject H0 at 1% level of significance
8. Conclusion (In General term):
Choose...
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