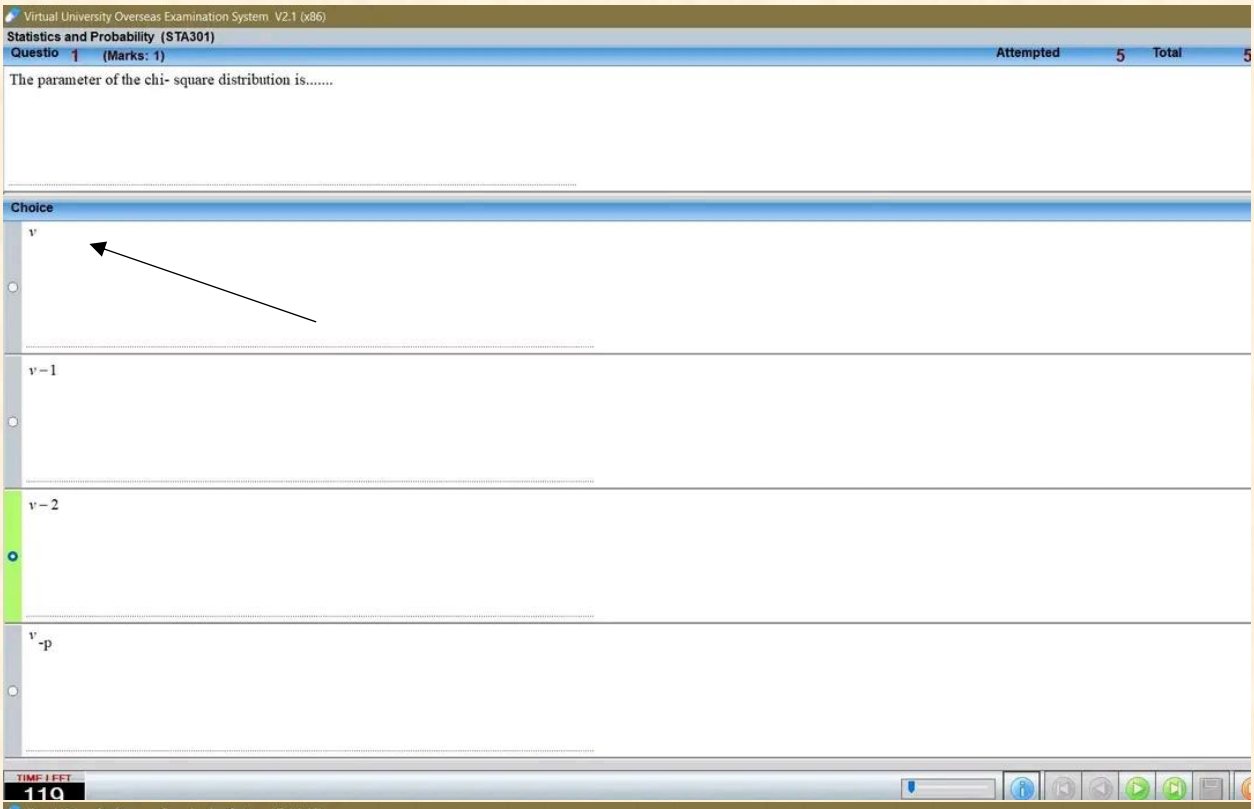
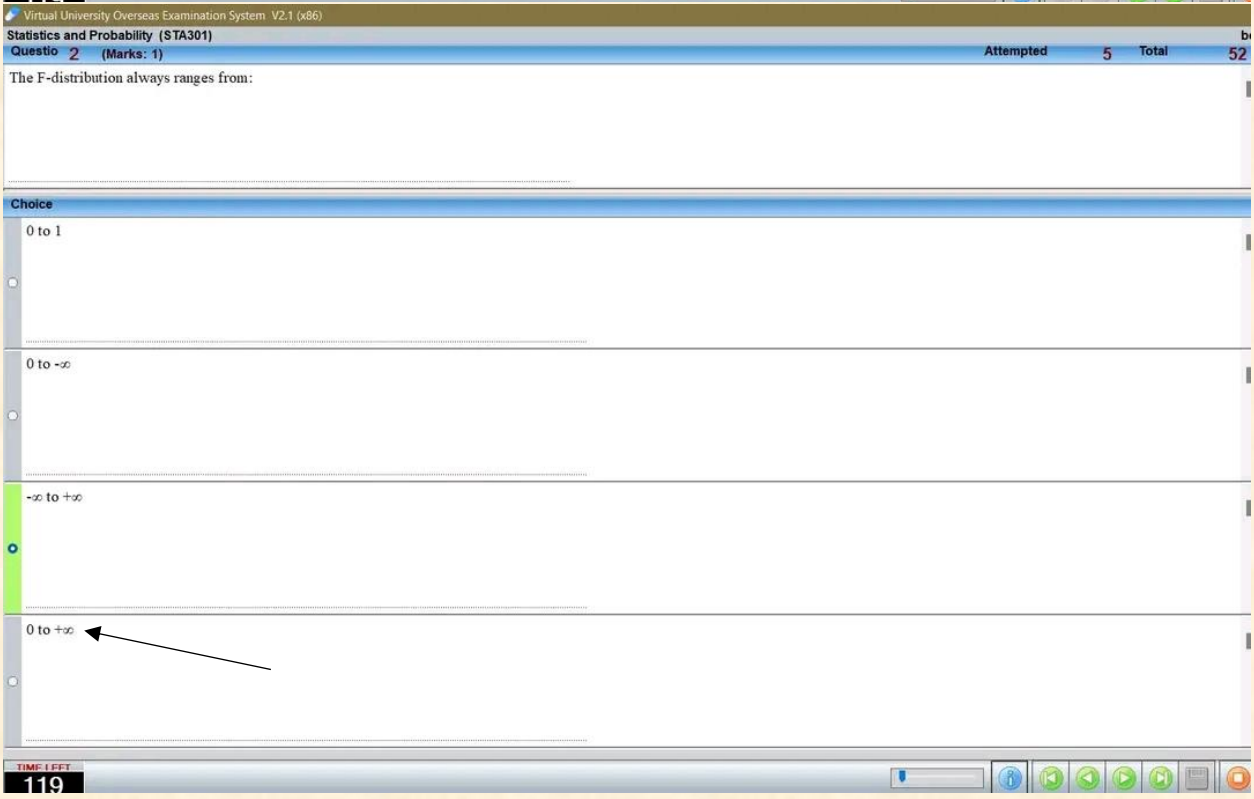
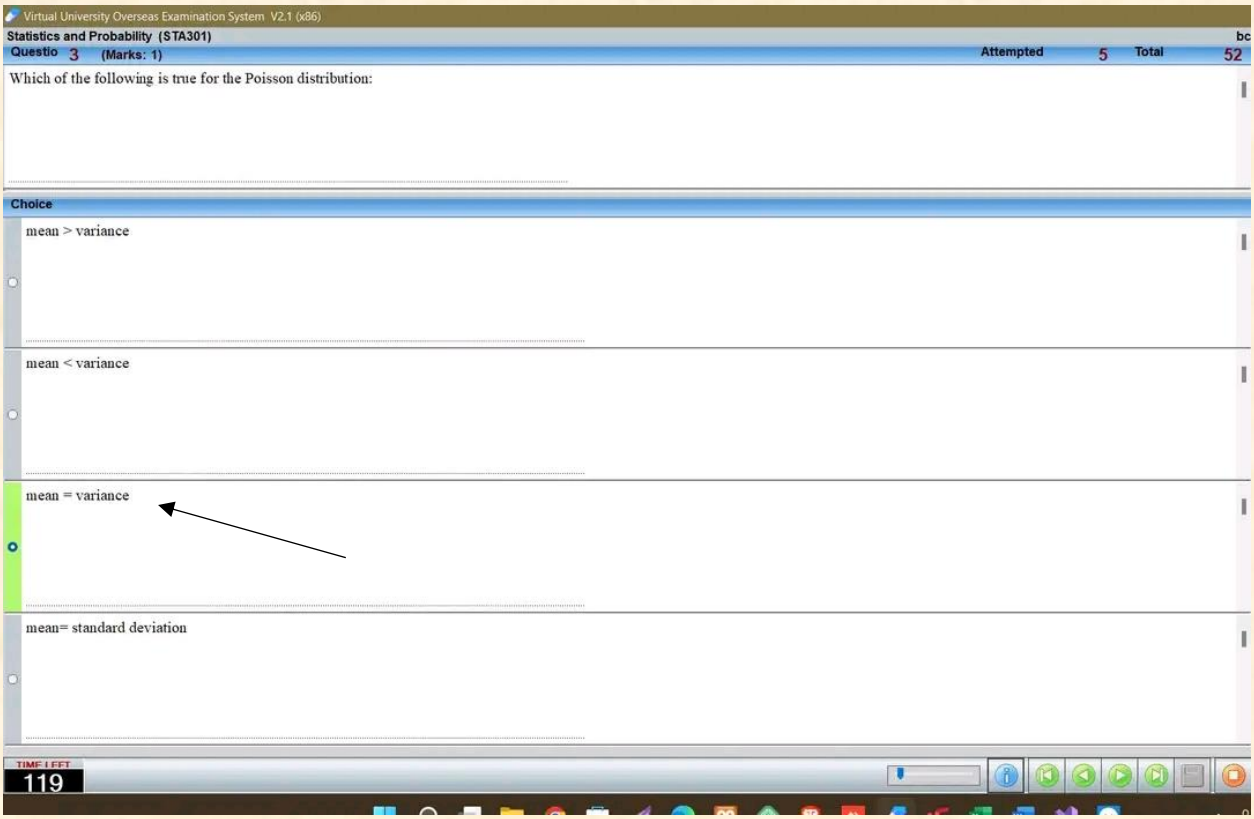
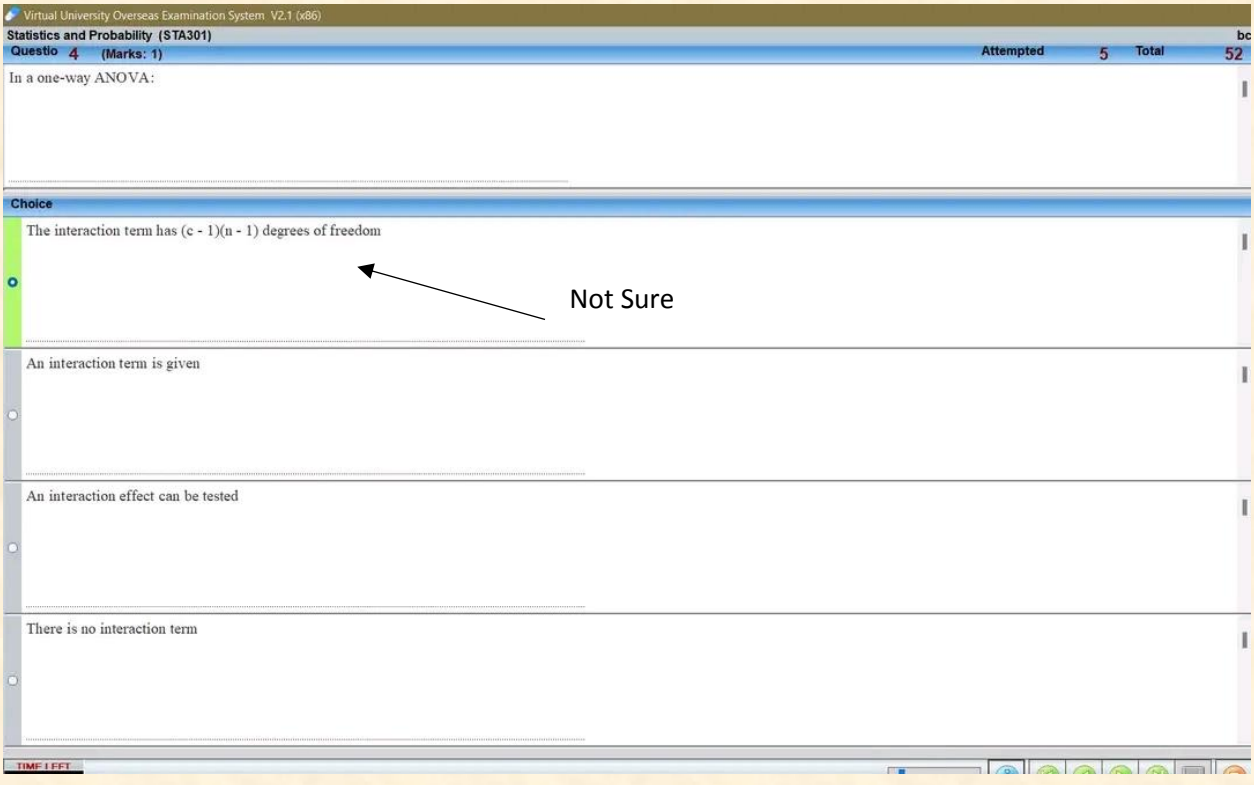
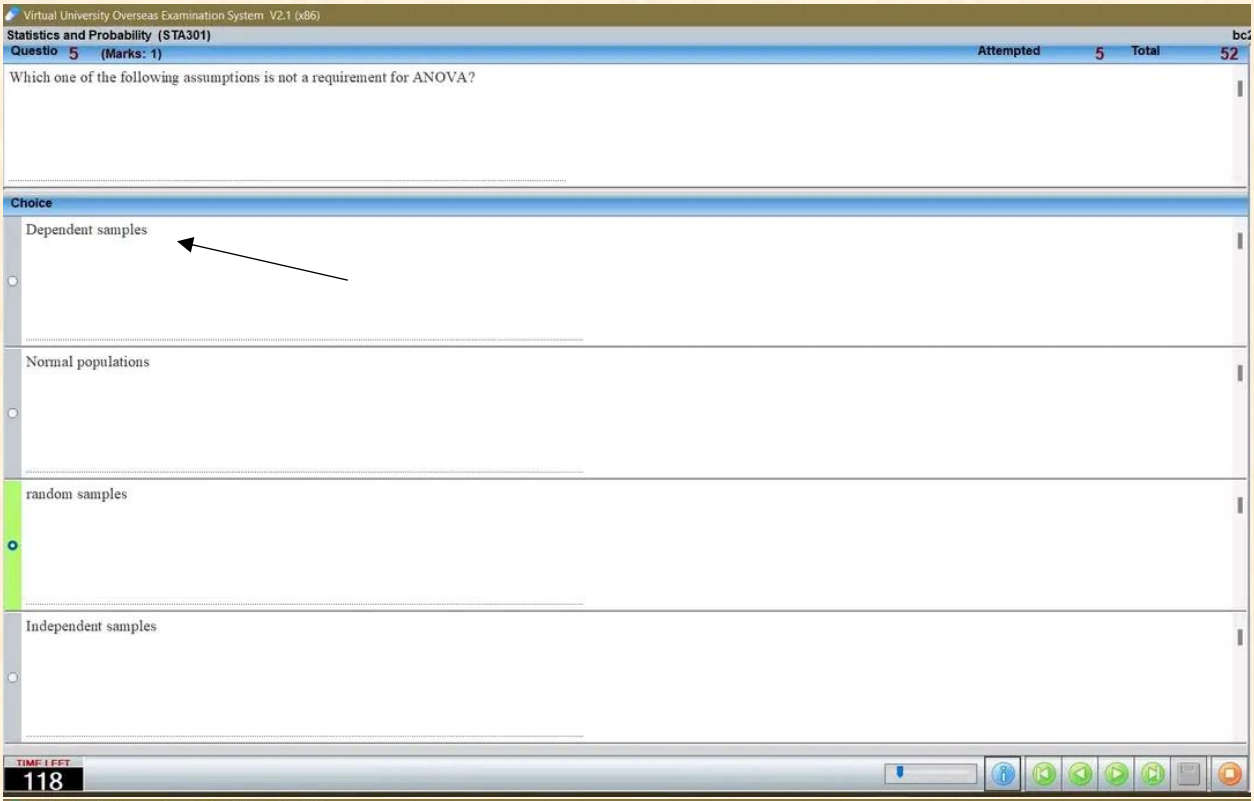
Note: I found these screen shots in a facebook group

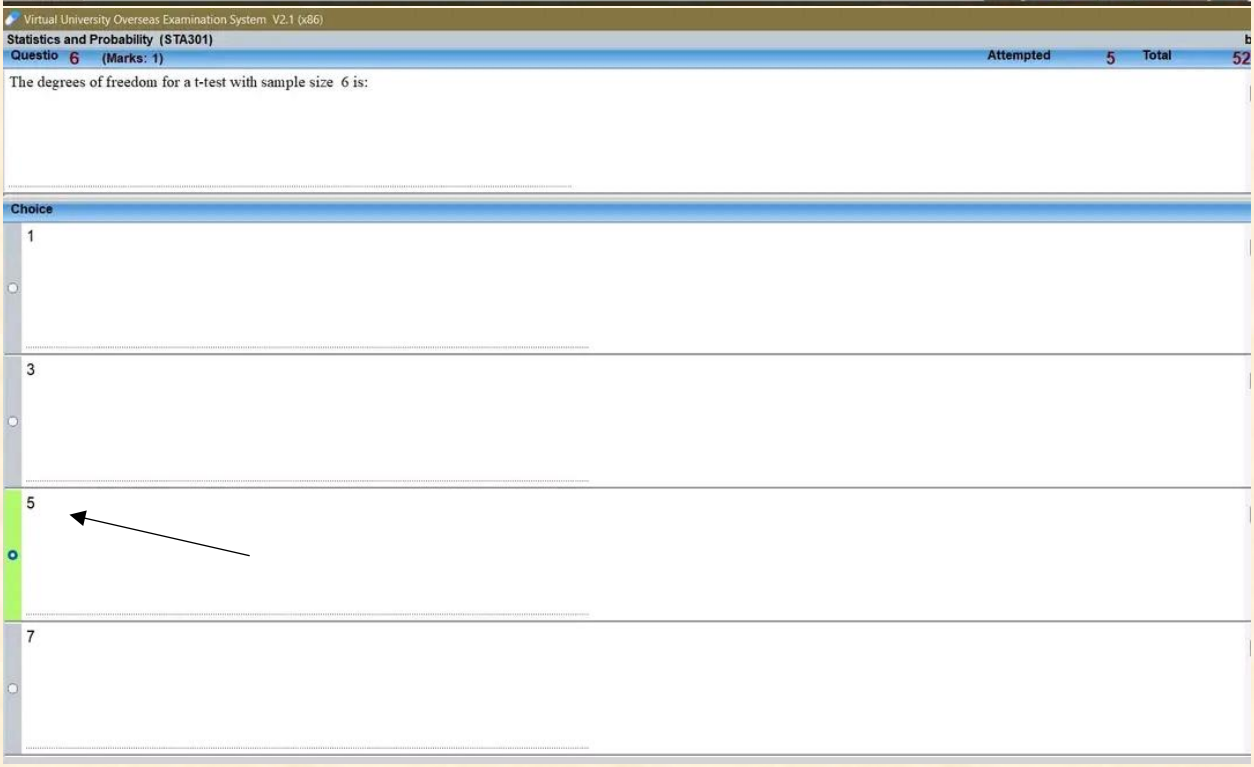


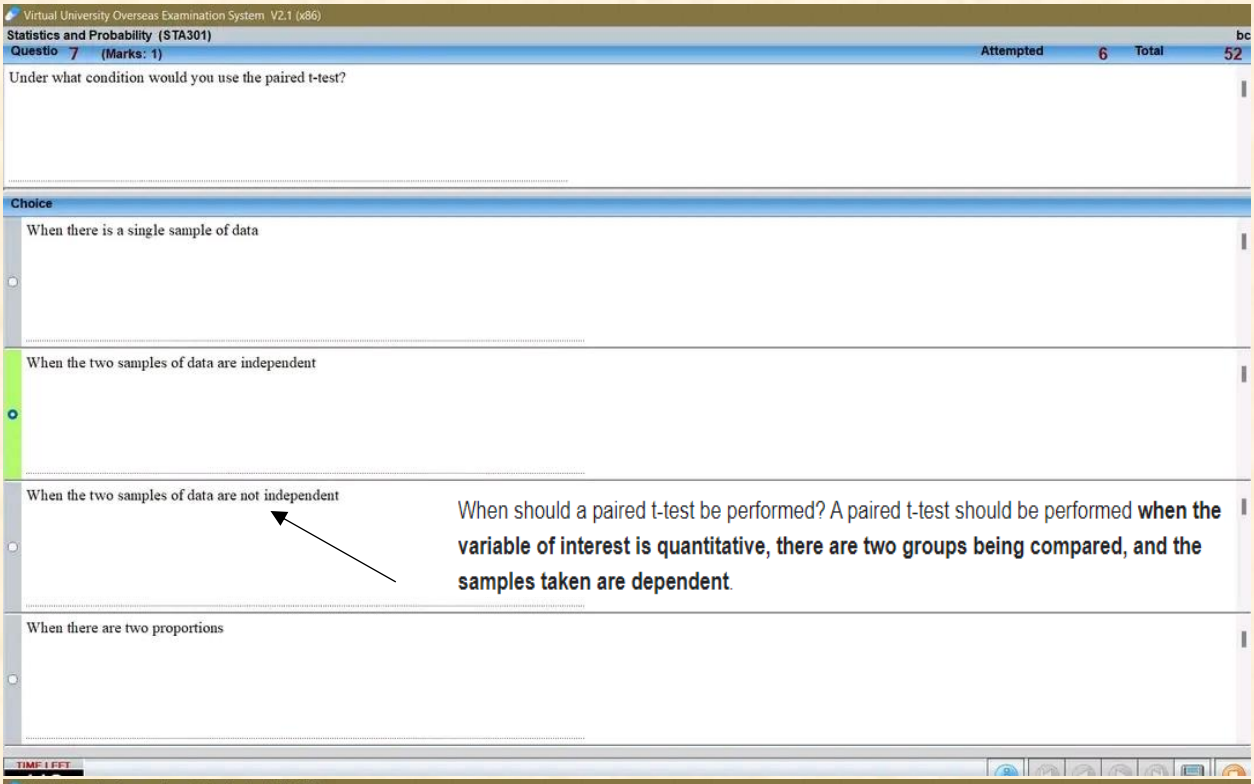


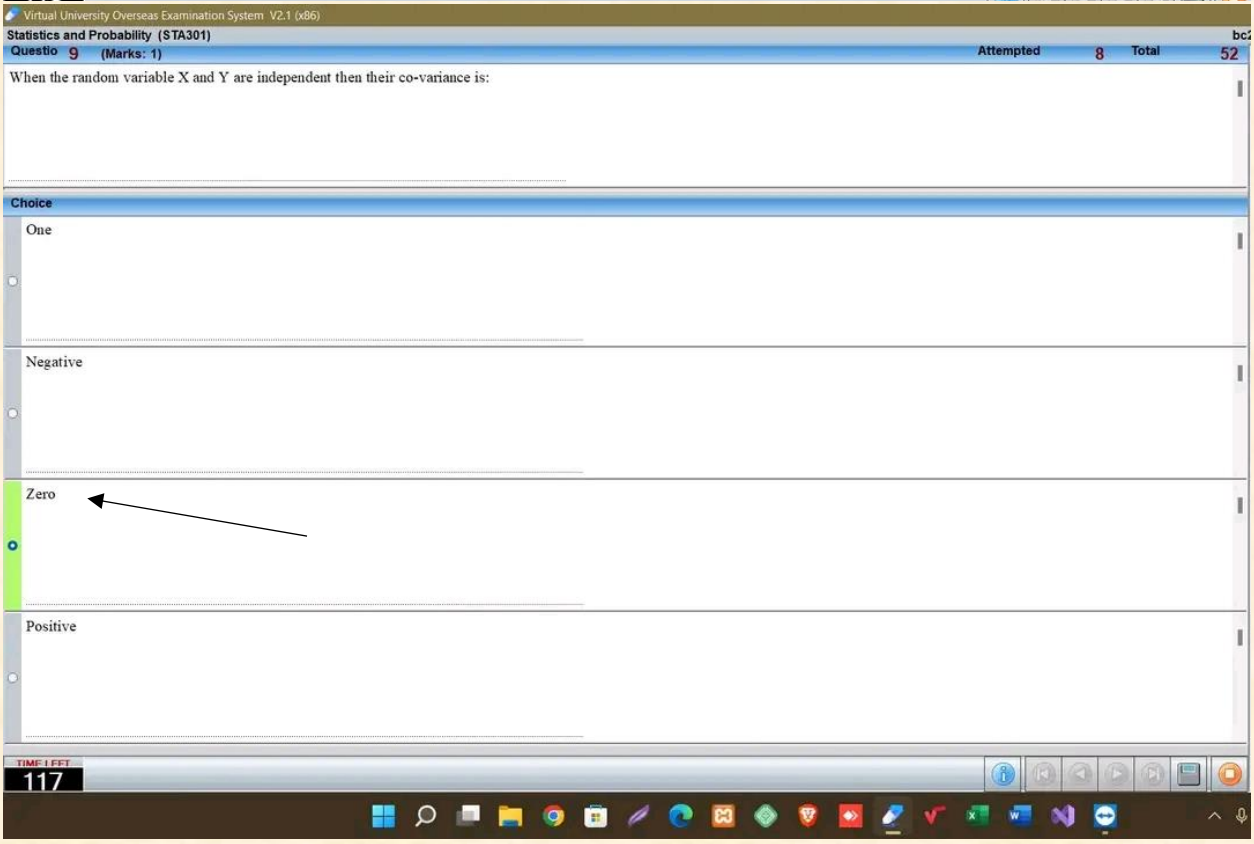

Virtual University Overseas Examination System V2.1 (x86)
Statistics and Probability (STA301)
Question 3 (Marks: 1)
Attempted 5 Total 52
Which of the following is true for the Poisson distribution:
Choice
mean > variance
mean < variance
mean = variance
mean= standard deviation
TIME LEFT
119

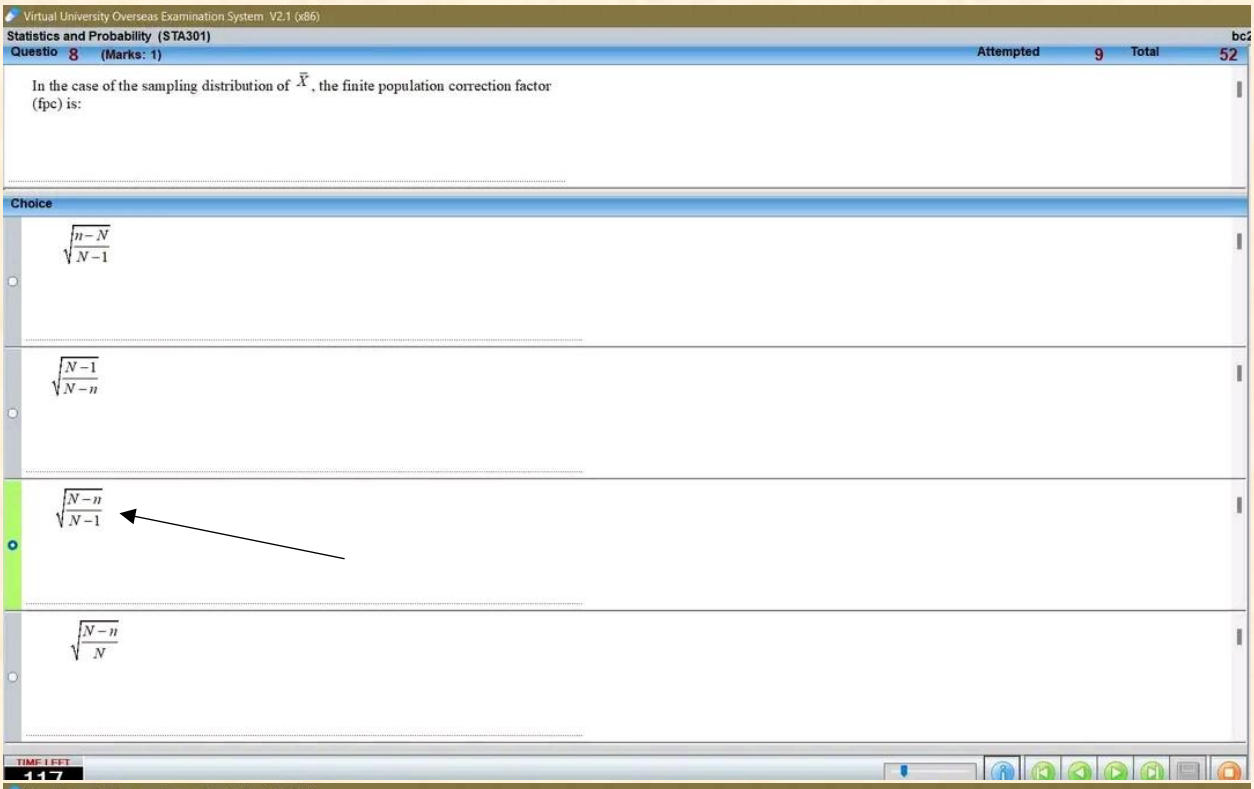

Virtual University Overseas Examination System V2.1 (x86)
Statistics and Probability (STA301)
Question 4 (Marks: 1)
Attempted 5 Total 52
In a one-way ANOVA:
Choice
The interaction term has (c - 1)(n - 1) degrees of freedom
Not Sure
An interaction term is given
An interaction effect can be tested
There is no interaction term
TIME LEFT

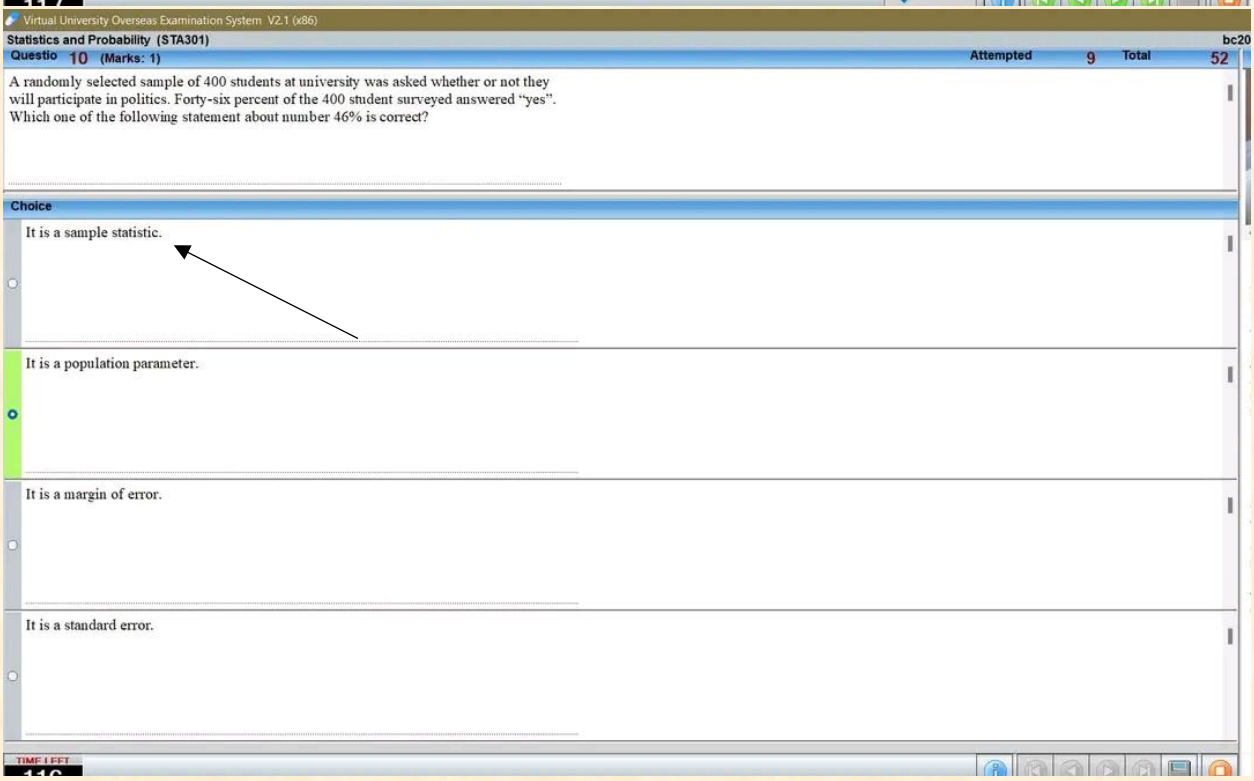

Virtual University Overseas Examination System V2.1 (x86)
Statistics and Probability (STA301)
Questio 5 (Marks: 1)
Attempted 5 Total 52
Which one of the following assumptions is not a requirement for ANOVA?
Choice
Dependent samples
Normal populations
random samples
Independent samples
TIME LEFT
118


Virtual University Overseas Examination System V2.1 (x86)
Statistics and Probability (STA301)
Questio 6 (Marks: 1)
Attempted 5 Total 52
The degrees of freedom for a t-test with sample size 6 is:
Choice
1
3
5
7


Virtual University Overseas Examination System V2.1 (x86)
Statistics and Probability (STA301)
Questio 7 (Marks: 1)
Attempted 6 Total 52
Under what condition would you use the paired t-test?
Choice
When there is a single sample of data
When the two samples of data are independent
When the two samples of data are not independent
When there are two proportions
When should a paired t-test be performed? A paired t-test should be performed when the variable of interest is quantitative, there are two groups being compared, and the samples taken are dependent.


Virtual University Overseas Examination System V2.1 (x86)
Statistics and Probability (STA301)
Questio 9 (Marks: 1)
Attempted 8 Total 52
When the random variable X and Y are independent then their co-variance is:
Choice
One
Negative
Zero
Positive
117


Virtual University Overseas Examination System V2.1 (x86)
Statistics and Probability (STA301)
Questio 8 (Marks: 1)
Attempted 9 Total 52
In the case of the sampling distribution of $\bar{X}$, the finite population correction factor (fpc) is:
Choice
$\sqrt{\frac{n-N}{N-1}}$
$\sqrt{\frac{N-1}{N-n}}$
$\sqrt{\frac{N-n}{N-1}}$
$\sqrt{\frac{N-n}{N}}$
TIME LEFT


Virtual University Overseas Examination System V2.1 (x86)
Statistics and Probability (STA301)
Questio 10 (Marks: 1)
Attempted 9 Total 52
A randomly selected sample of 400 students at university was asked whether or not they will participate in politics. Forty-six percent of the 400 student surveyed answered "yes". Which one of the following statement about number 46% is correct?
Choice
It is a sample statistic.
It is a population parameter.
It is a margin of error.
It is a standard error.
TIME LEFT

Virtual University Overseas Examination System V2.1 (x86)

Statistics and Probability (STA301)

Question 11 (Marks: 1) Attempted 10 Total 52

If f (x, y) is bivariate probability density function of continuous random variables X and Y then marginal density function of y i.e. $h(y)$ is:

Choice

$\int_{-\infty}^{\infty} f(x,y)\,dx$

$$h(y)=\int_{-\infty}^{\infty} f(x,y)\,dx$$

$\int_{-\infty}^{\infty} f(x,y)\,dy$

$\int_{-\infty}^{\infty}\int_{-\infty}^{\infty} f(x,y)\,dx\,dy$

$\int_{a}^{b}\int_{c}^{d} f(x,y)\,dy\,dx$

TIME LEFT 116

Virtual University Overseas Examination System V2.1 (x86)

Statistics and Probability (STA301)

Question 12 (Marks: 1) Attempted 11 Total 52

In interval estimation, we always get:

Choice

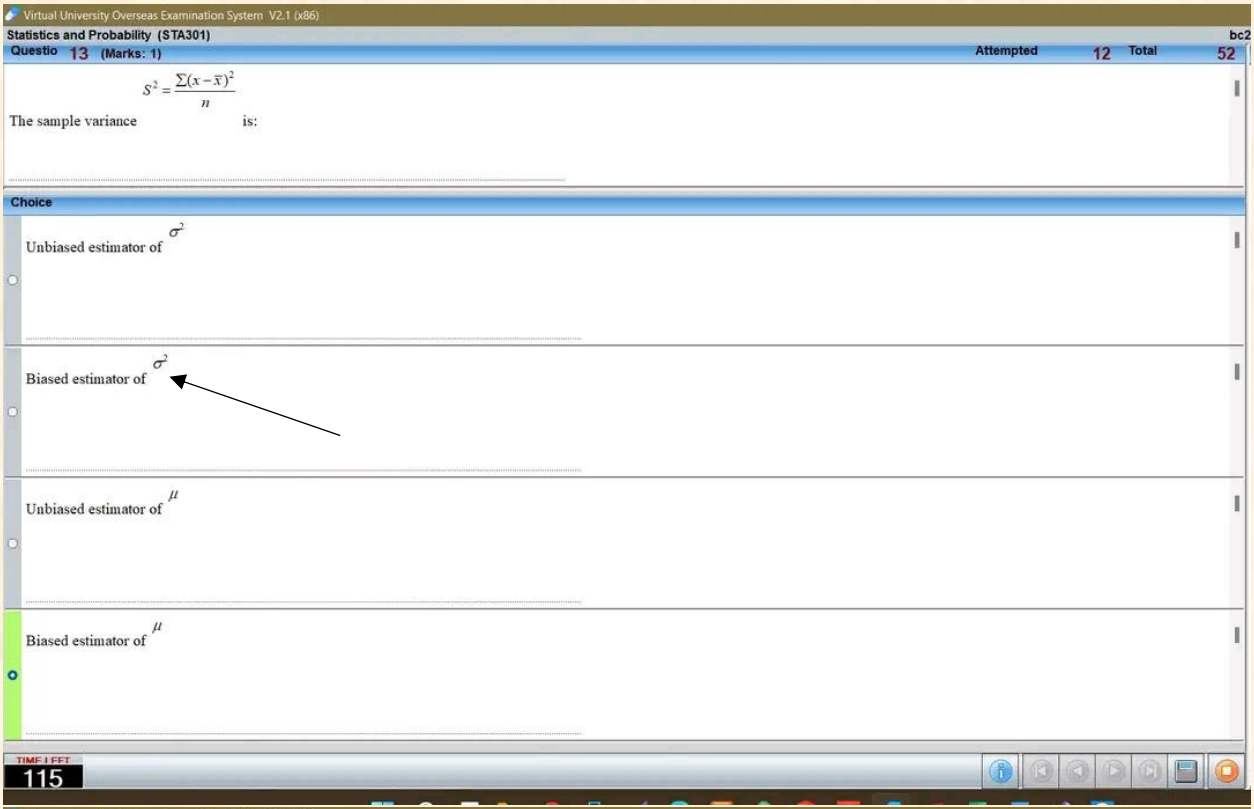
Single value

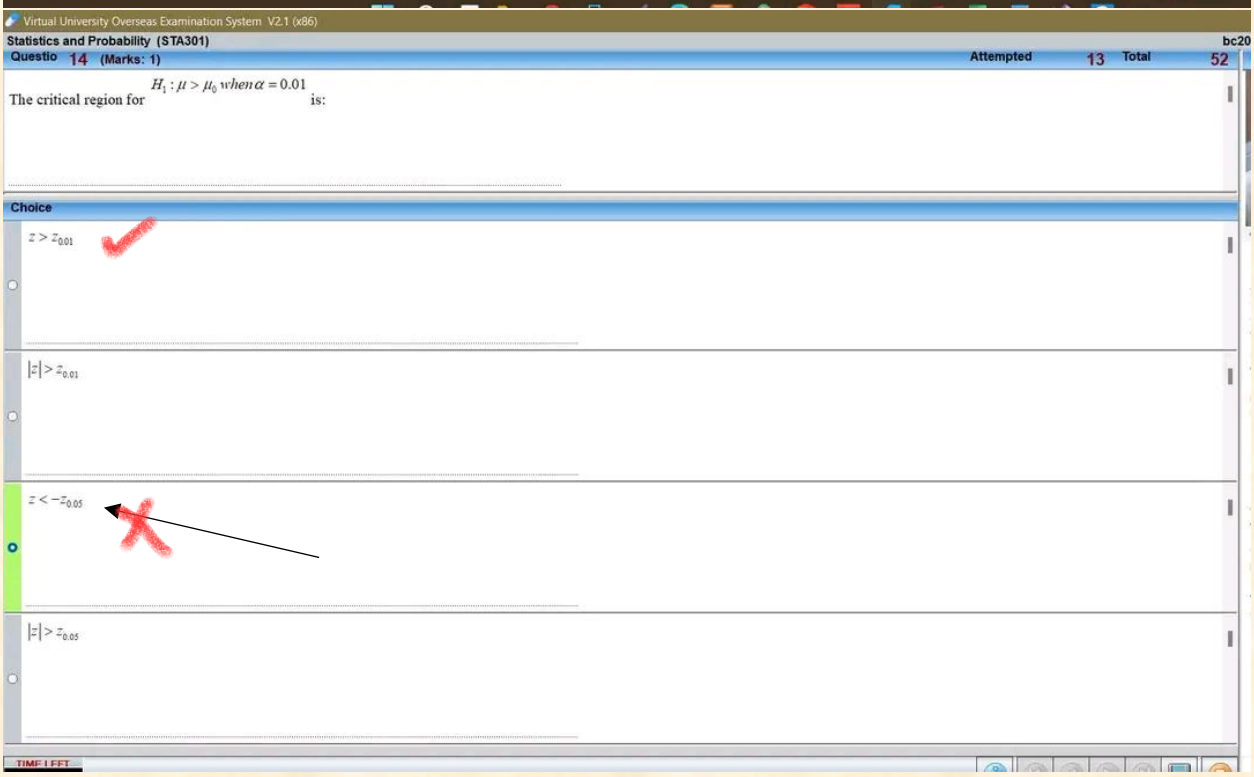
Two values

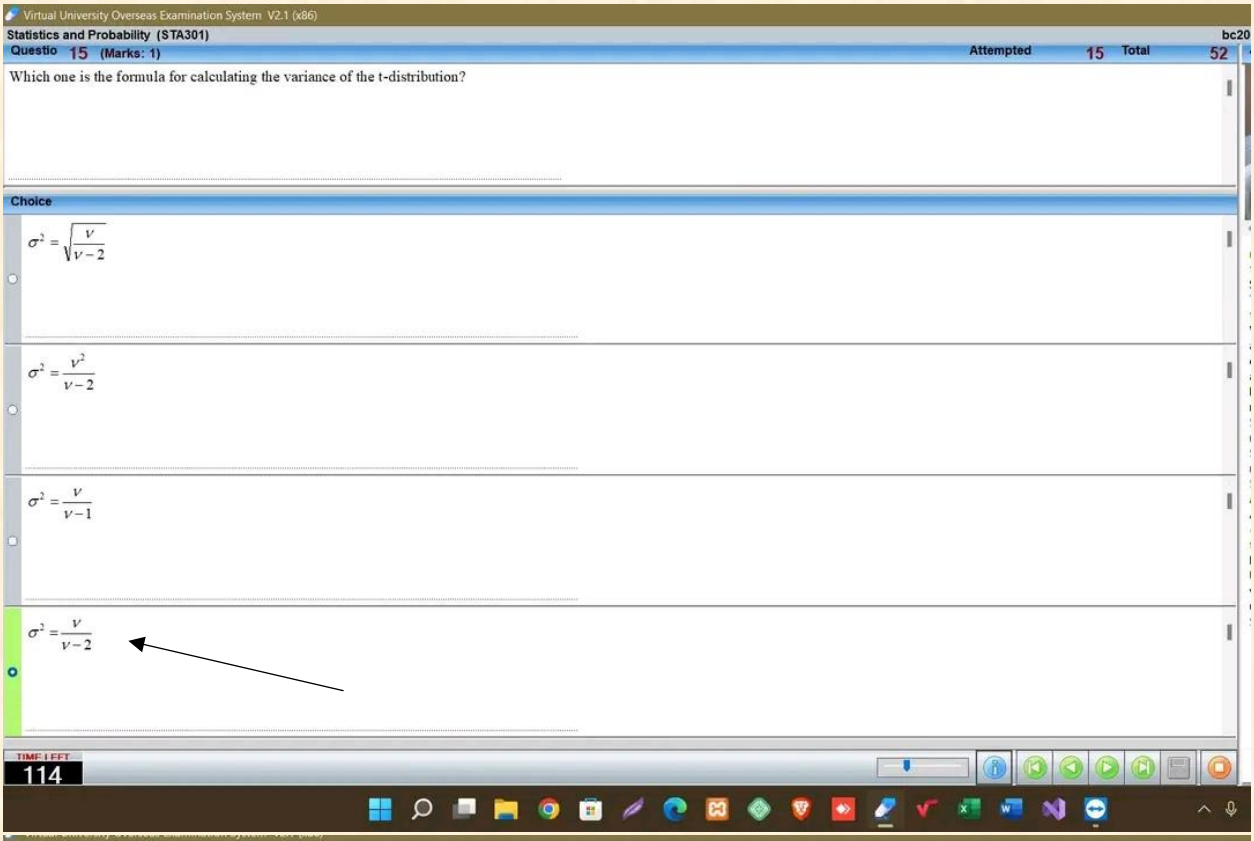
Range of values

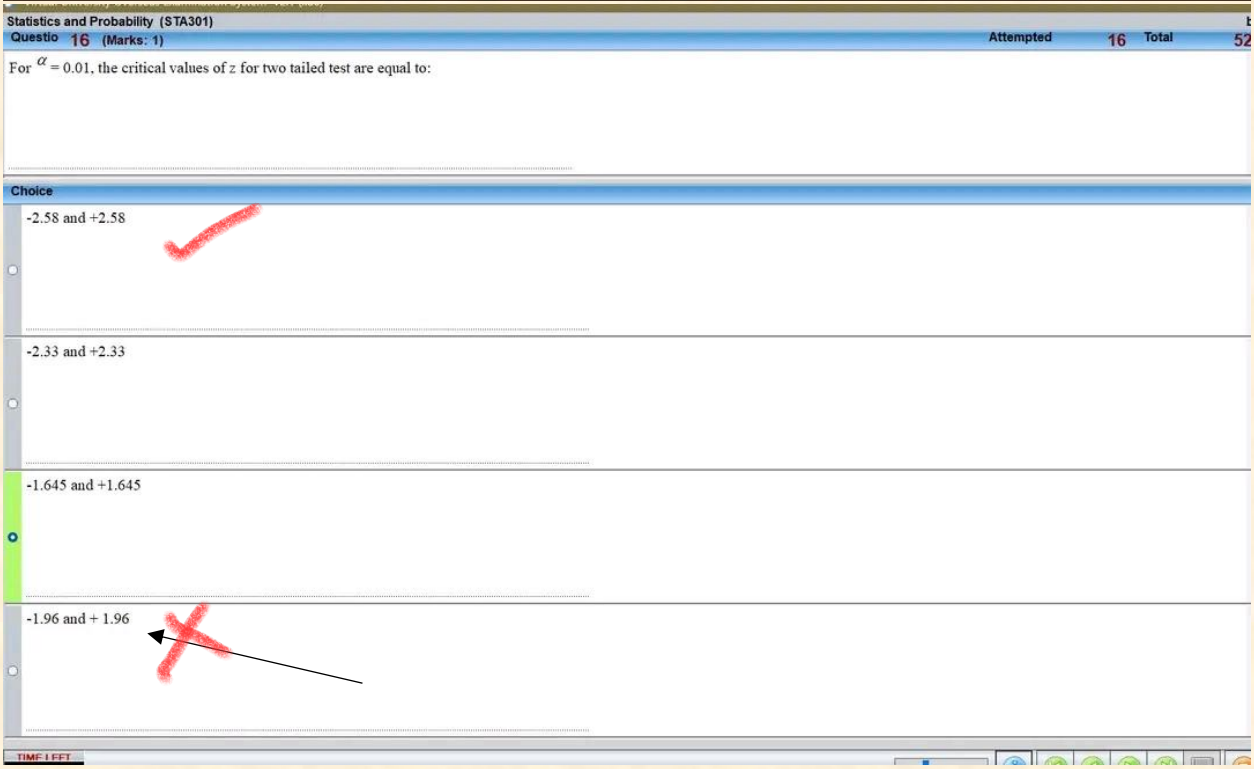
A point estimate is a single value estimate of a parameter, while an **interval estimate** gives you a range of values.

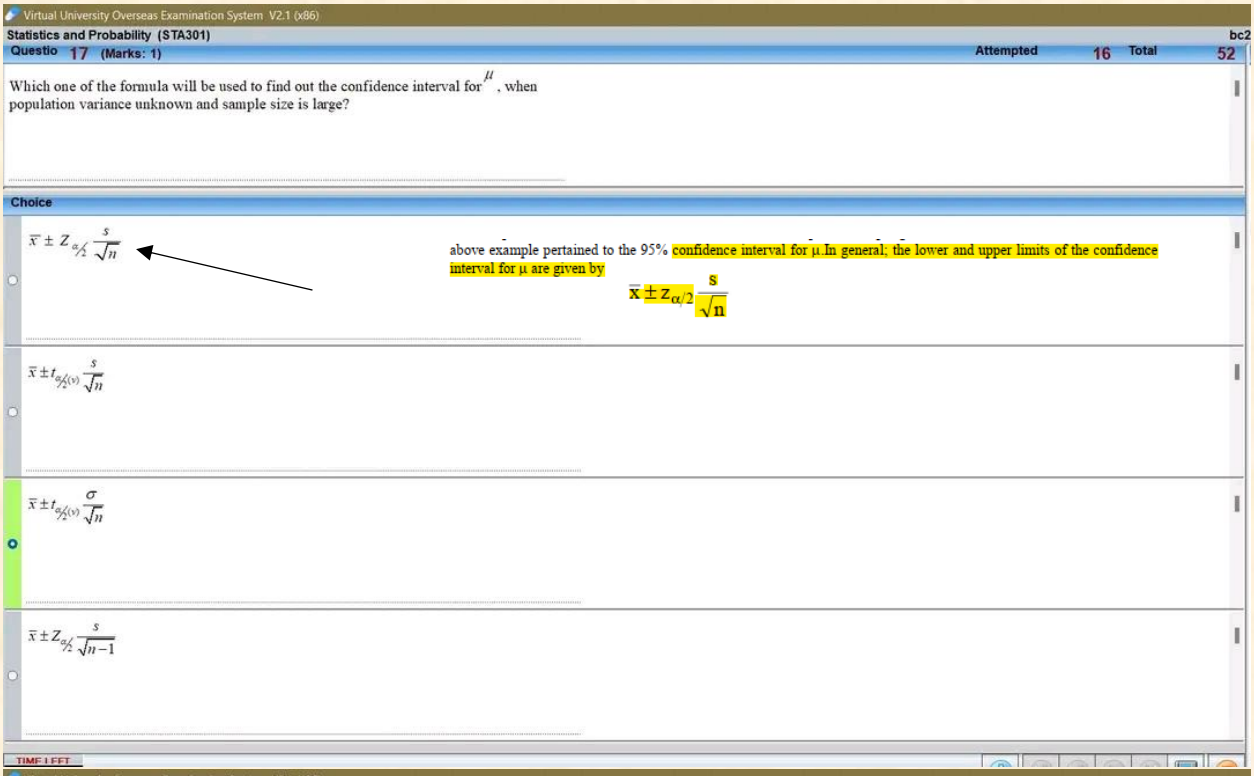
Zero

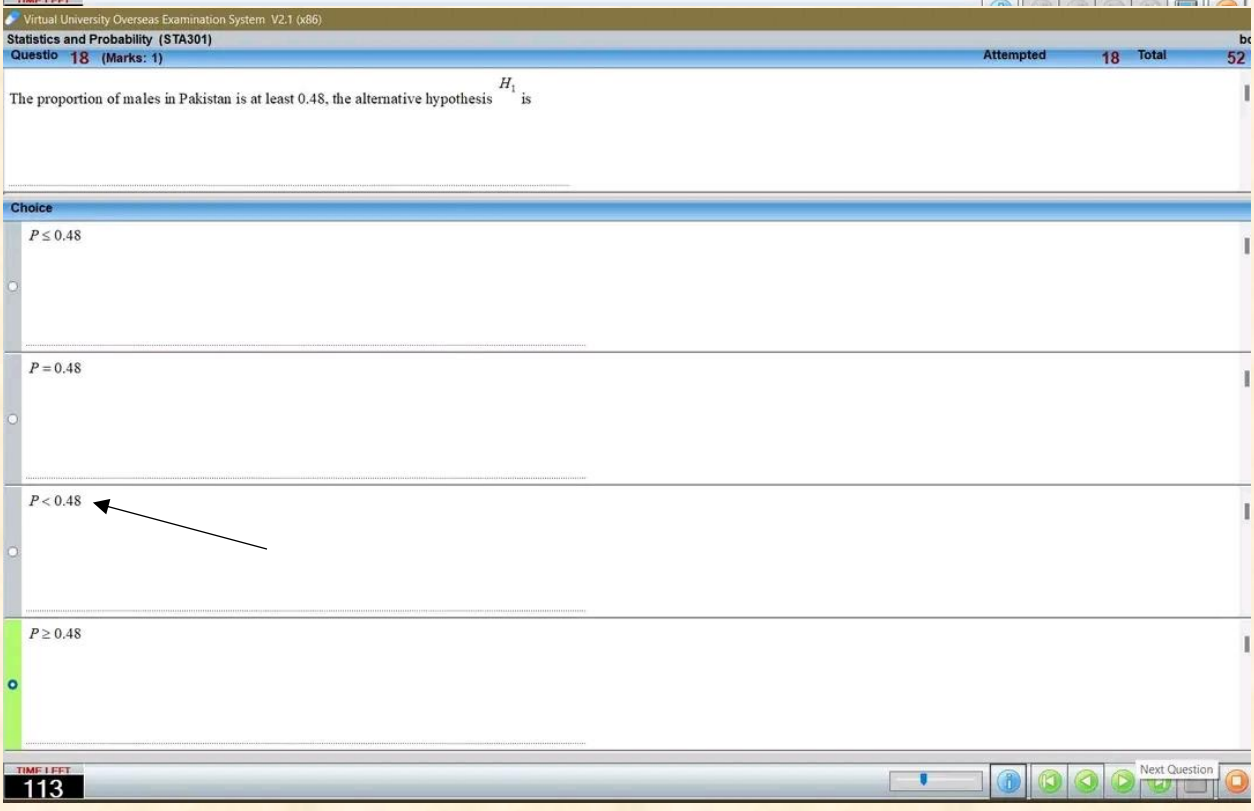

Virtual University Overseas Examination System V2.1 (x86)
Statistics and Probability (STA301)
Questio 13 (Marks: 1)
Attempted 12 Total 52
$S^2 = \frac{\sum(x-\bar{x})^2}{n}$
The sample variance is:
Choice
Unbiased estimator of σ^2
Biased estimator of σ^2
Unbiased estimator of μ
Biased estimator of μ
TIME LEFT
115

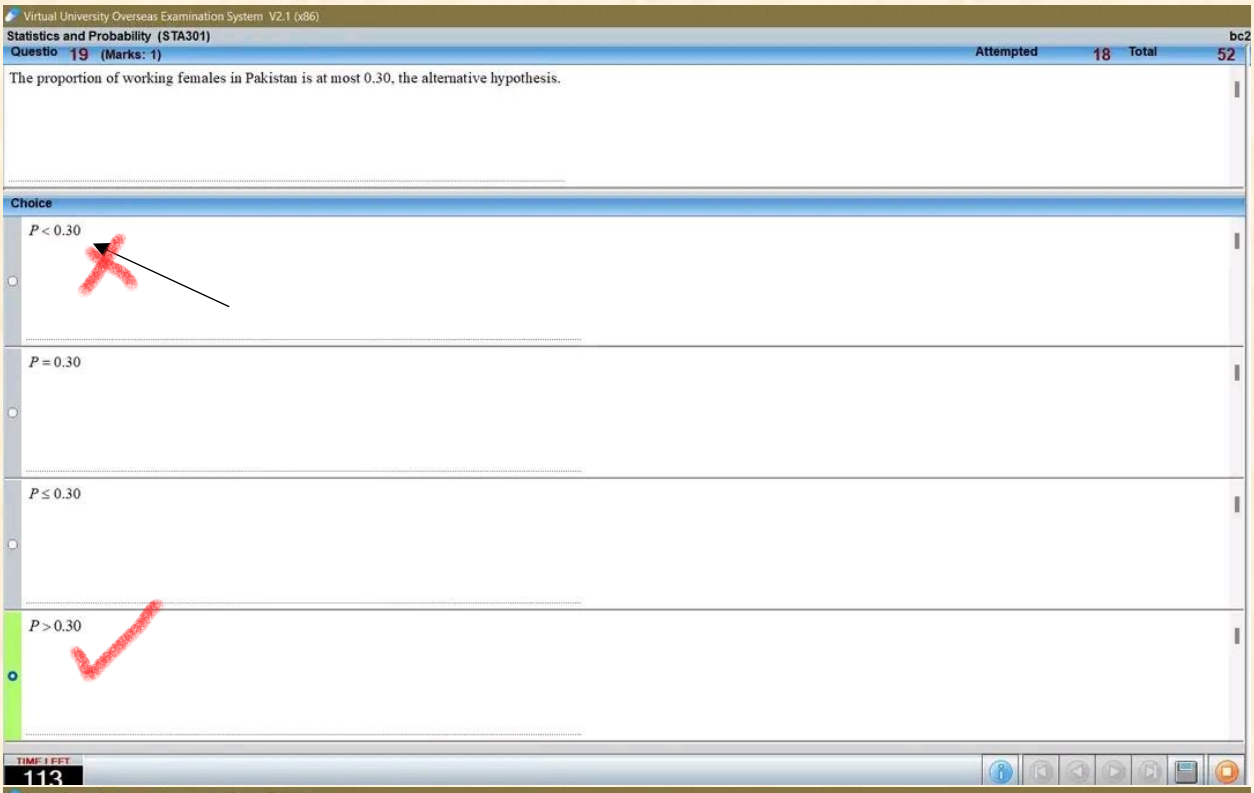

Virtual University Overseas Examination System V2.1 (x86)
Statistics and Probability (STA301)
Questio 14 (Marks: 1)
Attempted 13 Total 52
The critical region for $H_1 : \mu > \mu_0 \text{ when } \alpha = 0.01$ is:
Choice
$z > z_{0.01}$
$|z| > z_{0.01}$
$z < -z_{0.05}$
$|z| > z_{0.05}$
TIME LEFT

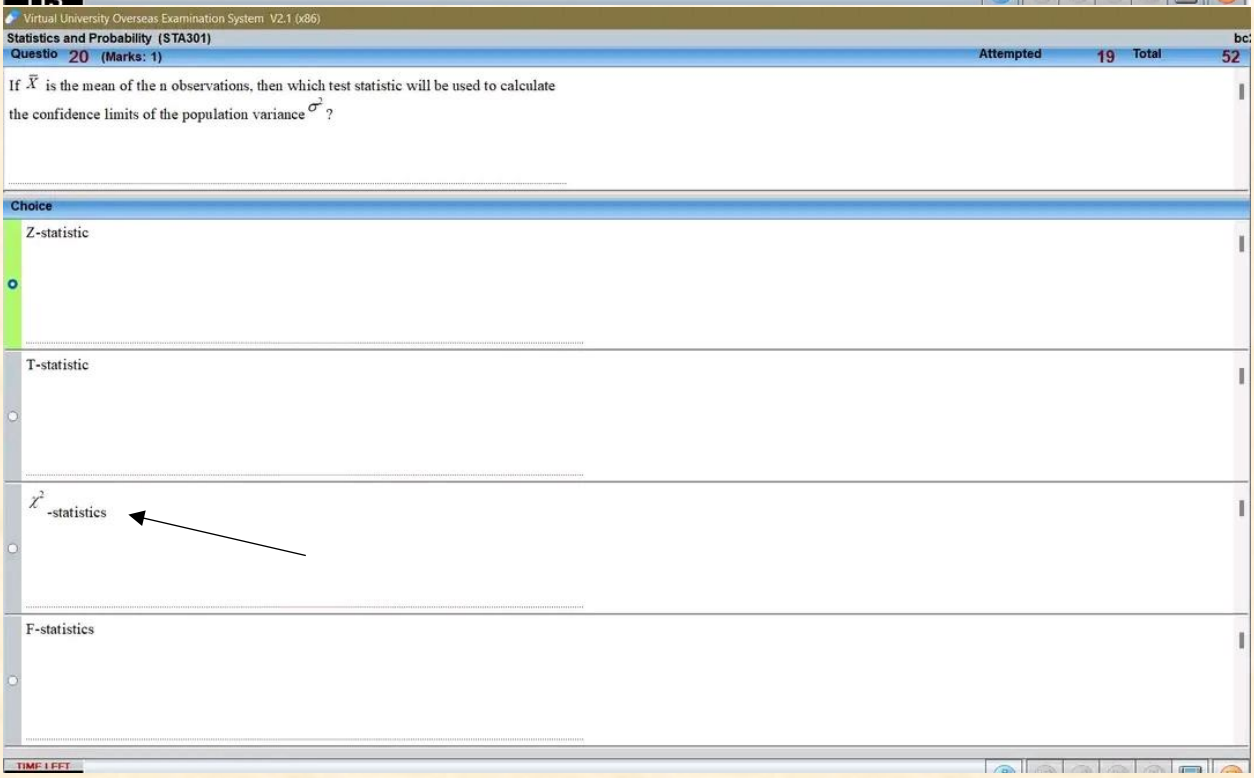

Virtual University Overseas Examination System V2.1 (x86)
Statistics and Probability (STA301)
Questio 15 (Marks: 1)
Attempted 15 Total 52
Which one is the formula for calculating the variance of the t-distribution?
Choice
$\sigma^2 = \sqrt{\frac{v}{v-2}}$
$\sigma^2 = \frac{v^2}{v-2}$
$\sigma^2 = \frac{v}{v-1}$
$\sigma^2 = \frac{v}{v-2}$
TIME LEFT
114

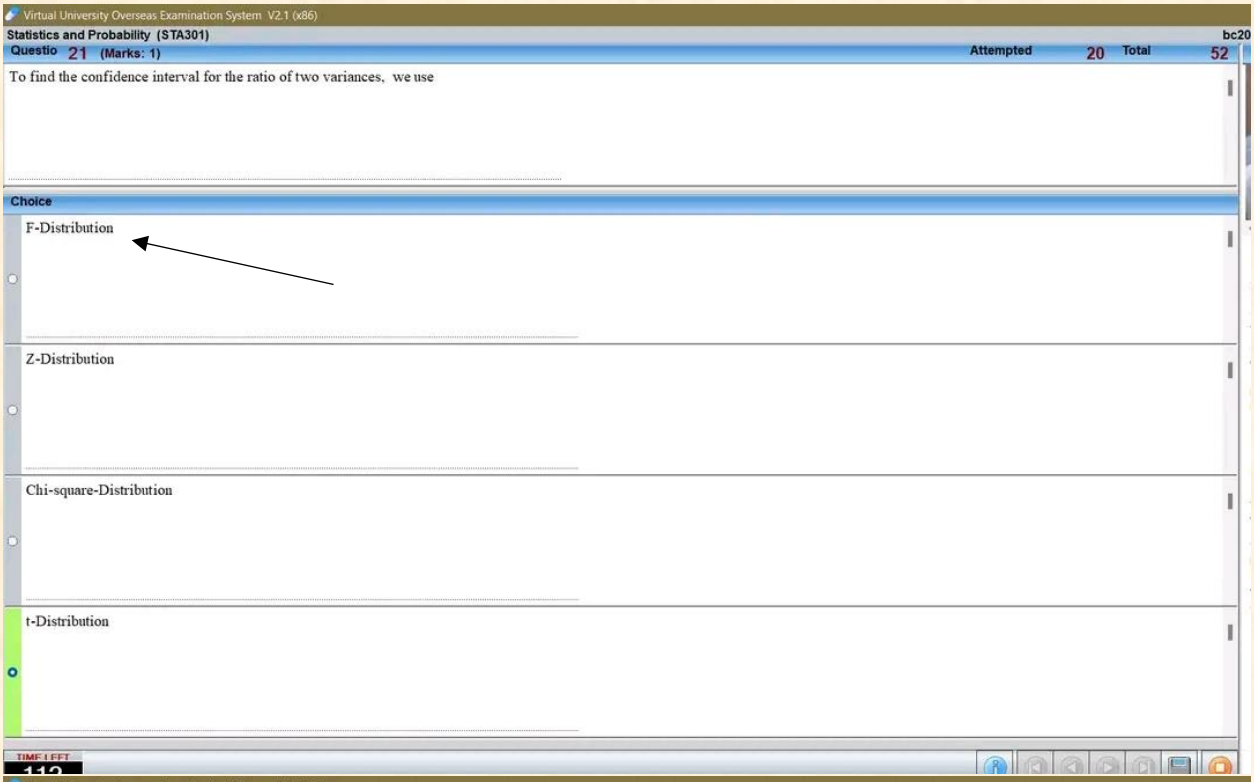

Statistics and Probability (STA301)
Questio 16 (Marks: 1)
Attempted 16 Total 52
For $\alpha = 0.01$, the critical values of z for two tailed test are equal to:
Choice
-2.58 and +2.58
-2.33 and +2.33
-1.645 and +1.645
-1.96 and + 1.96
TIME LEFT

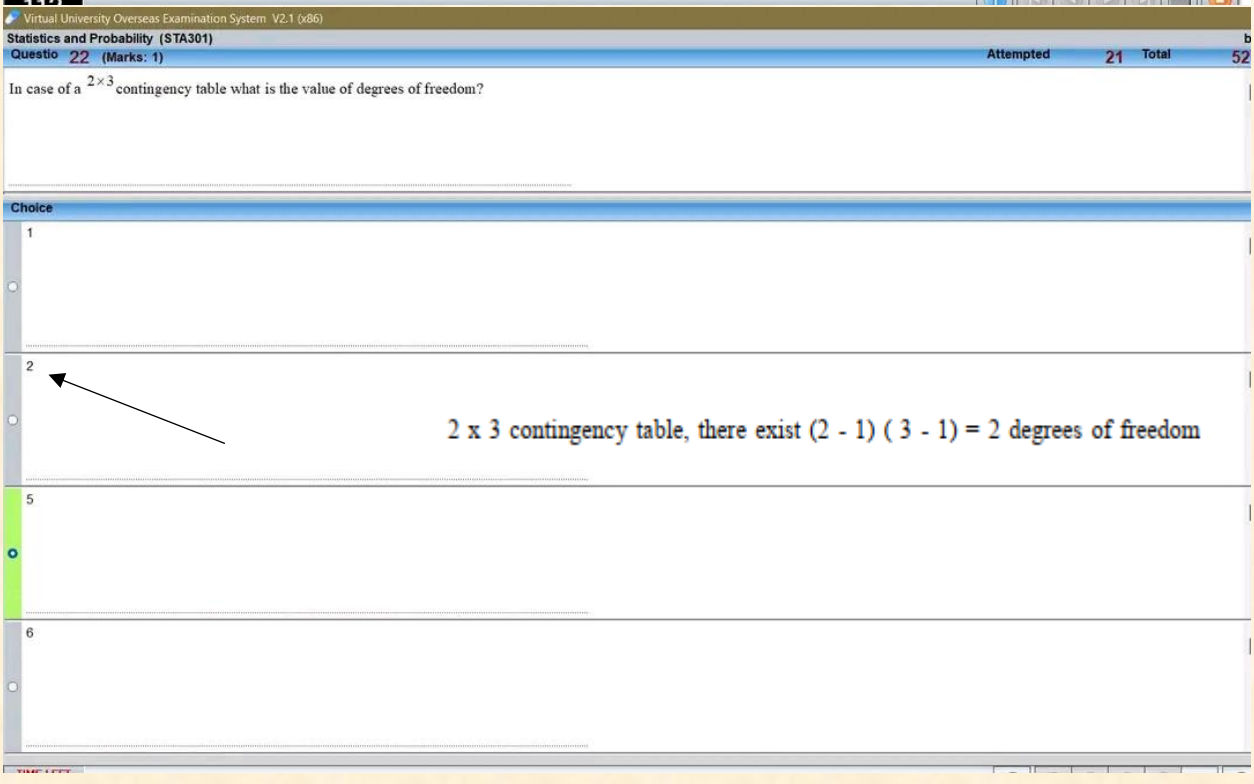

Virtual University Overseas Examination System V2.1 (x86)
Statistics and Probability (STA301)
Question 17 (Marks: 1)
Attempted 16 Total 52
Which one of the formula will be used to find out the confidence interval for μ, when population variance unknown and sample size is large?
Choice
$\bar{x} \pm Z_{\alpha/2} \frac{s}{\sqrt{n}}$
above example pertained to the 95% confidence interval for μ.In general; the lower and upper limits of the confidence interval for μ are given by
$\bar{x} \pm z_{\alpha/2} \frac{s}{\sqrt{n}}$
$\bar{x} \pm t_{\alpha/2,(v)} \frac{s}{\sqrt{n}}$
$\bar{x} \pm t_{\alpha/2,(v)} \frac{\sigma}{\sqrt{n}}$
$\bar{x} \pm Z_{\alpha/2} \frac{s}{\sqrt{n-1}}$
TIME LEFT

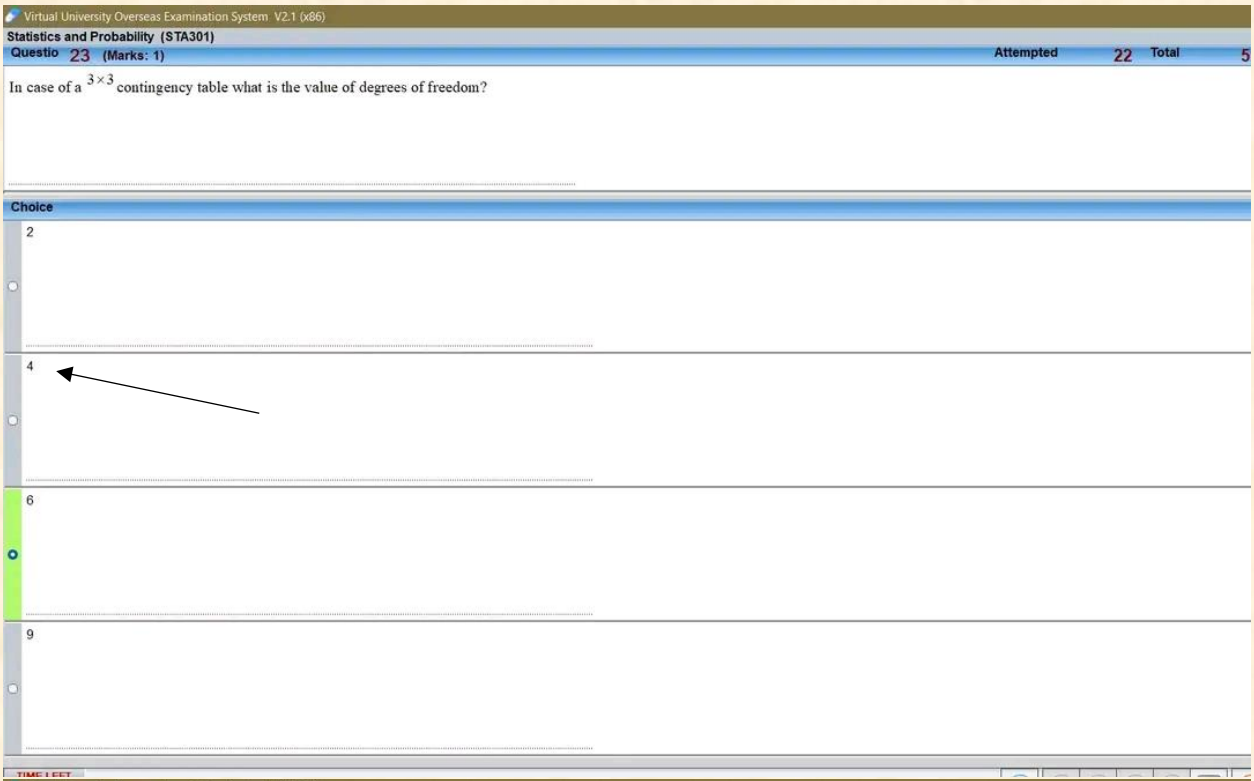

Virtual University Overseas Examination System V2.1 (x86)
Statistics and Probability (STA301)
Question 18 (Marks: 1)
Attempted 18 Total 52
The proportion of males in Pakistan is at least 0.48, the alternative hypothesis H_1 is
Choice
$P \leq 0.48$
$P = 0.48$
$P < 0.48$
$P \geq 0.48$
TIME LEFT
113
Next Question

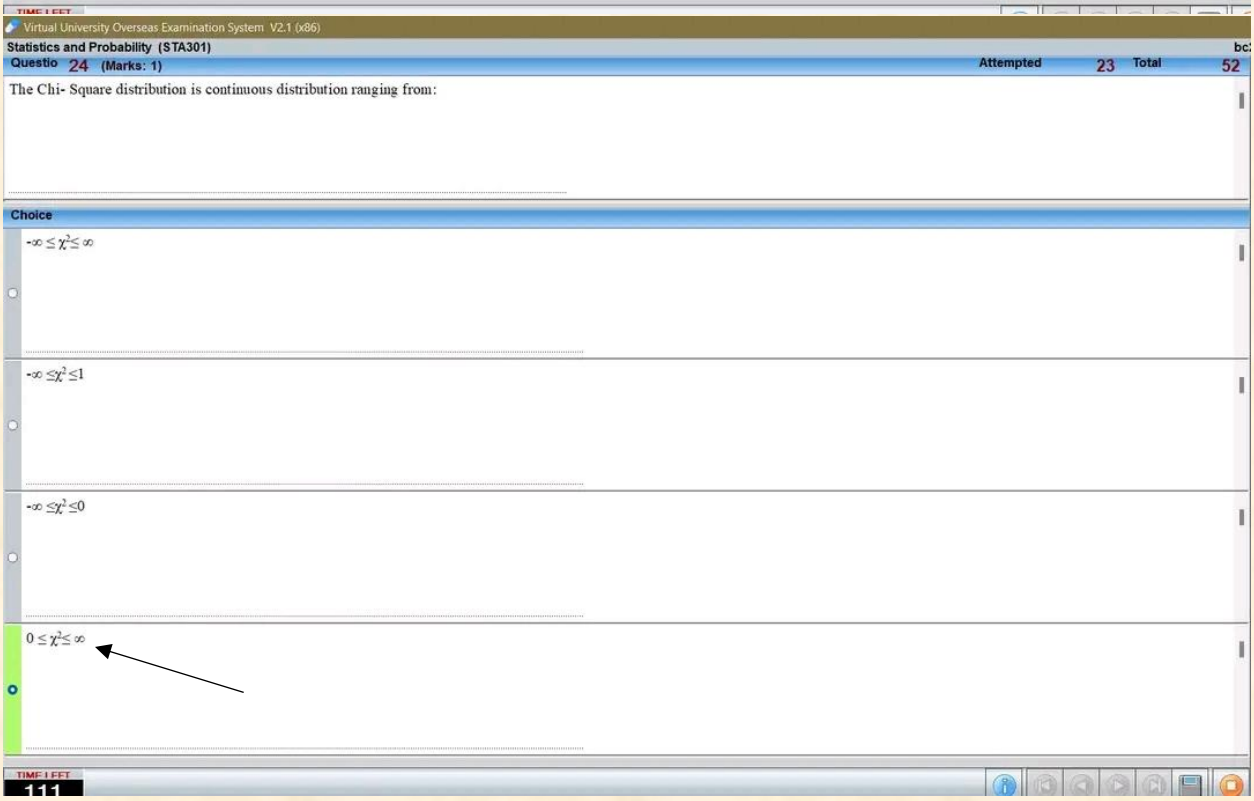

Virtual University Overseas Examination System V2.1 (x86)
Statistics and Probability (STA301)
Questio 19 (Marks: 1)
Attempted 18 Total 52
The proportion of working females in Pakistan is at most 0.30, the alternative hypothesis.
Choice
$P < 0.30$
$P = 0.30$
$P \leq 0.30$
$P > 0.30$
TIME LEFT
113

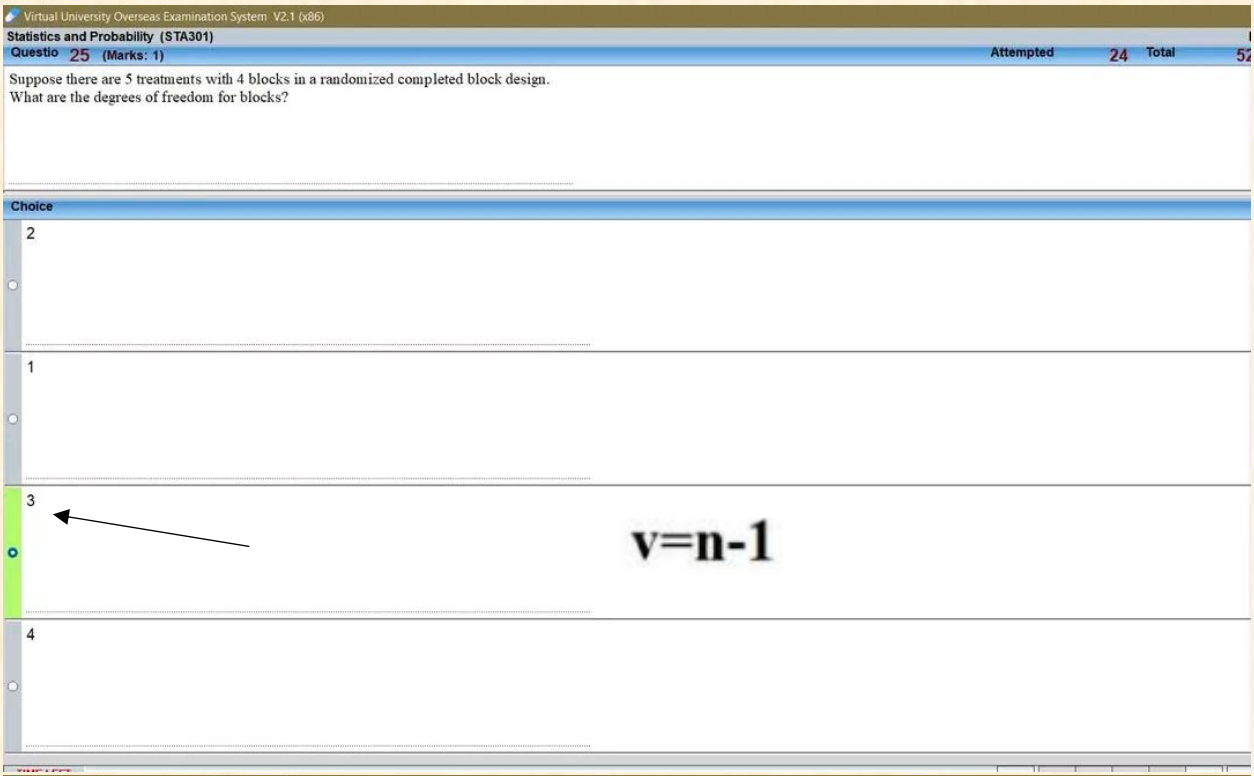

Virtual University Overseas Examination System V2.1 (x86)
Statistics and Probability (STA301)
Questio 20 (Marks: 1)
Attempted 19 Total 52
If $\bar{X}$ is the mean of the n observations, then which test statistic will be used to calculate the confidence limits of the population variance σ^2 ?
Choice
Z-statistic
T-statistic
χ^2 -statistics
F-statistics
TIME LEFT

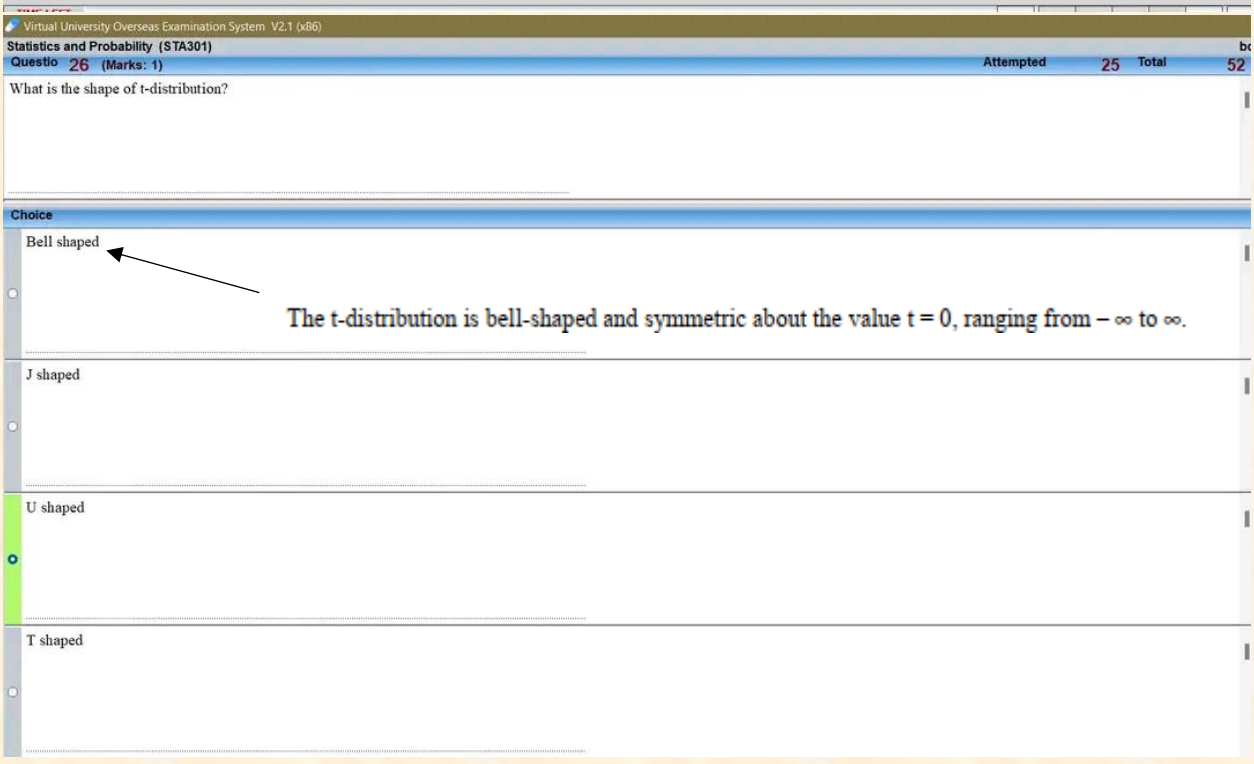

Virtual University Overseas Examination System V2.1 (x86)
Statistics and Probability (STA301)
Questio 21 (Marks: 1)
Attempted 20 Total 52
To find the confidence interval for the ratio of two variances, we use
Choice
F-Distribution
Z-Distribution
Chi-square-Distribution
t-Distribution

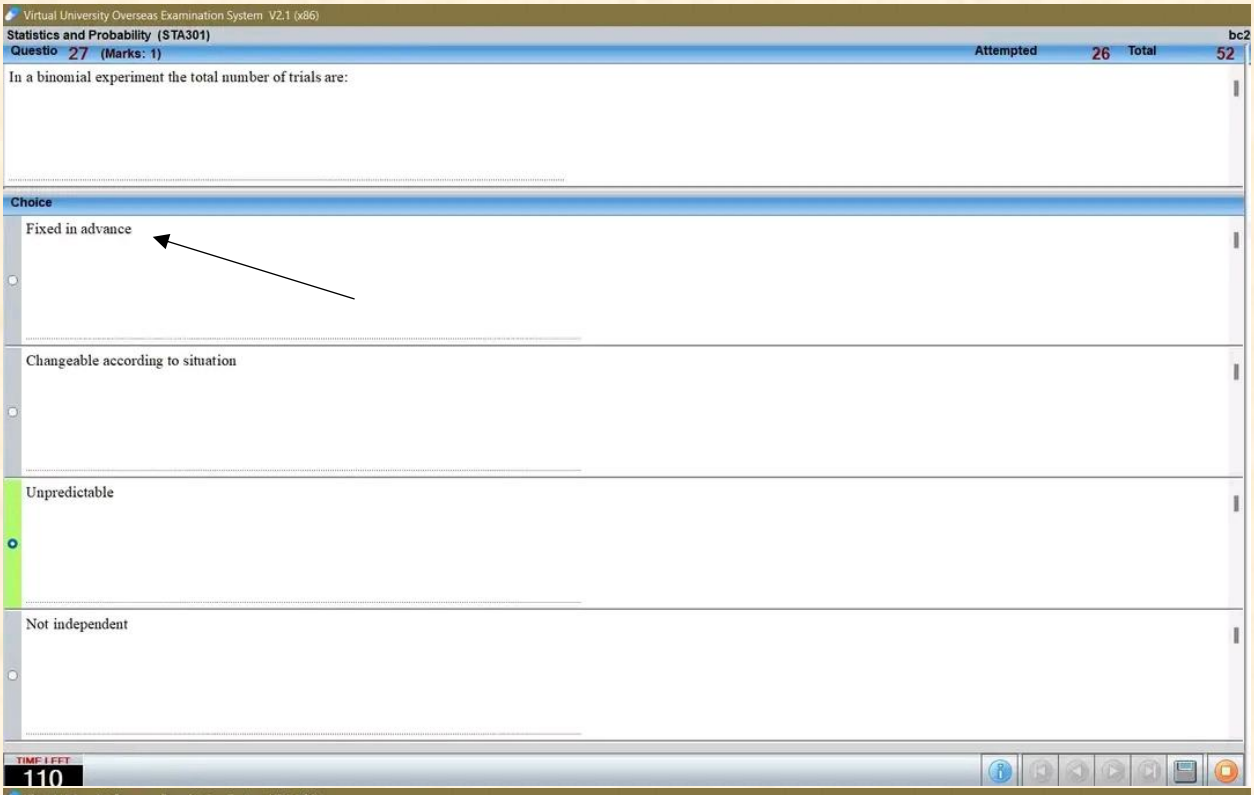

Virtual University Overseas Examination System V2.1 (x86)
Statistics and Probability (STA301)
Questio 22 (Marks: 1)
Attempted 21 Total 52
In case of a 2×3 contingency table what is the value of degrees of freedom?
Choice
1
2
2 x 3 contingency table, there exist (2 - 1) (3 - 1) = 2 degrees of freedom
5
6

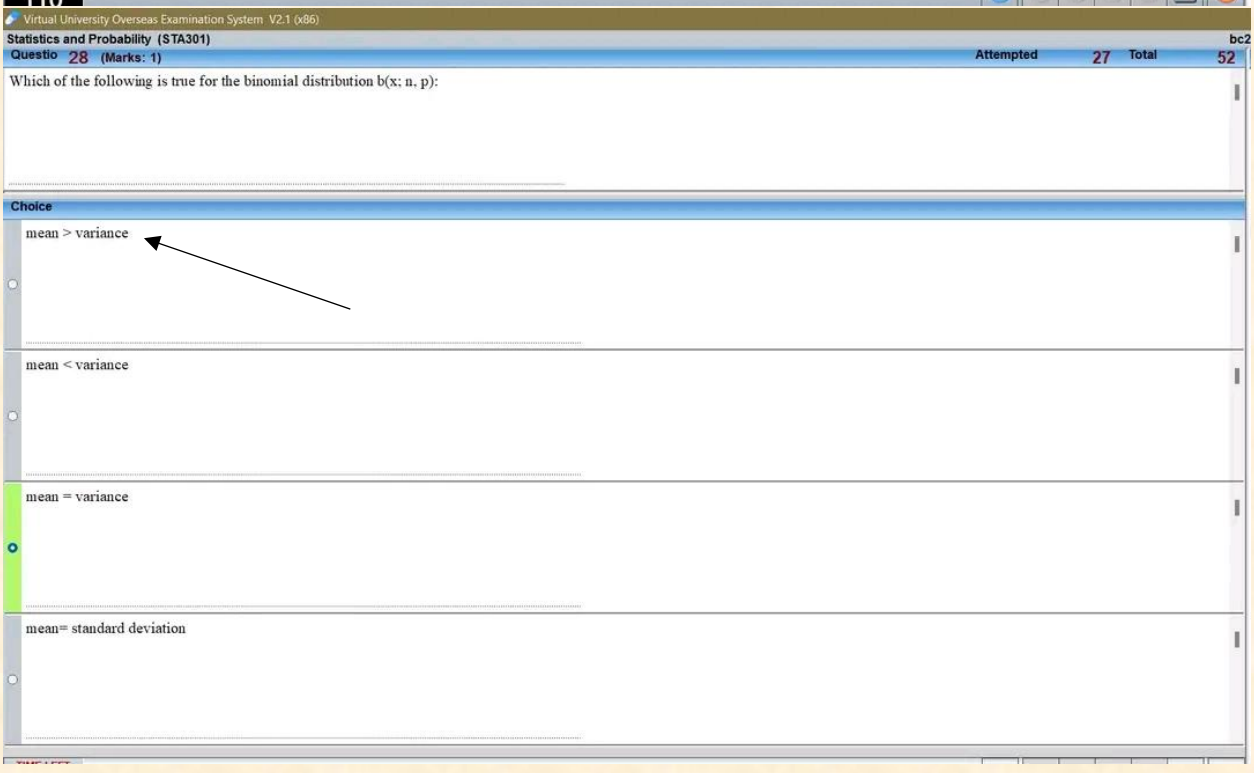

Virtual University Overseas Examination System V2.1 (x86)
Statistics and Probability (STA301)
Questio 23 (Marks: 1)
Attempted 22 Total 5
In case of a 3×3 contingency table what is the value of degrees of freedom?
Choice
2
4
6
9


Virtual University Overseas Examination System V2.1 (x86)
Statistics and Probability (STA301)
Questio 24 (Marks: 1)
Attempted 23 Total 52
The Chi- Square distribution is continuous distribution ranging from:
Choice
$-\infty \leq \chi^2 \leq \infty$
$-\infty \leq \chi^2 \leq 1$
$-\infty \leq \chi^2 \leq 0$
$0 \leq \chi^2 \leq \infty$
TIME LEFT
111


Virtual University Overseas Examination System V2.1 (x86)
Statistics and Probability (STA301)
Questio 25 (Marks: 1)
Attempted 24 Total 52
Suppose there are 5 treatments with 4 blocks in a randomized completed block design.
What are the degrees of freedom for blocks?
Choice
2
1
3
v=n-1
4


Virtual University Overseas Examination System V2.1 (x86)
Statistics and Probability (STA301)
Questio 26 (Marks: 1)
Attempted 25 Total 52
What is the shape of t-distribution?
Choice
Bell shaped
The t-distribution is bell-shaped and symmetric about the value t = 0, ranging from – ∞ to ∞.
J shaped
U shaped
T shaped


Virtual University Overseas Examination System V2.1 (x86)
Statistics and Probability (STA301)
bc2
Questio 27 (Marks: 1)
Attempted 26 Total 52
In a binomial experiment the total number of trials are:
Choice
Fixed in advance
Changeable according to situation
Unpredictable
Not independent
TIME LEFT
110


Virtual University Overseas Examination System V2.1 (x86)
Statistics and Probability (STA301)
bc2
Questio 28 (Marks: 1)
Attempted 27 Total 52
Which of the following is true for the binomial distribution b(x; n, p):
Choice
mean > variance
mean < variance
mean = variance
mean= standard deviation

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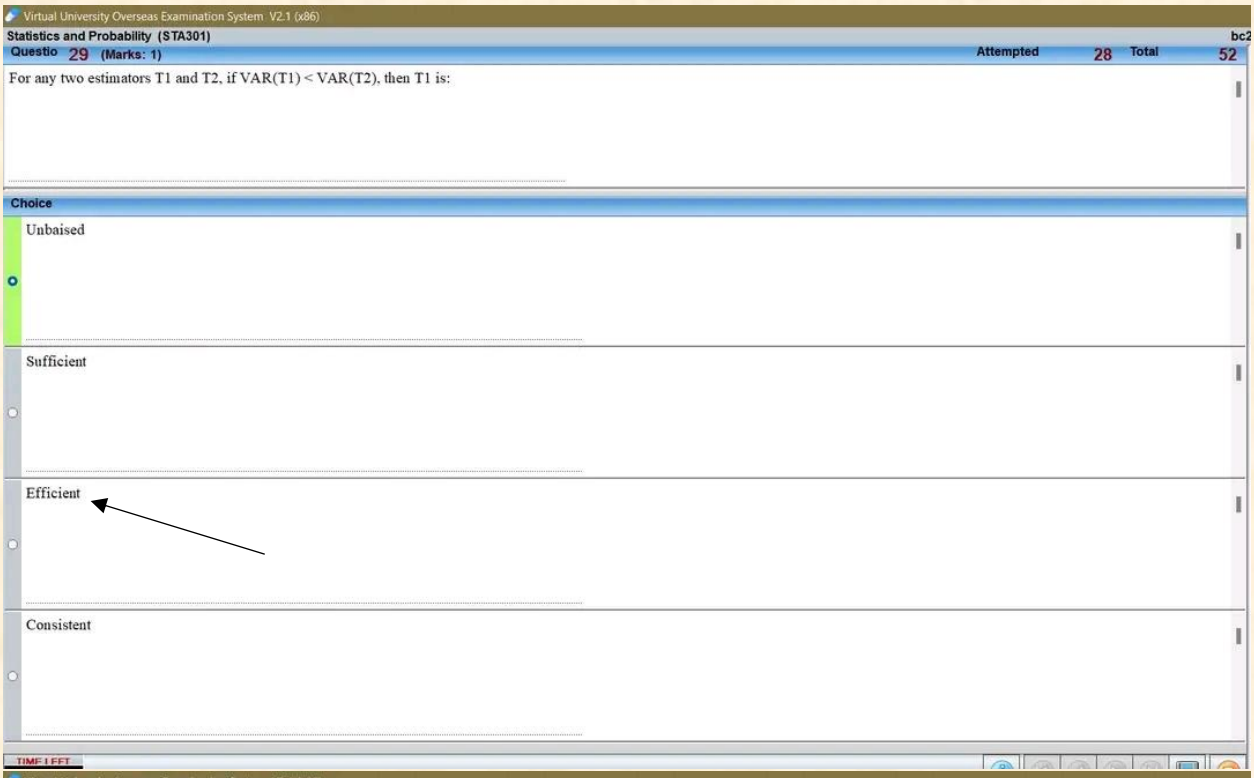
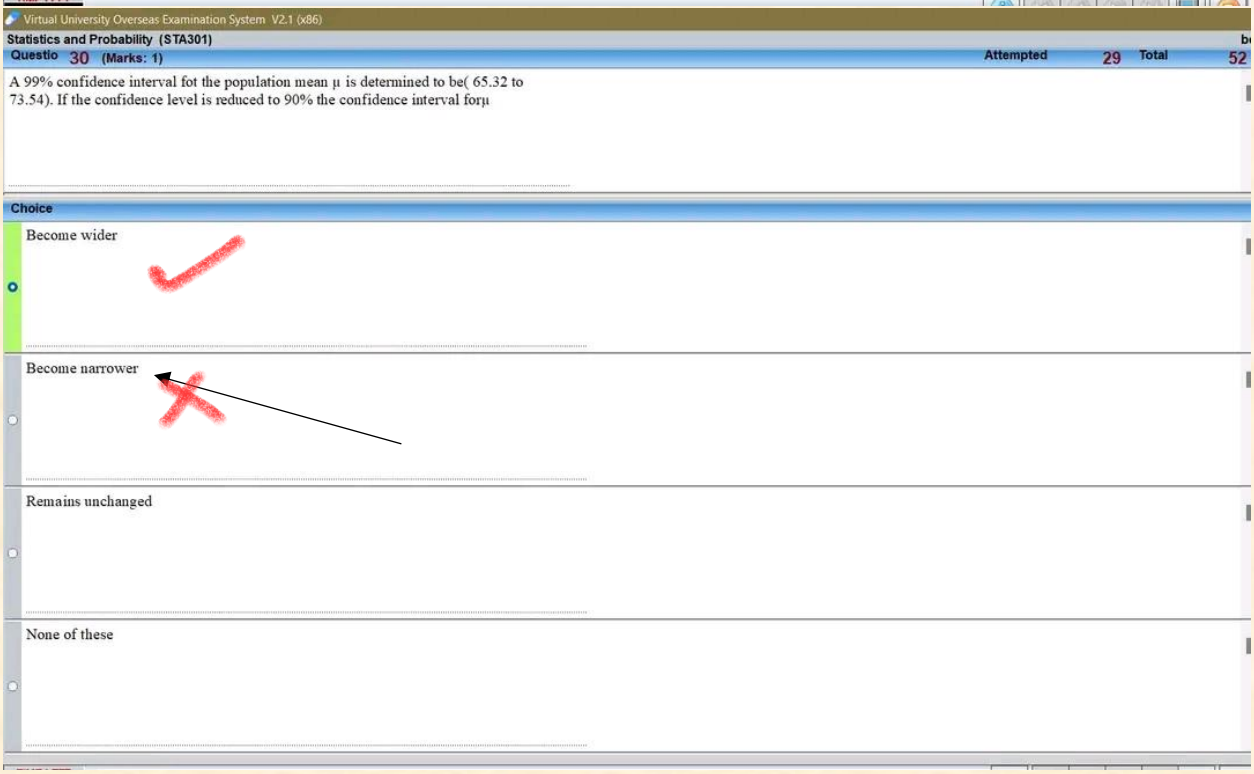
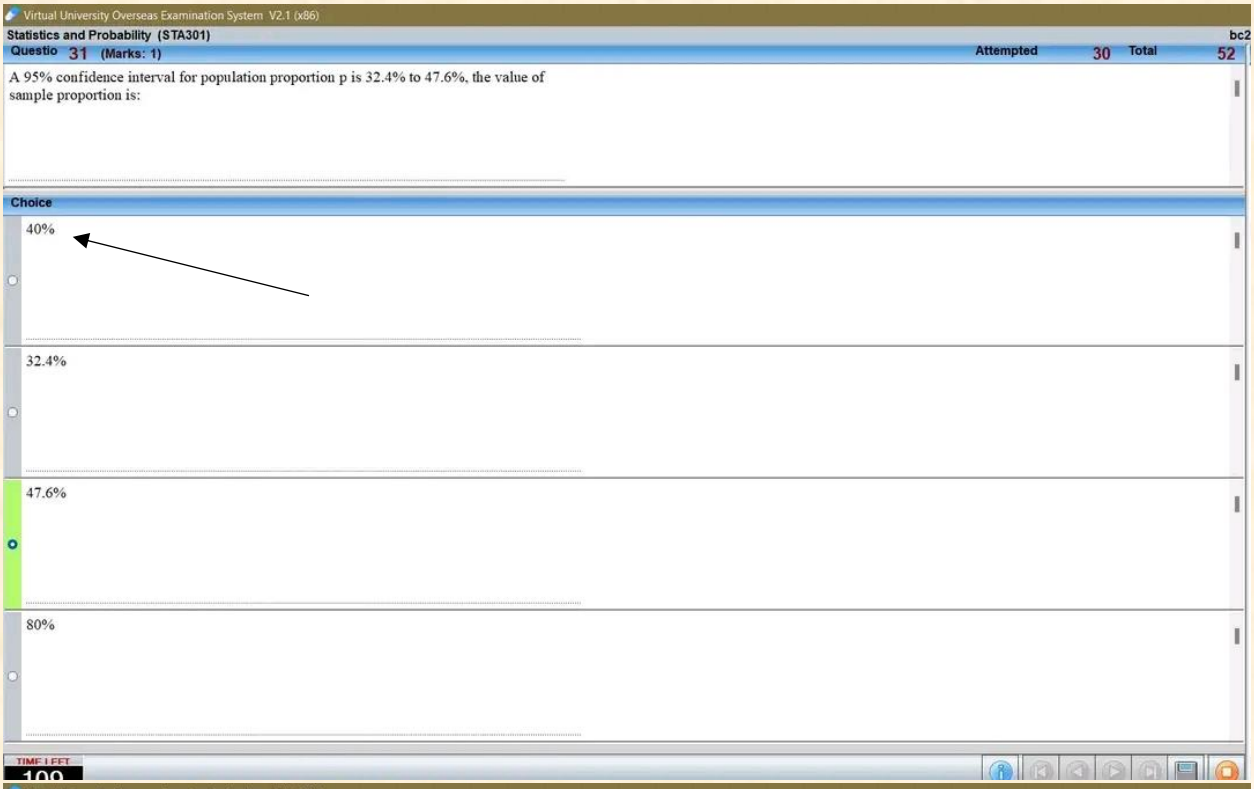
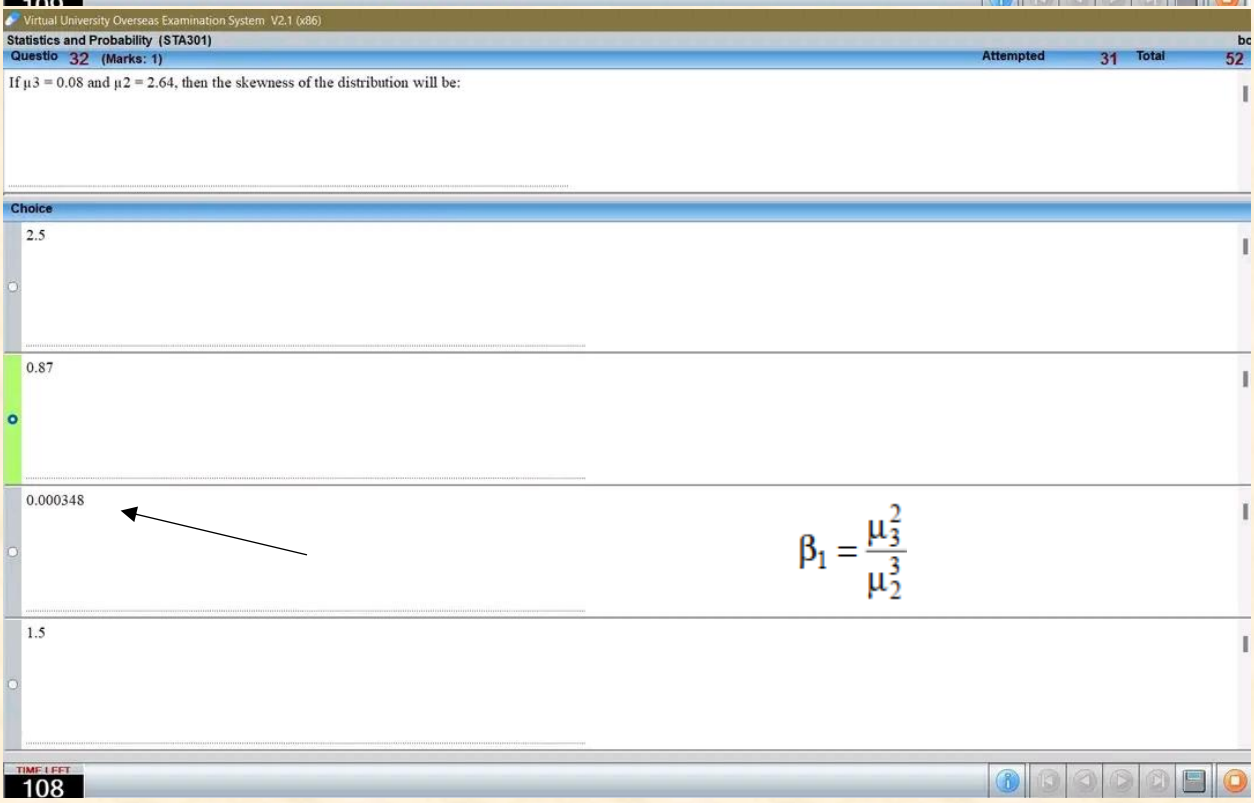


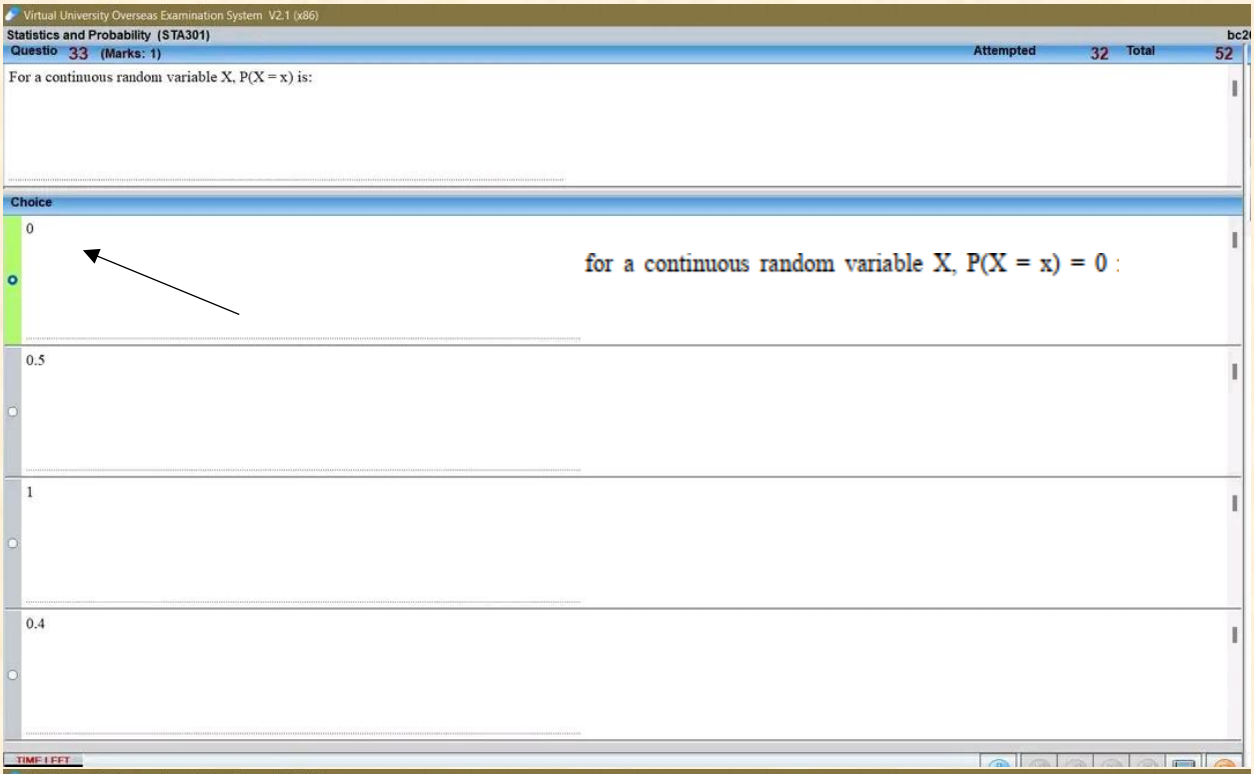


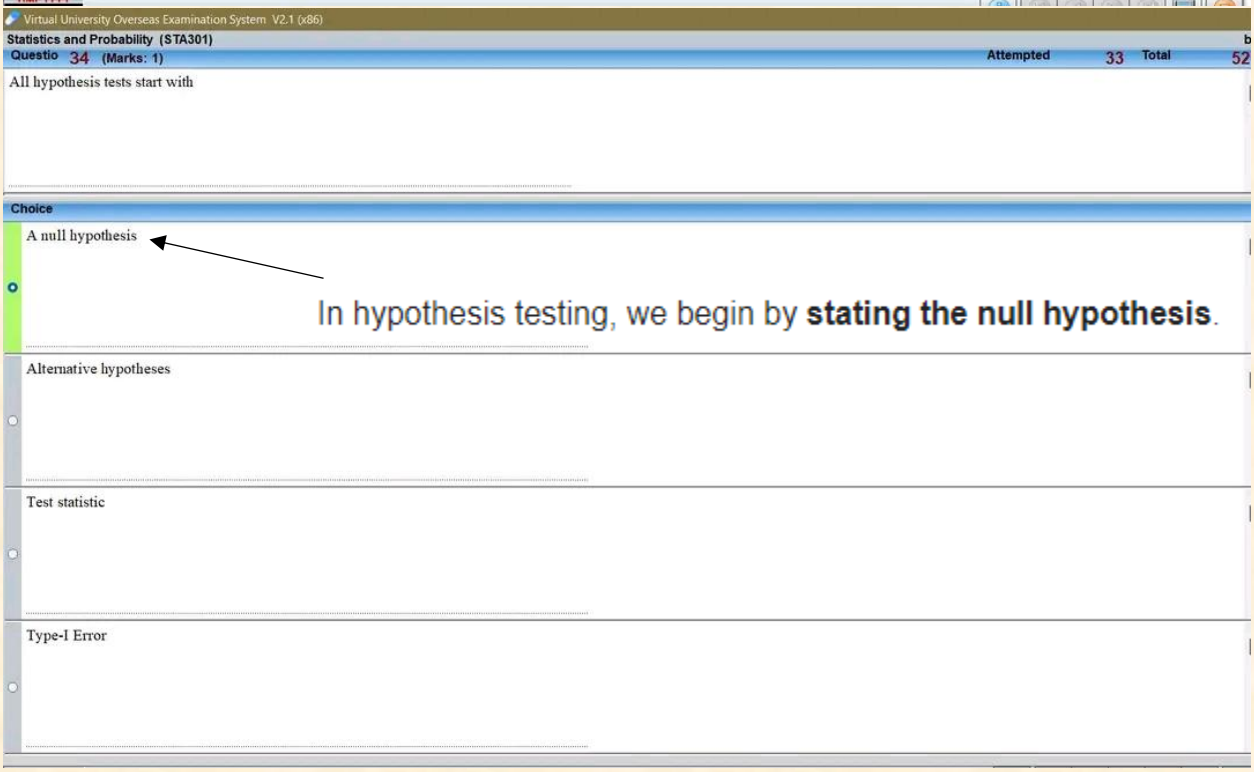
For any query feel free to ask princealvi9222@gmail.com

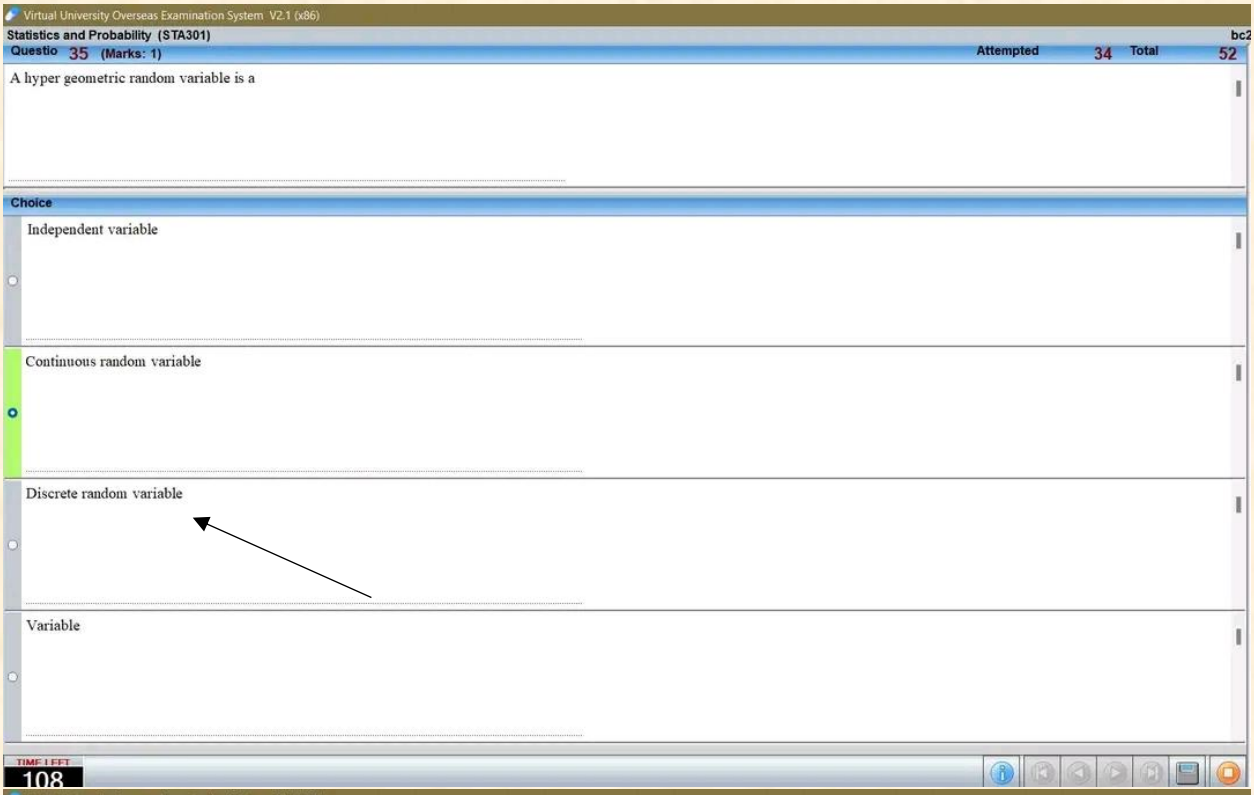


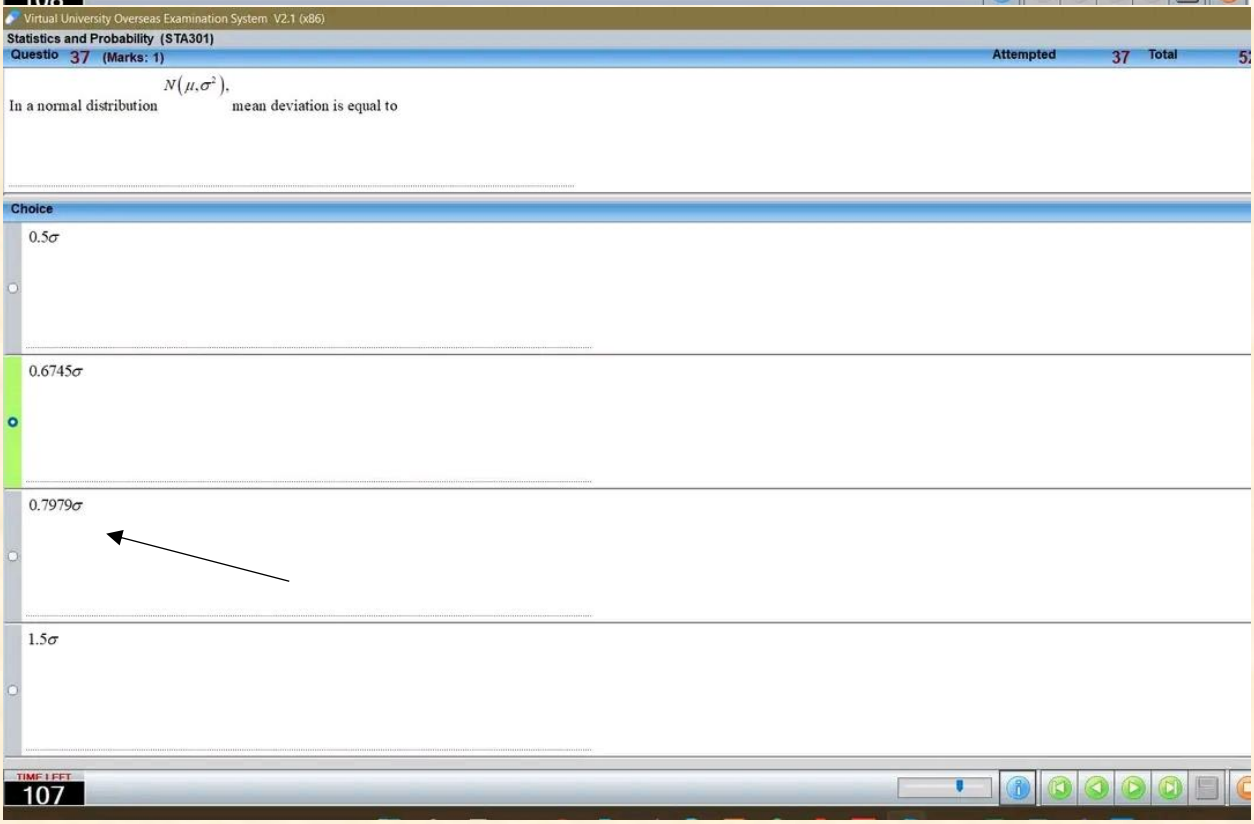


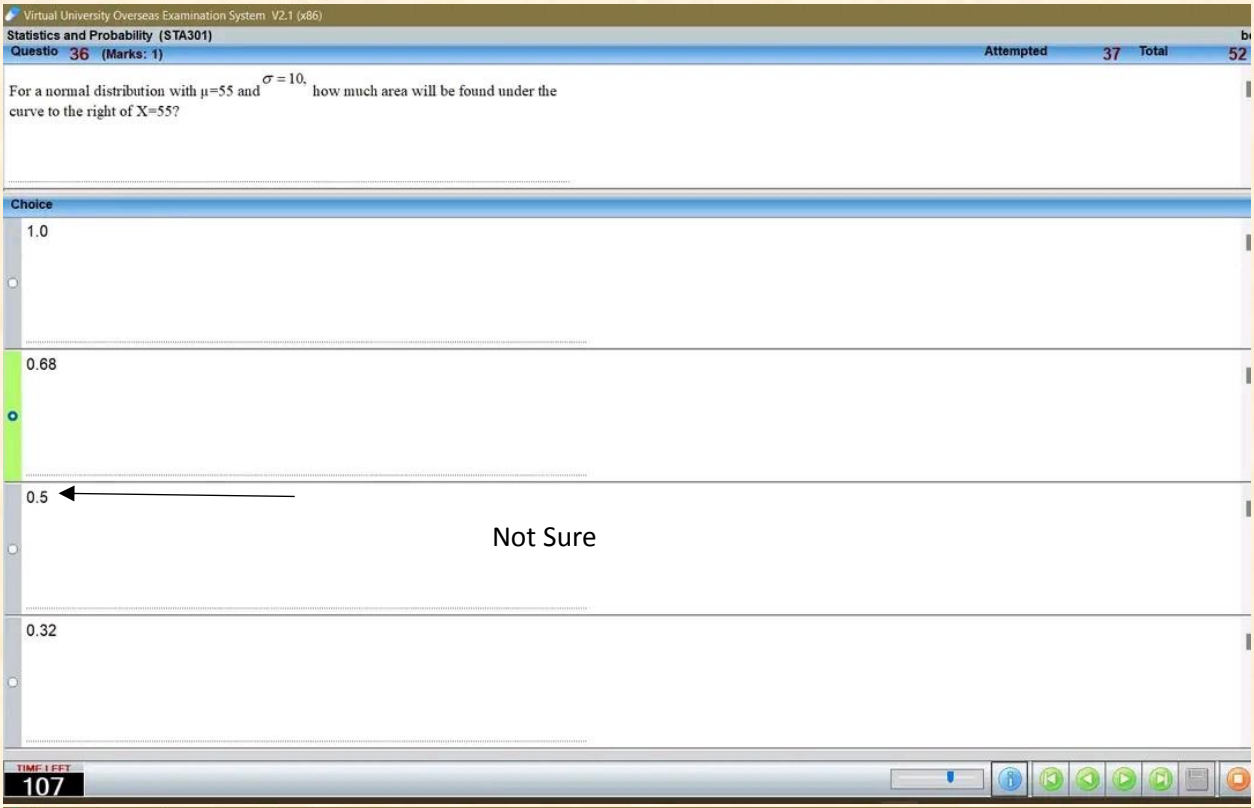
$$\beta_1 = \frac{\mu_3^2}{\mu_2^3}$$


Virtual University Overseas Examination System V2.1 (x86)
Statistics and Probability (STA301)
Questio 33 (Marks: 1)
Attempted 32 Total 52
For a continuous random variable X, P(X = x) is:
Choice
0
for a continuous random variable X, P(X = x) = 0 :
0.5
1
0.4


Virtual University Overseas Examination System V2.1 (x86)
Statistics and Probability (STA301)
Questio 34 (Marks: 1)
Attempted 33 Total 52
All hypothesis tests start with
Choice
A null hypothesis
In hypothesis testing, we begin by stating the null hypothesis.
Alternative hypotheses
Test statistic
Type-I Error


Virtual University Overseas Examination System V2.1 (x86)
Statistics and Probability (STA301)
Questio 35 (Marks: 1)
Attempted 34 Total 52
A hyper geometric random variable is a
Choice
Independent variable
Continuous random variable
Discrete random variable
Variable
TIME LEFT
108


Virtual University Overseas Examination System V2.1 (x86)
Statistics and Probability (STA301)
Questio 37 (Marks: 1)
Attempted 37 Total
In a normal distribution $N(\mu,\sigma^2)$, mean deviation is equal to
Choice
0.5σ
0.6745σ
0.7979σ
1.5σ
TIME LEFT
107


Virtual University Overseas Examination System V2.1 (x86)

Statistics and Probability (STA301)

Question 36 (Marks: 1) Attempted 37 Total 52

For a normal distribution with μ=55 and $\sigma = 10$, how much area will be found under the curve to the right of X=55?

Choice

1.0

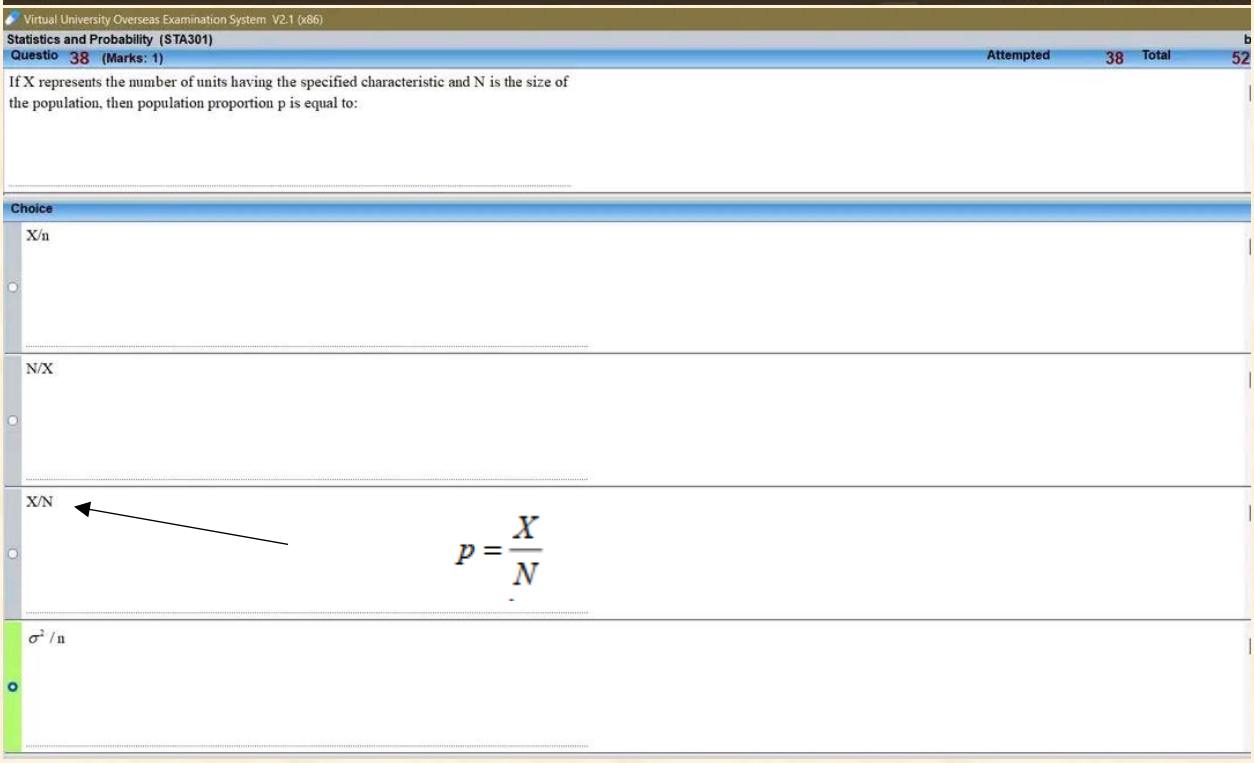
0.68

0.5

Not Sure

0.32

TIME LEFT 107


Virtual University Overseas Examination System V2.1 (x86)

Statistics and Probability (STA301)

Question 38 (Marks: 1) Attempted 38 Total 52

If X represents the number of units having the specified characteristic and N is the size of the population, then population proportion p is equal to:

Choice

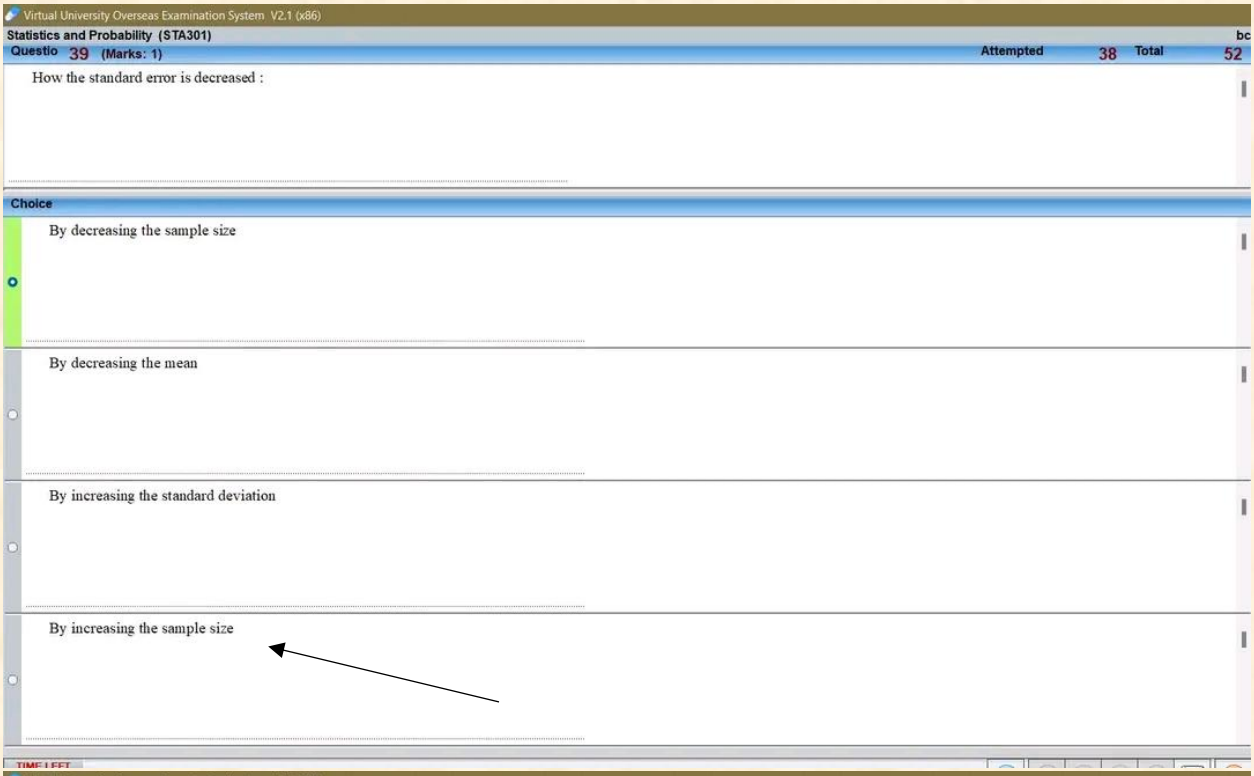
X/n

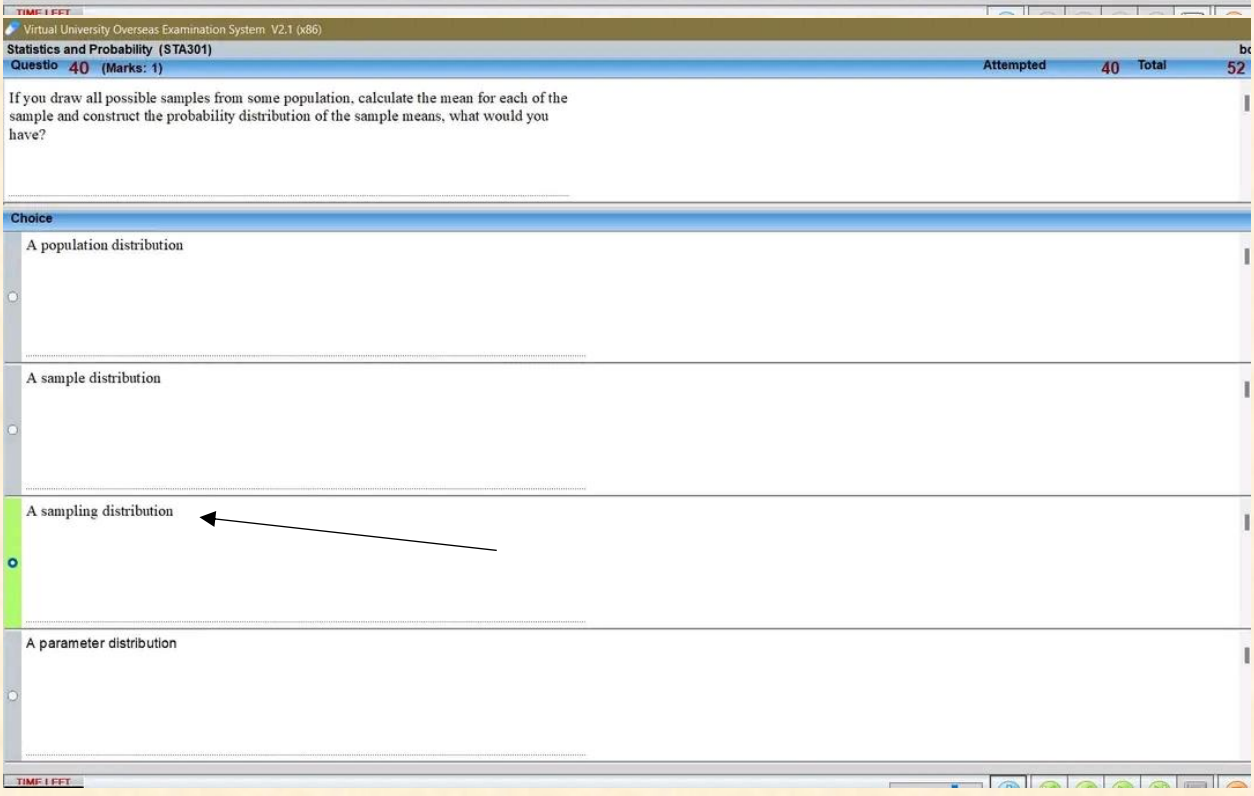
N/X

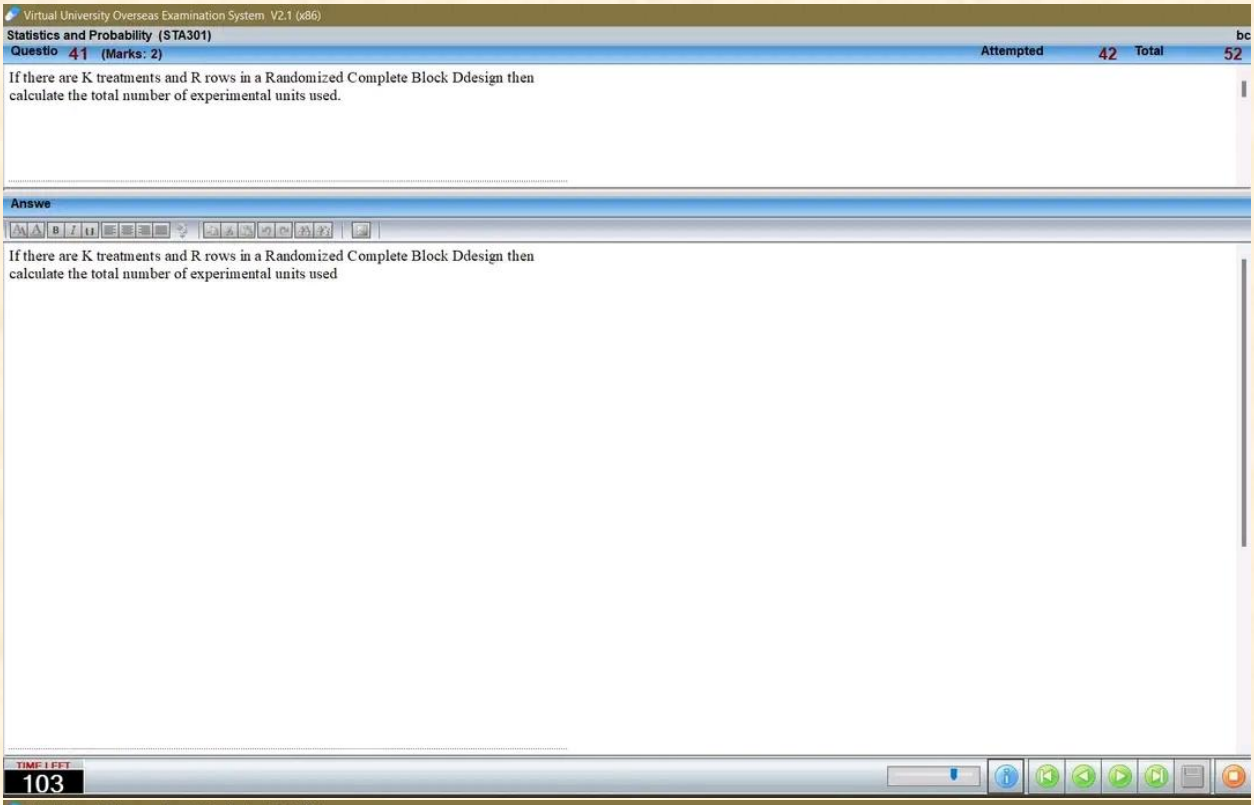
X/N

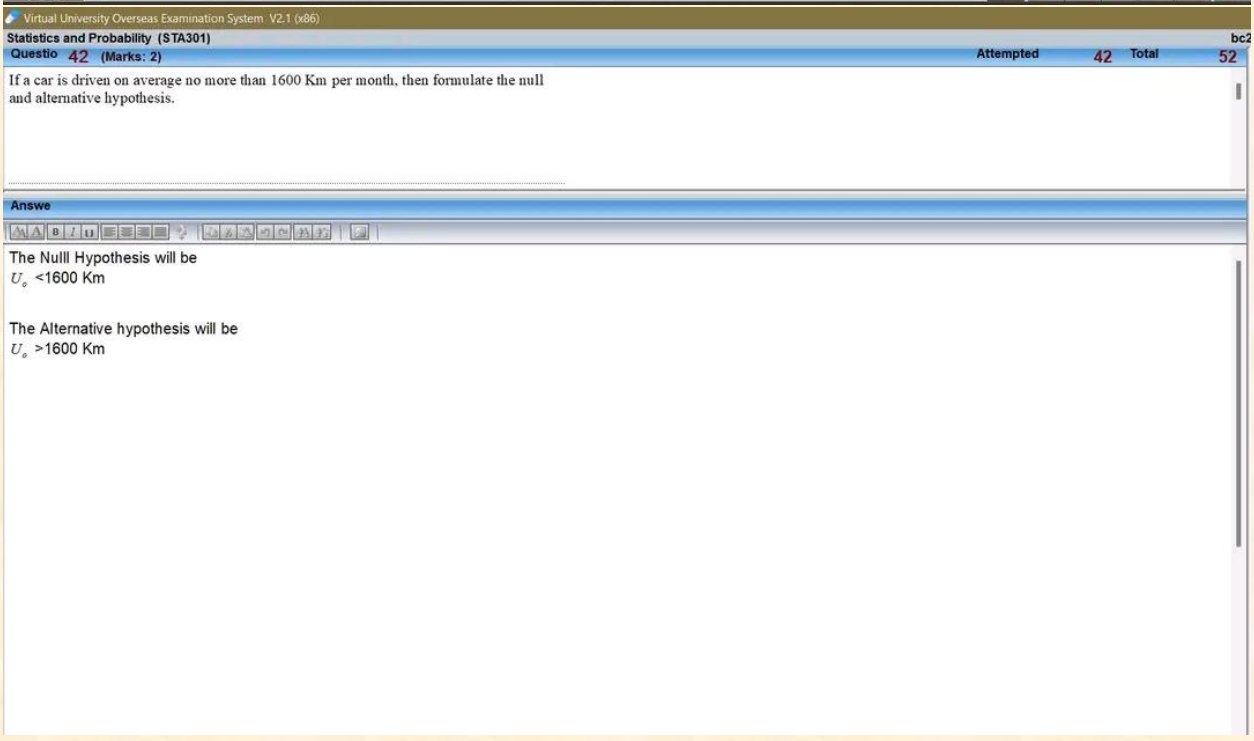
$$p = \frac{X}{N}$$

σ^2 / n


Virtual University Overseas Examination System V2.1 (x86)
Statistics and Probability (STA301)
Questio 39 (Marks: 1)
Attempted 38 Total 52
How the standard error is decreased :
Choice
By decreasing the sample size
By decreasing the mean
By increasing the standard deviation
By increasing the sample size


Virtual University Overseas Examination System V2.1 (x86)
Statistics and Probability (STA301)
Questio 40 (Marks: 1)
Attempted 40 Total 52
If you draw all possible samples from some population, calculate the mean for each of the sample and construct the probability distribution of the sample means, what would you have?
Choice
A population distribution
A sample distribution
A sampling distribution
A parameter distribution


Virtual University Overseas Examination System V2.1 (x86)
Statistics and Probability (STA301)
Questio 41 (Marks: 2)
Attempted 42 Total 52
If there are K treatments and R rows in a Randomized Complete Block Ddesign then calculate the total number of experimental units used.
Answe
If there are K treatments and R rows in a Randomized Complete Block Ddesign then calculate the total number of experimental units used
TIME LEFT
103


Virtual University Overseas Examination System V2.1 (x86)
Statistics and Probability (STA301)
Questio 42 (Marks: 2)
Attempted 42 Total 52
If a car is driven on average no more than 1600 Km per month, then formulate the null and alternative hypothesis.
Answe
The Nulll Hypothesis will be
U_o <1600 Km
The Alternative hypothesis will be
U_o >1600 Km

Virtual University Overseas Examination System V2.1 (x86)

Statistics and Probability (STA301)

Questio 43 (Marks: 2) Attempted 42 Total 52

From the following joint probability distribution, find h(1).

x / y	2	4	h(y)
1	0.10	0.15	

Answe

From the following joint probability distribution, find h(1).

x / y	2	4	h(y)
1	0.10	0.15	1.25
3	0.20	0.30	3.5
5	0.10	0.15	5.25
g(x)	0.4	0.6	10

h(1) for the above table is
h(1) = 1+0.10+0.15
h(1=1.25 Ans

Virtual University Overseas Examination System V2.1 (x86)

Statistics and Probability (STA301)

Questio 44 (Marks: 2) Attempted 46 Total 52

What are the mean and variance of binomial distribution?

Answe

Mean of the Binomial distribution is given by

$E(X)$ which is given by the sum of values which are the result of multiplication of x with $\int x$

whereas variance is given by

Vac =

Virtual University Overseas Examination System V2.1 (x86)

Statistics and Probability (STA301)

Questio 45 (Marks: 3) Attempted 46 Total 52

Construct 95% confidence interval for the difference in means $\mu_1 - \mu_2$ in case of paired observations, where

$\bar{d} = -4.8$, $s_d = 1.32$, $t_{0.025(24)} = 2.0639$

Answe

Construct 95% confidence interval for the difference in means $\mu_1 - \mu_2$ in case of paired observations, where

$\bar{d} = -4.8$, $s_d = 1.32$, $t_{0.025(24)} = 2.0639$

For the above observations the confidence interval will be

Virtual University Overseas Examination System V2.1 (x86)

Statistics and Probability (STA301)

Questio 46 (Marks: 3) Attempted 46 Total 52

Let T_1 and T_2 are two unbiased estimators. The variances of both estimators are given below:

$V(T_1) = \frac{11\sigma^2}{9}$ *and* $V(T_2) = \frac{13\sigma^2}{9}$

Answe

Let T_1 and T_2 are two unbiased estimators. The variances of both estimators are given below:

$V(T_1) = \frac{11\sigma^2}{9}$ *and* $V(T_2) = \frac{13\sigma^2}{9}$

For final estimation, we want to use an *efficient* estimator. Between the two, which estimator is more efficient and why?

The first estimator is more efficent as it will give us less varainces then the second one as it is using a multiplication factor of 13

Virtual University Overseas Examination System V2.1 (x86)

Statistics and Probability (STA301)

Questio 52 (Marks: 5) Attempted 52 Total 52

find n and q.

b) The incident of occupational disease is such that the workers have 30 percent (P =30/100) chance of suffering from 6 workers. Find P (X=4).

Answe

$$P(X = x) = C_x^5 \left(\frac{3}{11}\right)^x \left(\frac{4}{11}\right)^{n-x}$$

a) From the given binomial probability distribution , find n and q.

b) The incident of occupational disease is such that the workers have 30 percent P =30/100) chance of suffering from 6 workers. Find P (X=4).

Virtual University Overseas Examination System V2.1 (x86)

Statistics and Probability (STA301)

Questio 51 (Marks: 5) Attempted 52 Total 5

Let x and y are two independent r.v.'s with joint pdf.

$$f(x,y) = \frac{x(1+3y^2)}{4}, \quad 0 < x < 2, 0 < y < 1$$

$= 0$, elsewhere.

Answe

Let x and y are two independent r.v.'s with joint pdf.

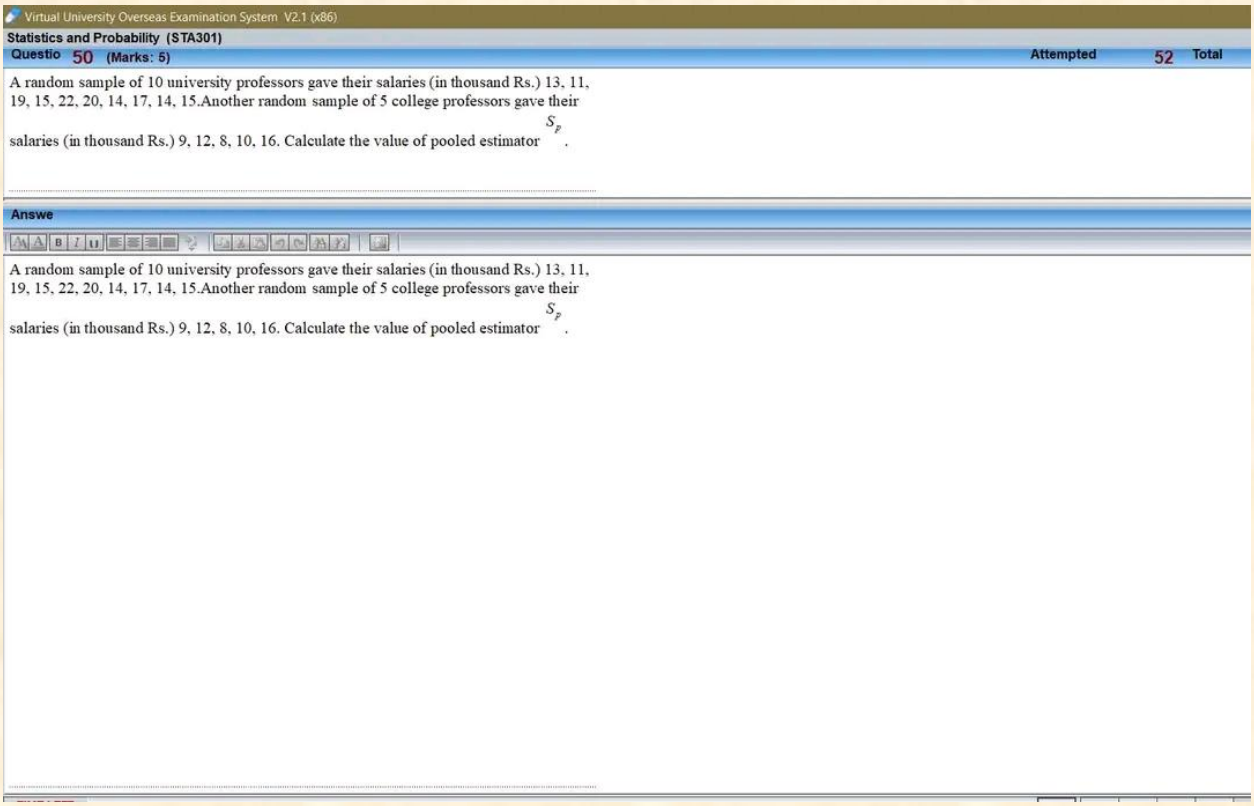
$$f(x,y) = \frac{x(1+3y^2)}{4}, \quad 0 < x < 2, 0 < y < 1$$

$= 0$, elsewhere.

a. Show that marginal pdf of X is

$g(x) = \frac{x}{2}$; for $0 < x < 2$

b. Also calculate $E(X)$.


Virtual University Overseas Examination System V2.1 (x86)

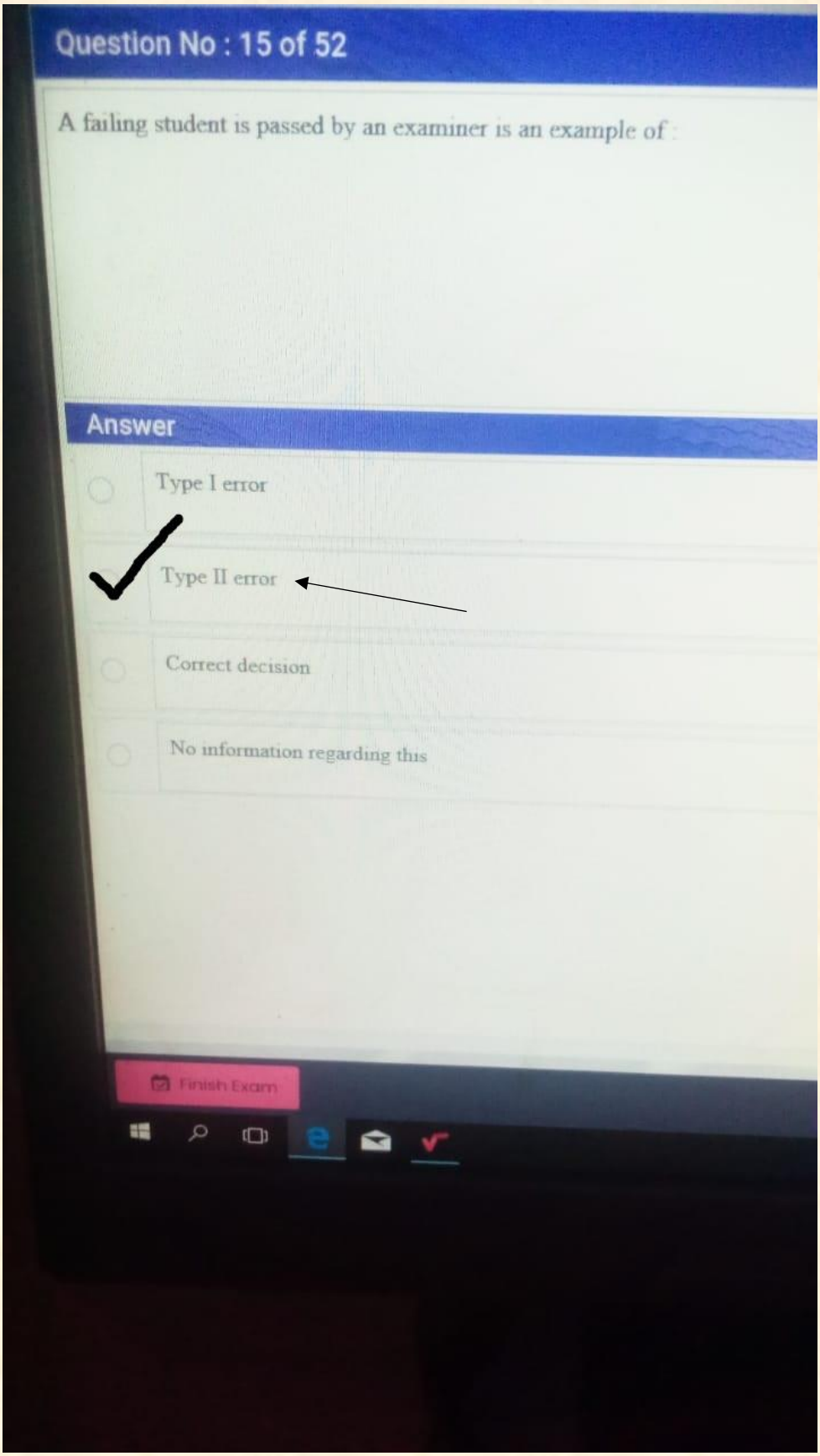
Statistics and Probability (STA301)

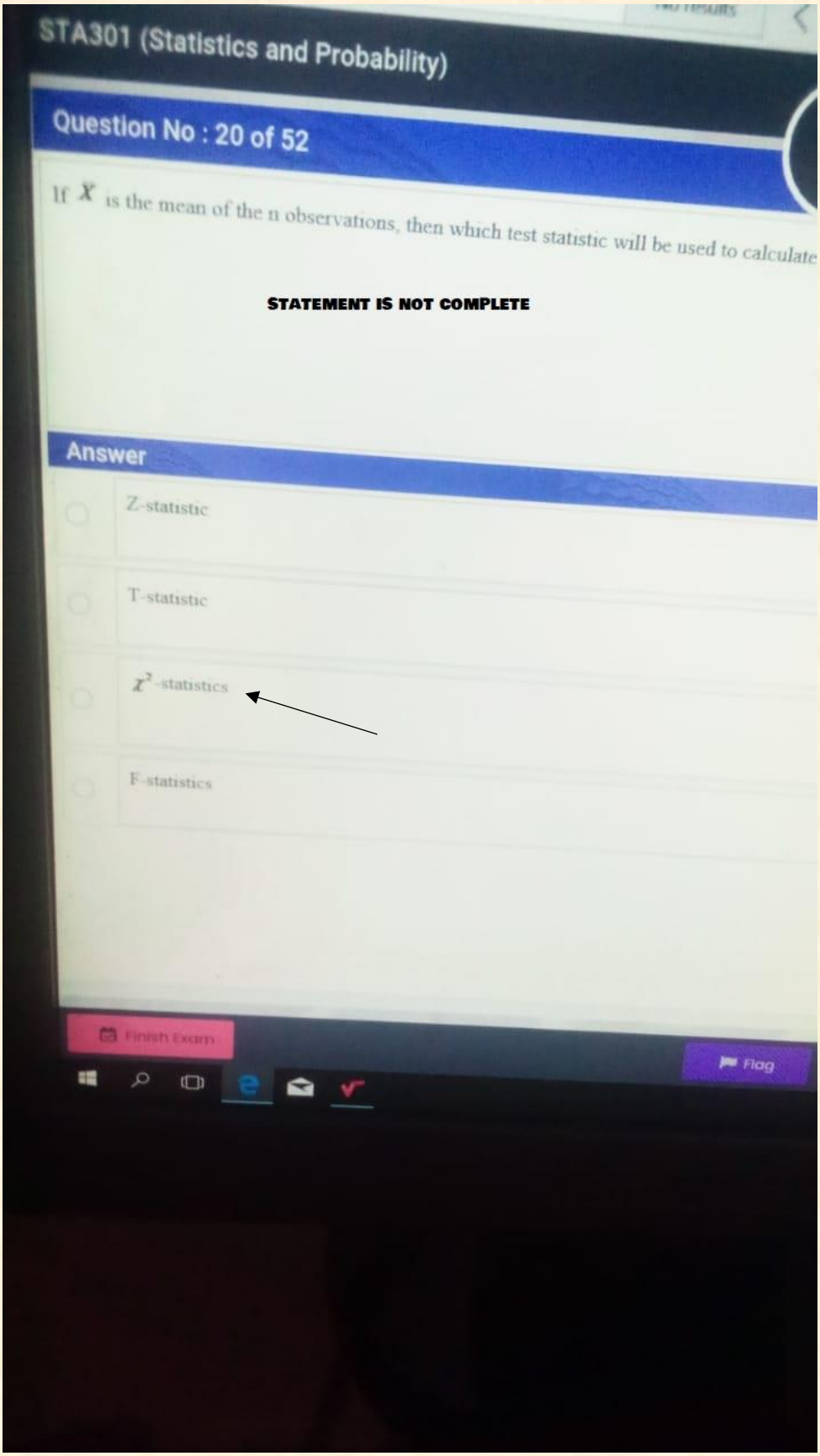
Questio 50 (Marks: 5) Attempted 52 Total

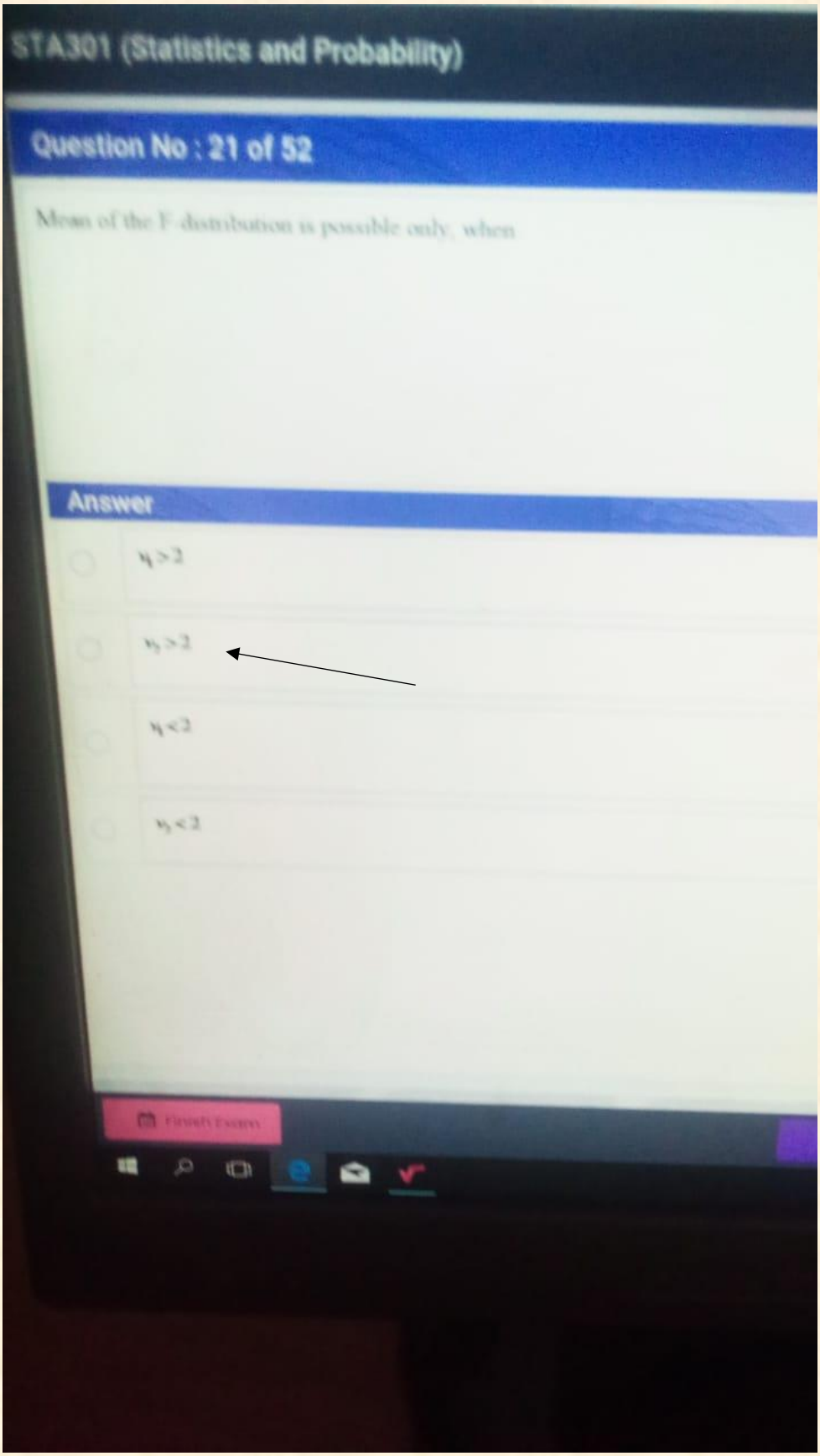
A random sample of 10 university professors gave their salaries (in thousand Rs.) 13, 11, 19, 15, 22, 20, 14, 17, 14, 15.Another random sample of 5 college professors gave their salaries (in thousand Rs.) 9, 12, 8, 10, 16. Calculate the value of pooled estimator S_p.

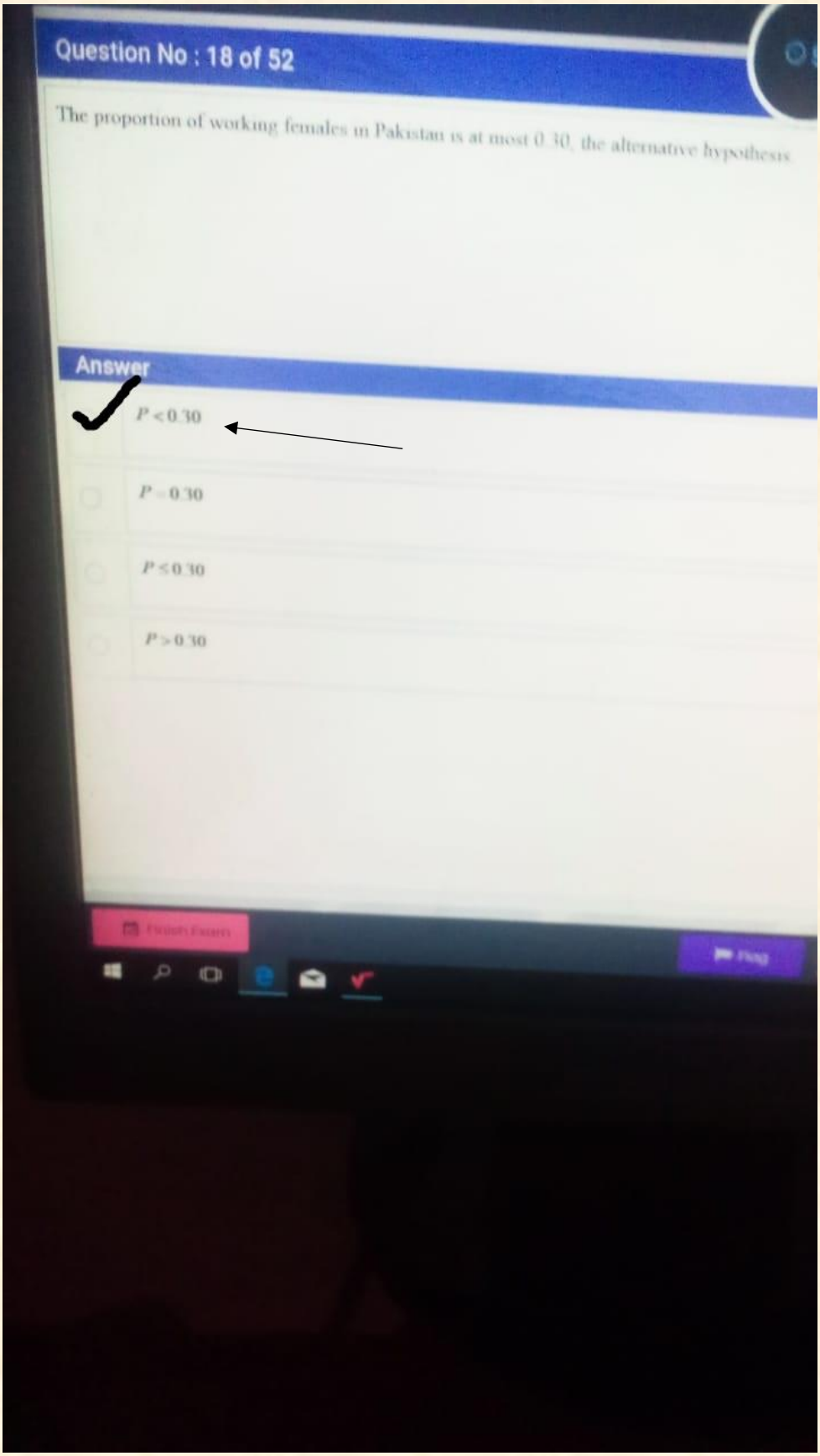
Answe

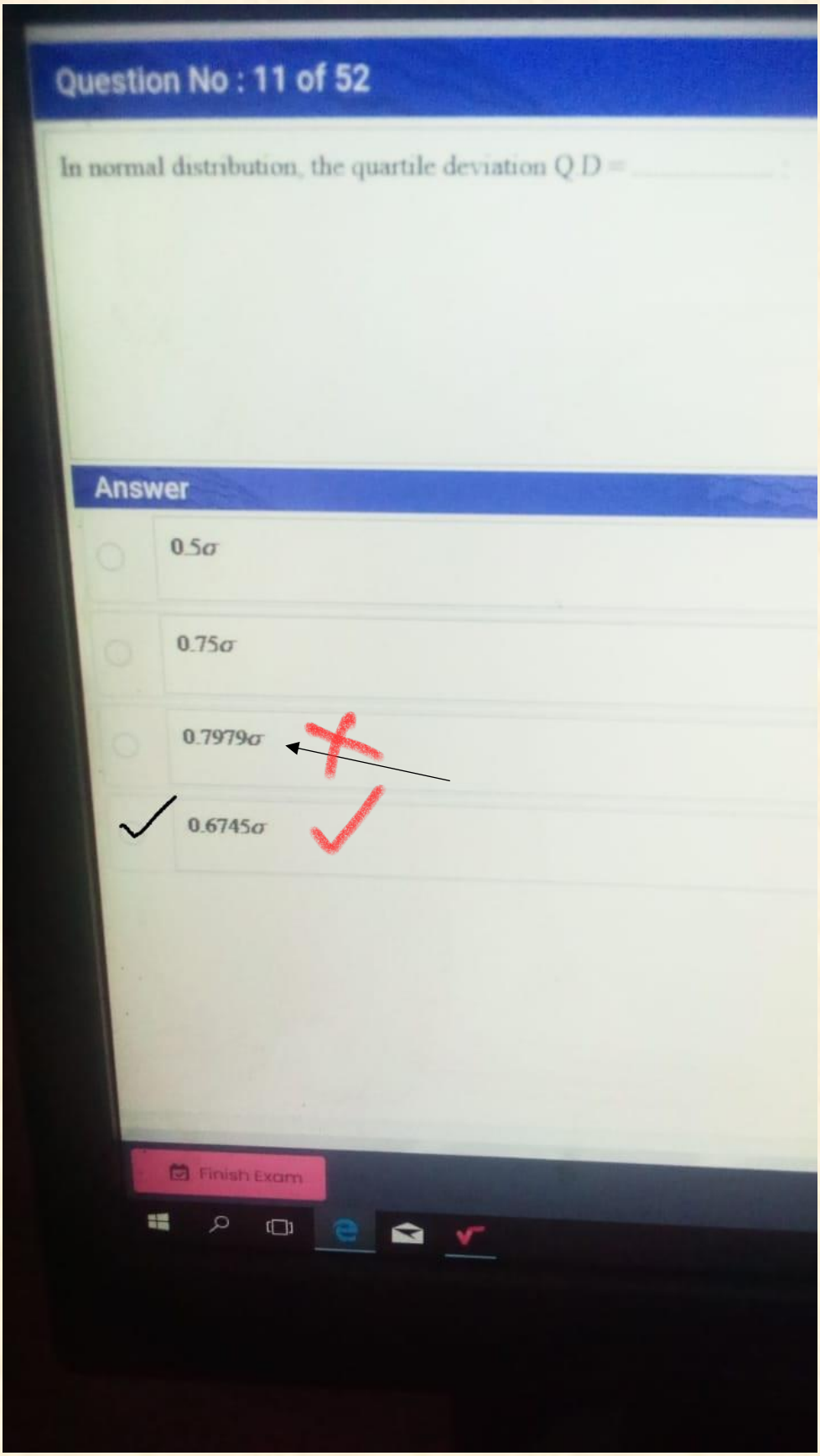
A random sample of 10 university professors gave their salaries (in thousand Rs.) 13, 11, 19, 15, 22, 20, 14, 17, 14, 15.Another random sample of 5 college professors gave their salaries (in thousand Rs.) 9, 12, 8, 10, 16. Calculate the value of pooled estimator S_p.

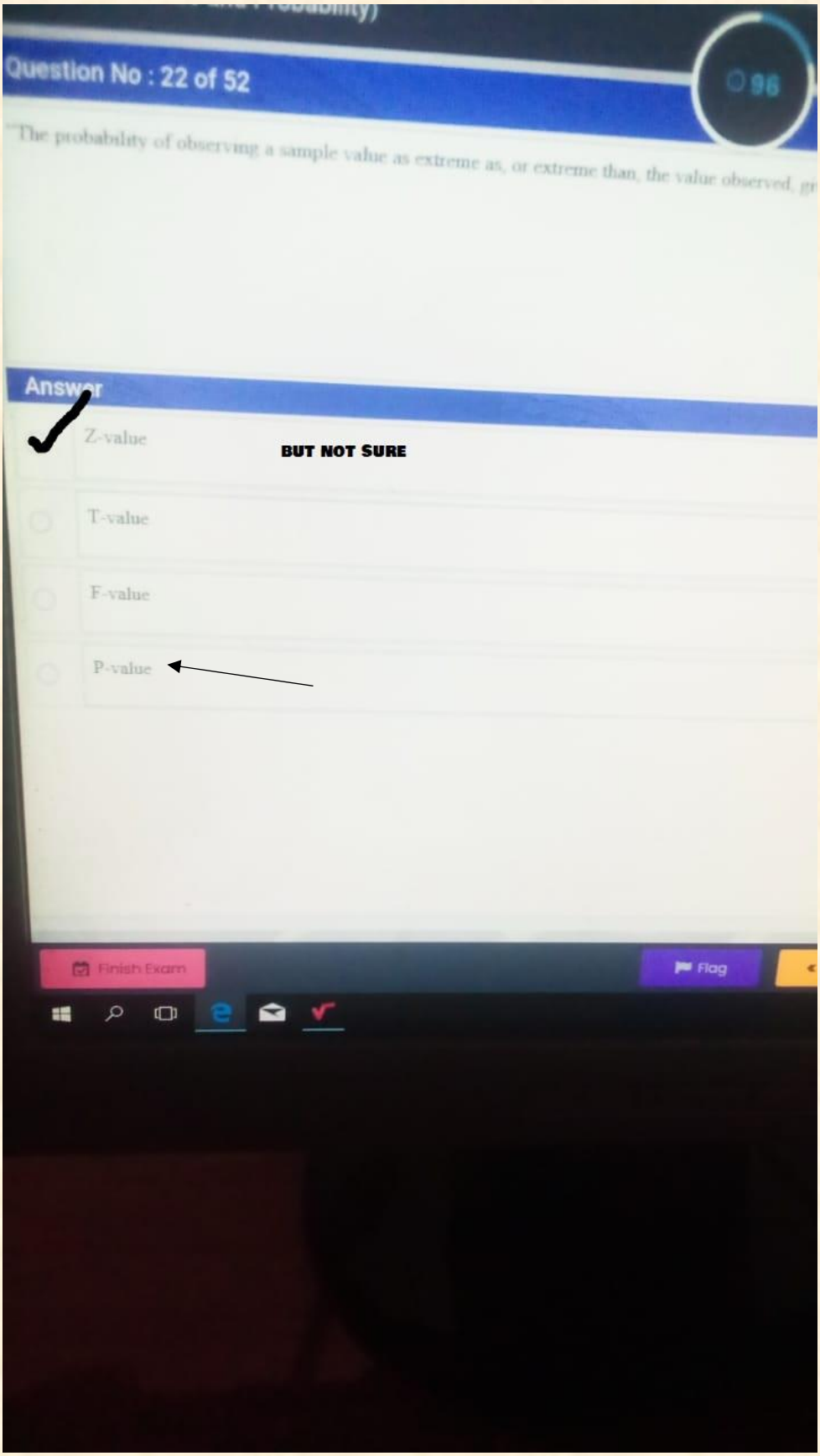

Question No : 15 of 52
A failing student is passed by an examiner is an example of :
Answer
Type I error
Type II error
Correct decision
No information regarding this
Finish Exam

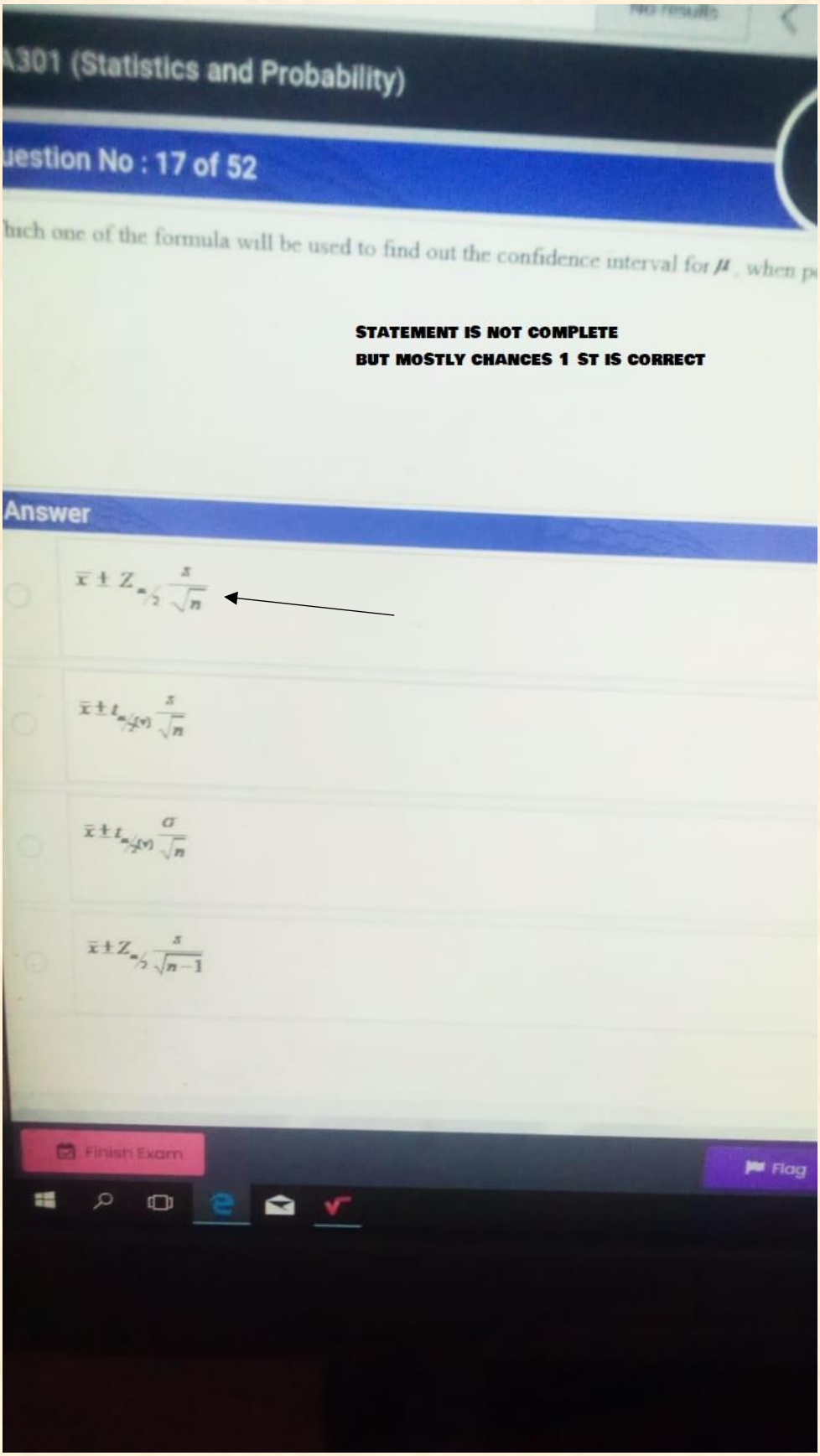

STA301 (Statistics and Probability)
Question No : 20 of 52
If $\bar{X}$ is the mean of the n observations, then which test statistic will be used to calculate
STATEMENT IS NOT COMPLETE
Answer
Z-statistic
T-statistic
χ^2-statistics
F-statistics
Finish Exam
Flag

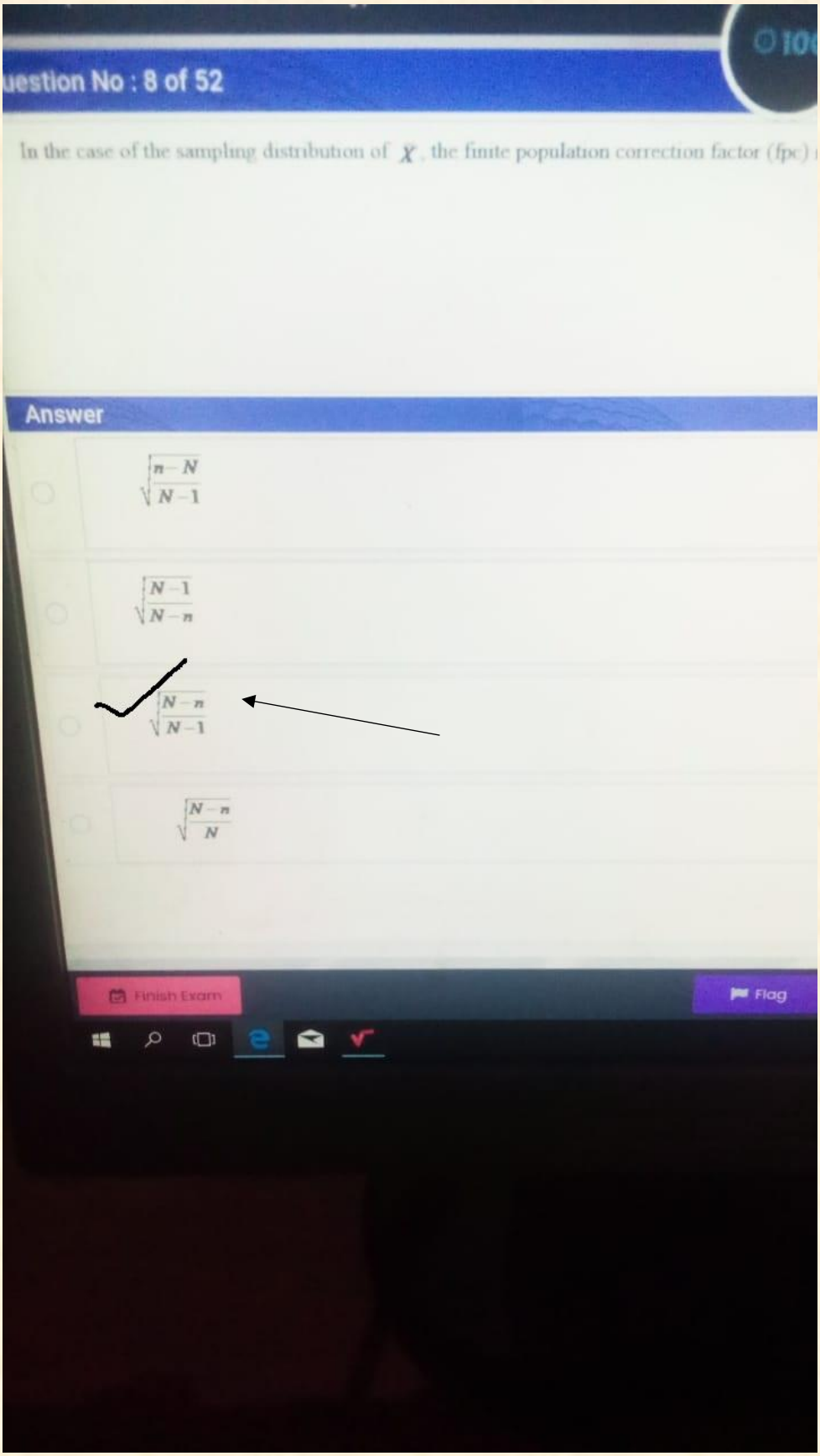

STA301 (Statistics and Probability)
Question No : 21 of 52
Mean of the F-distribution is possible only, when
Answer
$v_1 > 2$
$v_2 > 2$
$v_1 < 2$
$v_2 < 2$

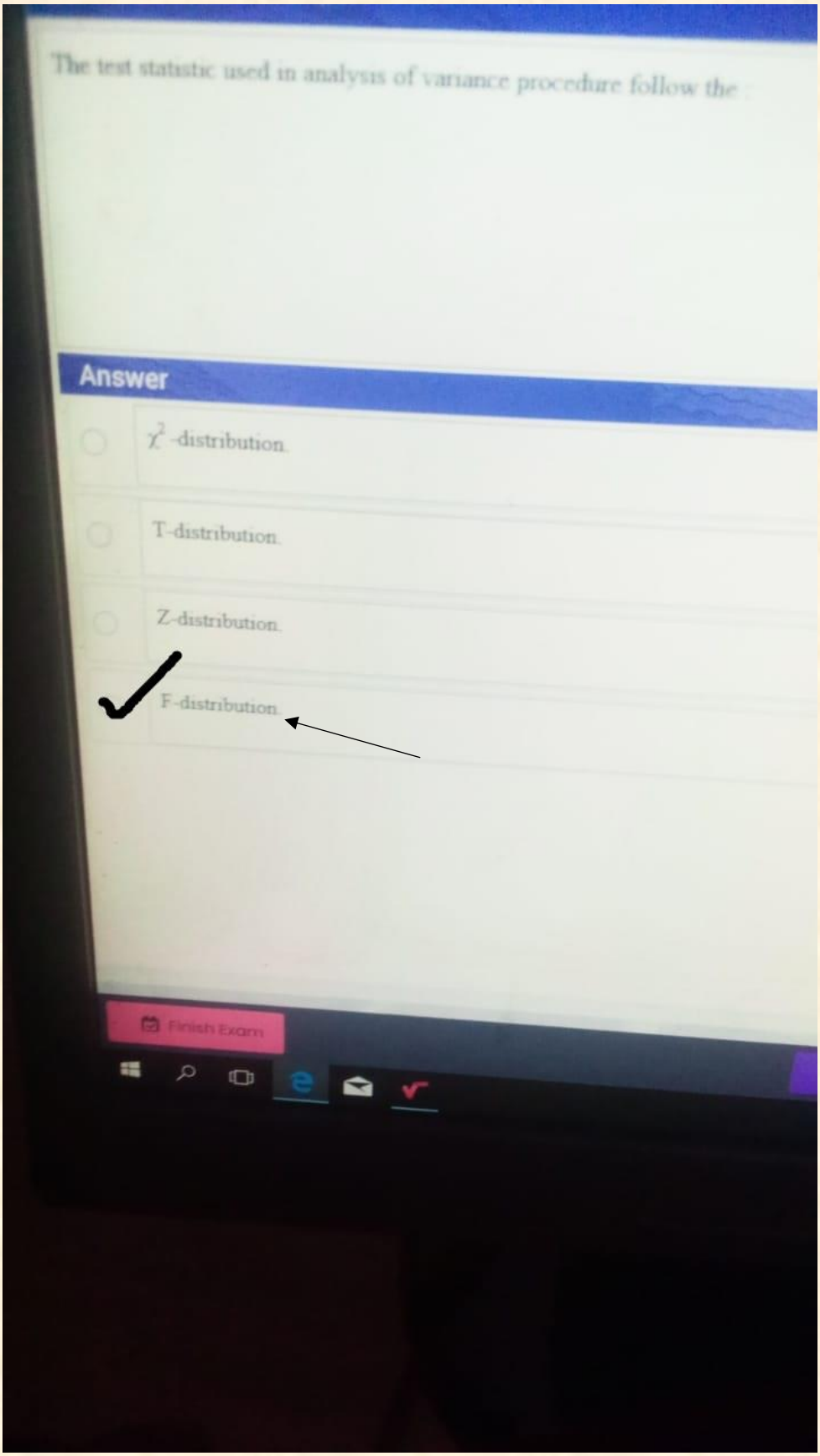


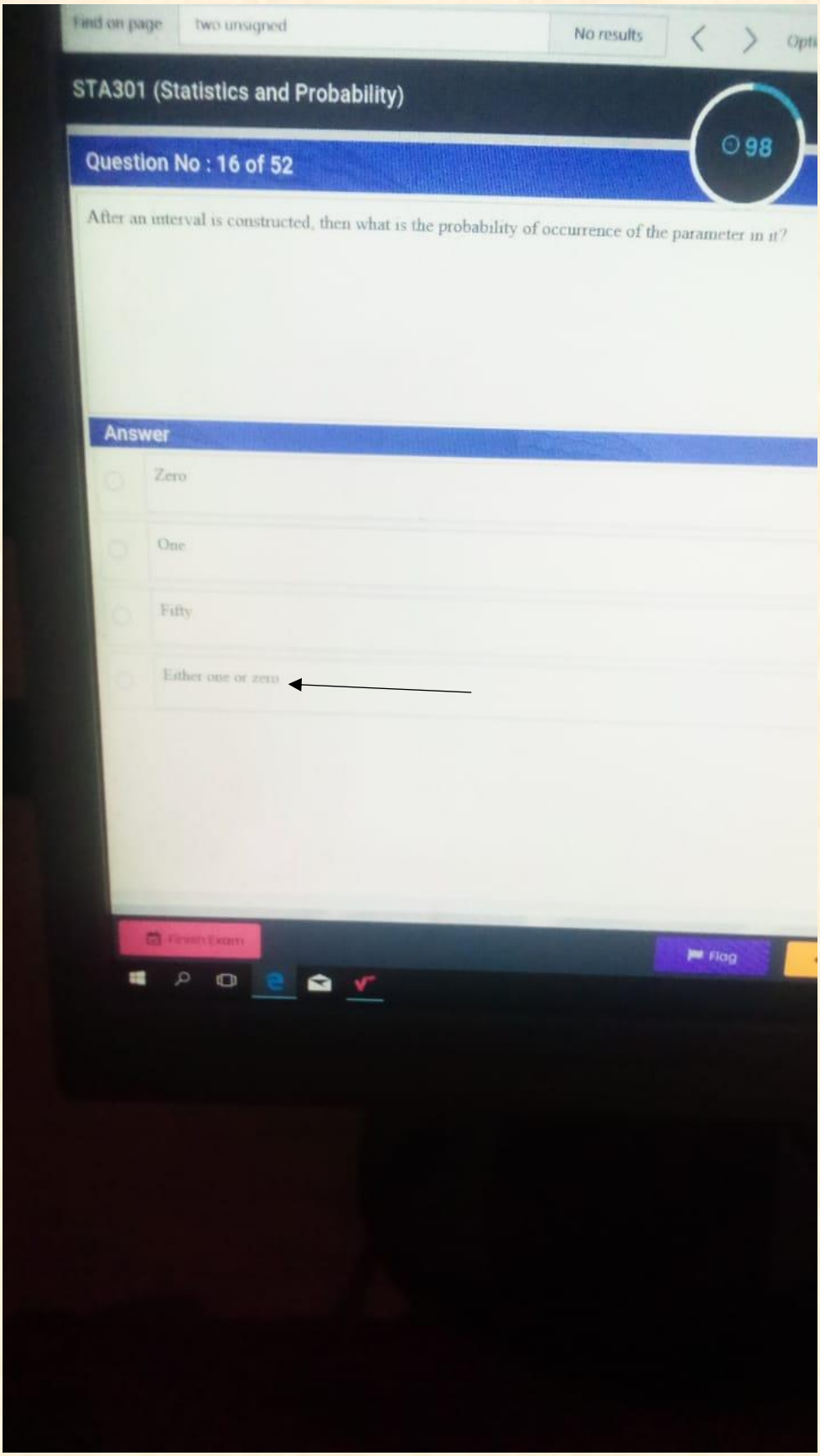

Question No : 11 of 52
In normal distribution, the quartile deviation Q.D = _____
Answer
0.5σ
0.75σ
0.7979σ
0.6745σ
Finish Exam

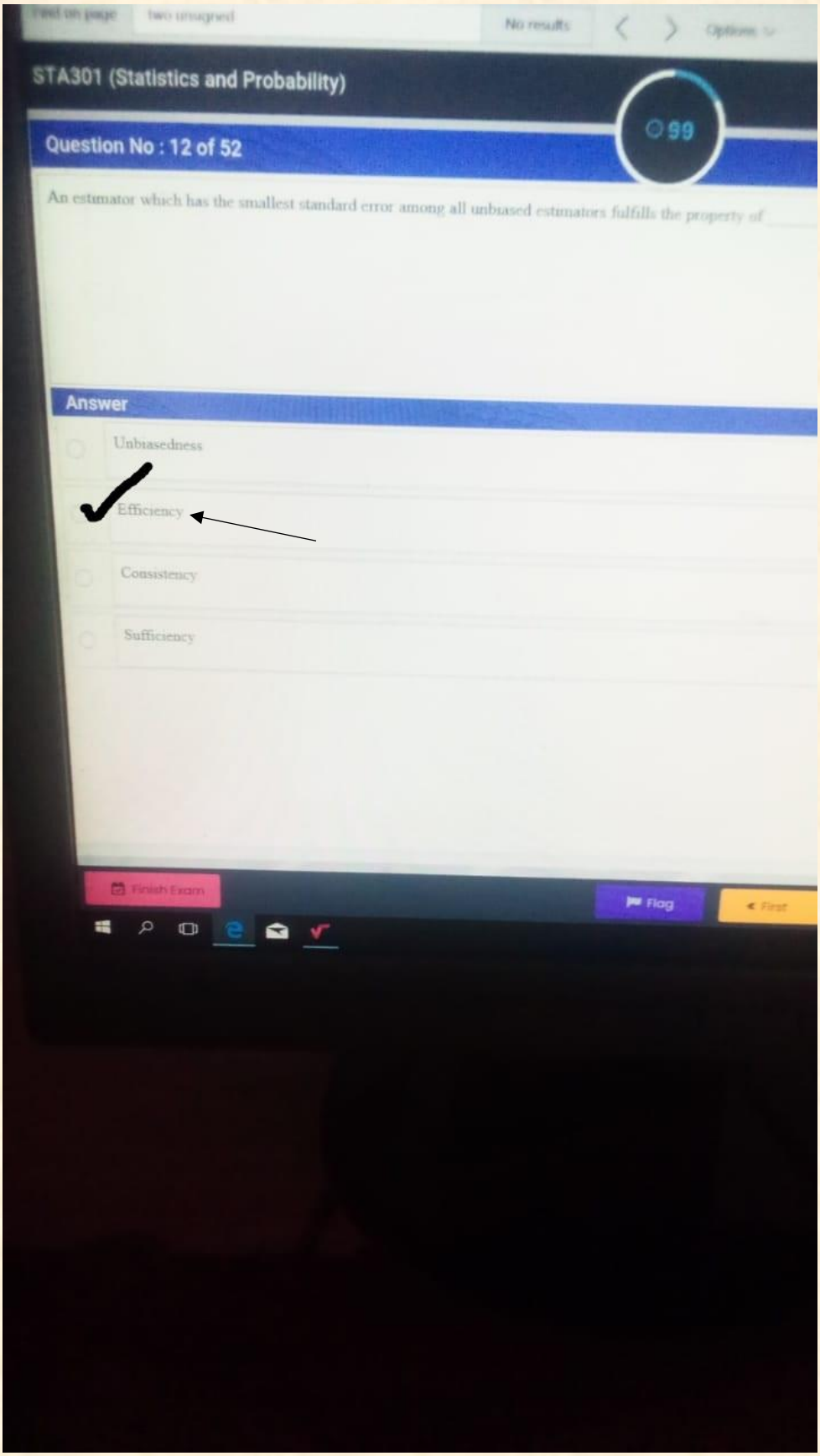

Question No : 22 of 52
96
"The probability of observing a sample value as extreme as, or extreme than, the value observed, gi
Answer
Z-value
BUT NOT SURE
T-value
F-value
P-value
Finish Exam
Flag

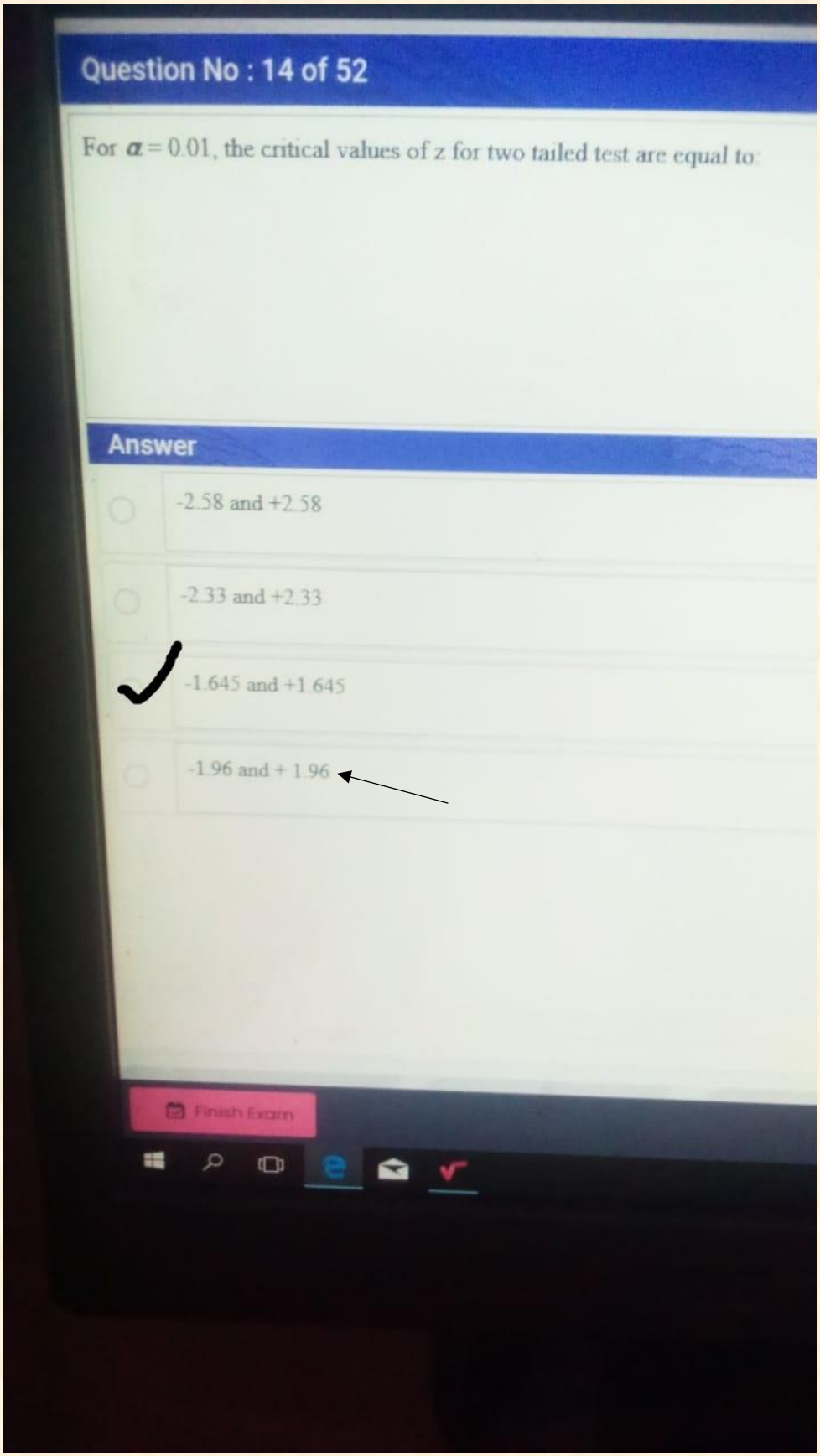

A301 (Statistics and Probability)
uestion No : 17 of 52
hich one of the formula will be used to find out the confidence interval for μ, when p
STATEMENT IS NOT COMPLETE
BUT MOSTLY CHANCES 1 ST IS CORRECT
Answer
$\bar{x} \pm Z_{\alpha/2} \frac{s}{\sqrt{n}}$
$\bar{x} \pm t_{\alpha/2,(n)} \frac{s}{\sqrt{n}}$
$\bar{x} \pm t_{\alpha/2,(n)} \frac{\sigma}{\sqrt{n}}$
$\bar{x} \pm Z_{\alpha/2} \frac{s}{\sqrt{n-1}}$
Finish Exam
Flag

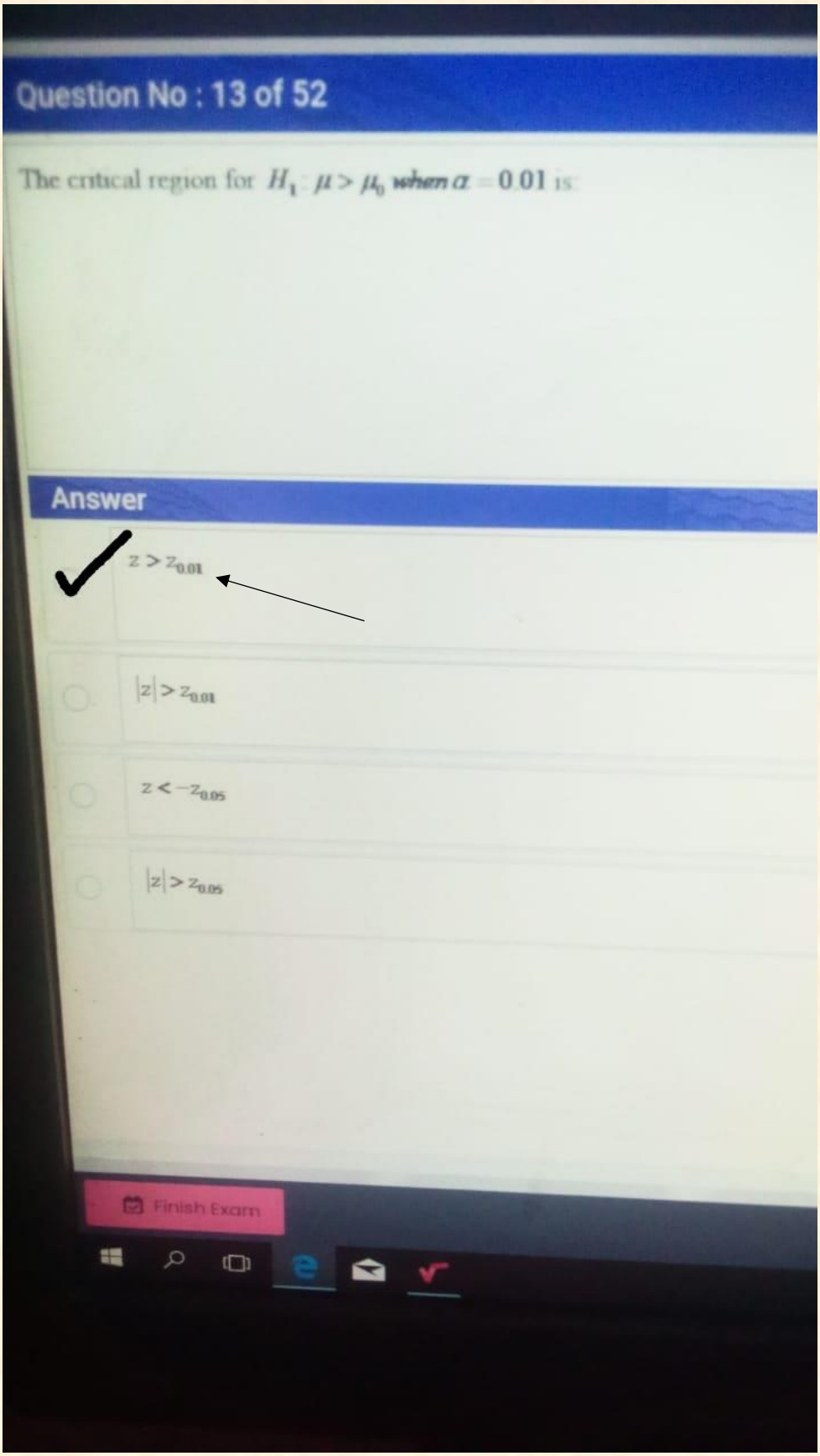

uestion No : 8 of 52
In the case of the sampling distribution of $\bar{X}$, the finite population correction factor (fpc)
Answer
$\sqrt{\frac{n-N}{N-1}}$
$\sqrt{\frac{N-1}{N-n}}$
$\sqrt{\frac{N-n}{N-1}}$
$\sqrt{\frac{N-n}{N}}$
Finish Exam
Flag

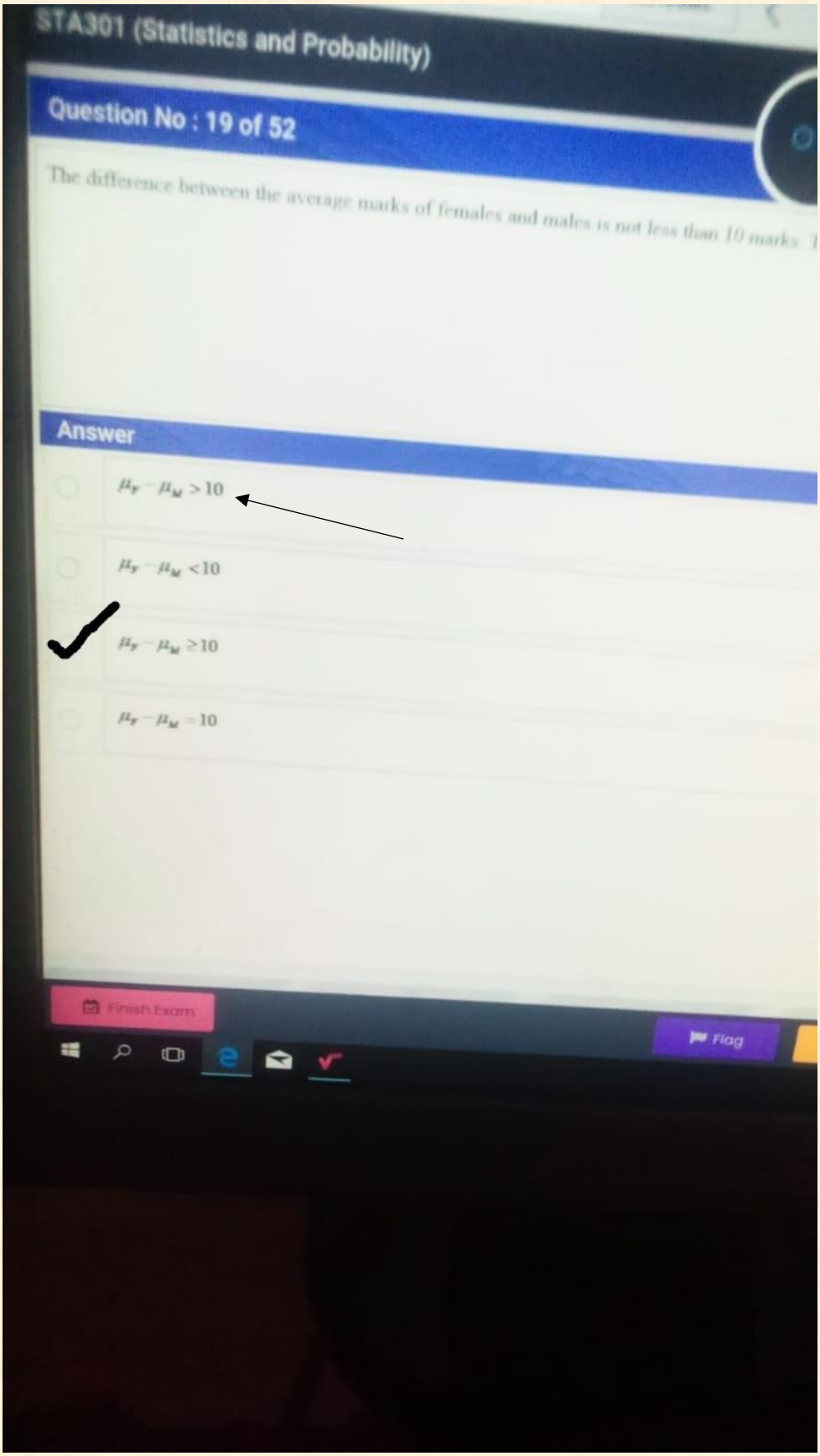


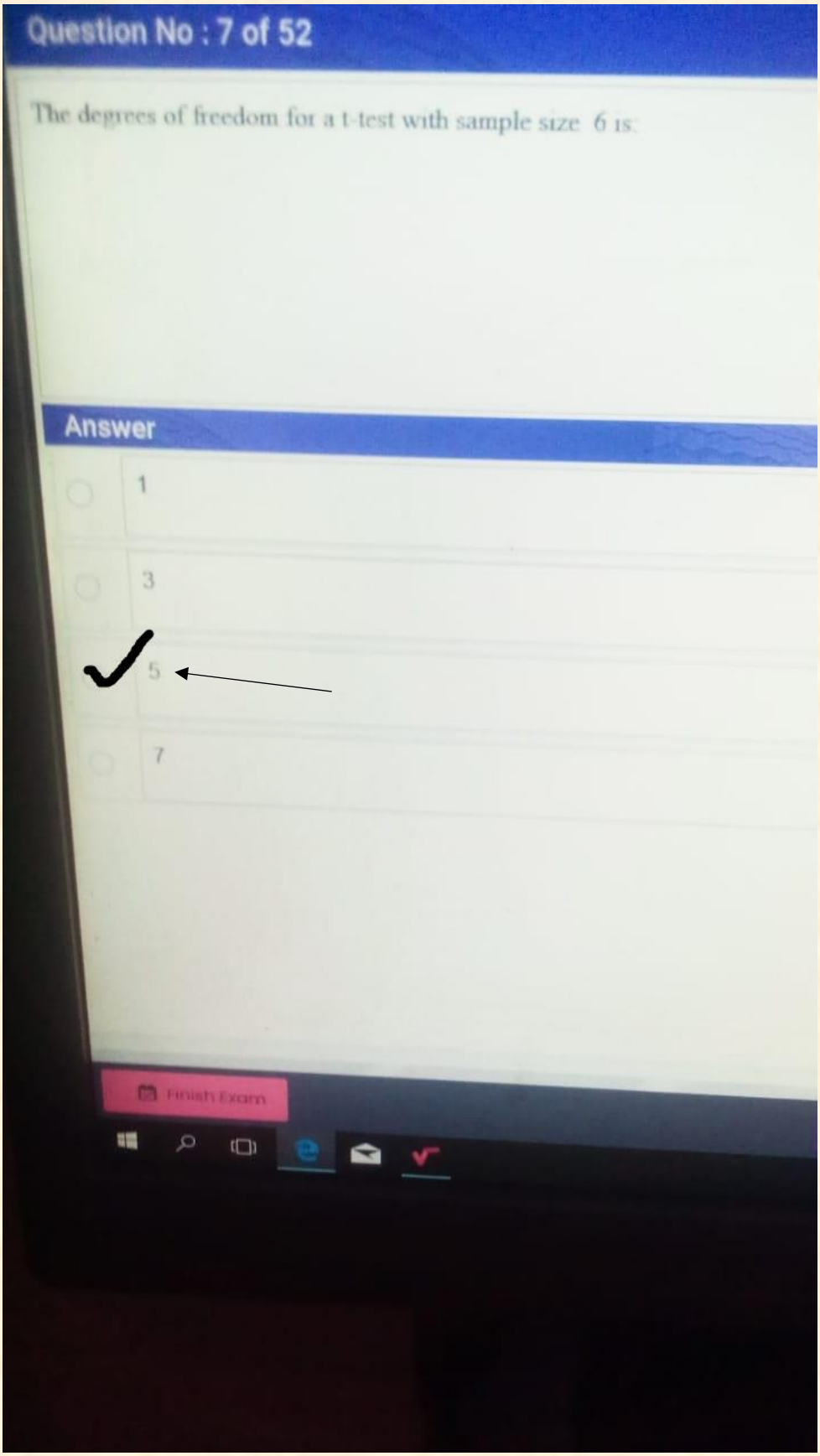

Find on page
two unsigned
No results
STA301 (Statistics and Probability)
98
Question No : 16 of 52
After an interval is constructed, then what is the probability of occurrence of the parameter in it?
Answer
Zero
One
Fifty
Either one or zero
Flag

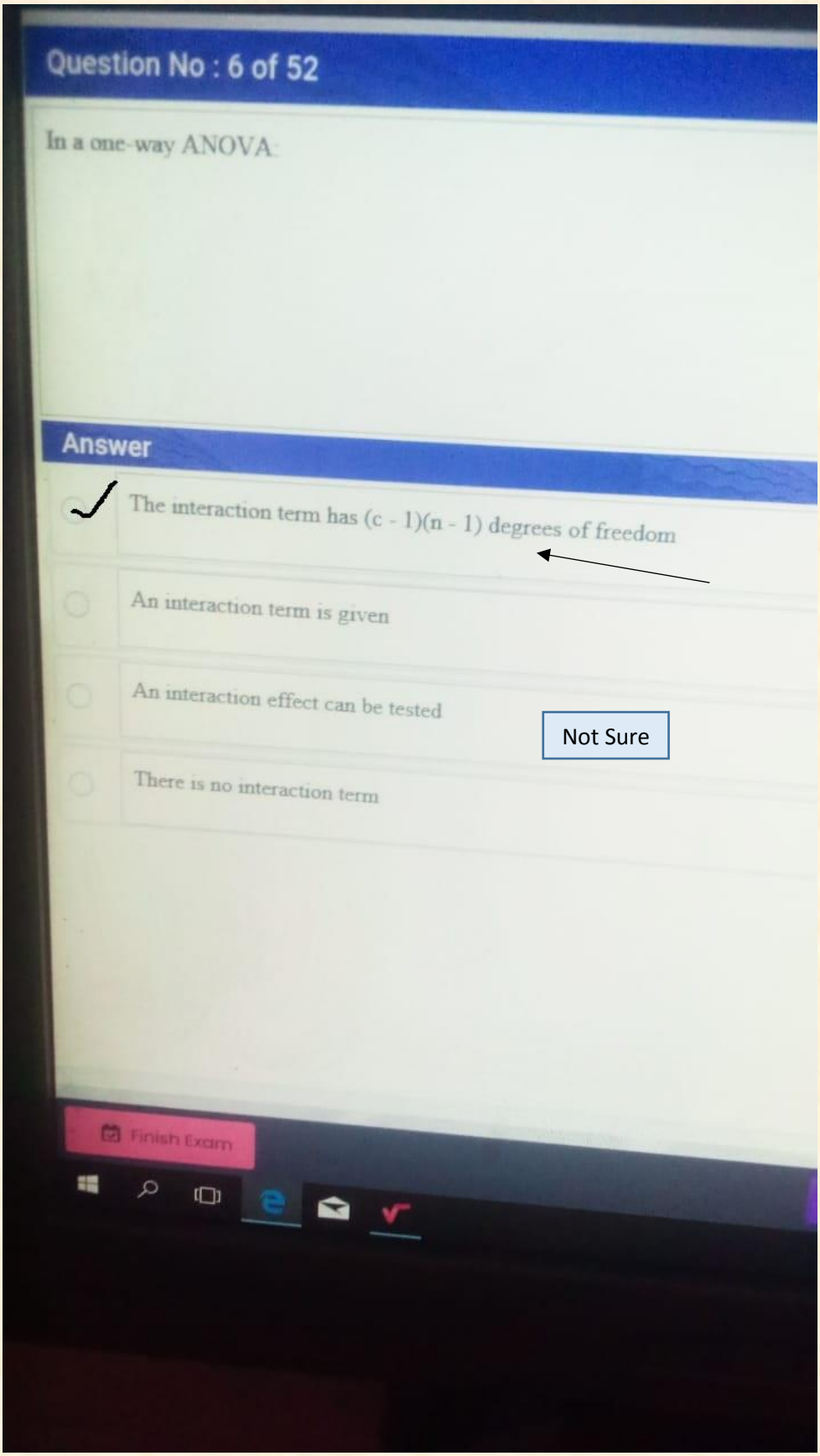

STA301 (Statistics and Probability)
Question No : 12 of 52
99
An estimator which has the smallest standard error among all unbiased estimators fulfills the property of
Answer
Unbiasedness
Efficiency
Consistency
Sufficiency
Finish Exam
Flag






STA301 (Statistics and Probability)
Question No : 19 of 52
The difference between the average marks of females and males is not less than 10 marks
Answer
$\mu_F - \mu_M > 10$
$\mu_F - \mu_M < 10$
$\mu_F - \mu_M \geq 10$
$\mu_F - \mu_M = 10$
Finish Exam
Flag


Question No : 7 of 52
The degrees of freedom for a t-test with sample size 6 is:
Answer
1
3
5
7
Finish Exam


Question No : 6 of 52
In a one-way ANOVA:
Answer
The interaction term has (c - 1)(n - 1) degrees of freedom
An interaction term is given
An interaction effect can be tested
There is no interaction term
Not Sure
Finish Exam