SURVEY ABOUT FACILITIES OBTAINED FOR STUDENTS BY THE UNIVERSITY OF RUHUNA & RELATED FACTS FOR THE RESULTS OF STUDENTS IN FACULTY OF SCIENCE.

ITRC RESEARCH PROJECT –FSC 32P2

(Level III-Semester II)

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Outline

- An introduction
- Methodologies
- Results and Conclusions
  - Analysis of personal details
  - Analysis of academic details
  - Analysis of welfare facilities
  - Regression Output

An Introduction

- Identify the related factors influence the average marks of students.
- Bio Science Students-340
- Physical Science Students-605
- Sample -283 Students out of 914 students
- Package=MINITAB Statistical software package
- Data collected by a questionnaire

METHODOLOGIES

- Graphical method
  - Bar charts
  - Pie charts
  - Scatter plots
- Chi-Square Test of Independence
- Regression Analysis
  - Multiple Linear Regression Model

Description about the sample selected to analysis the data

Comparing the sample of Physical Science Students

FIG:1 POPULATION

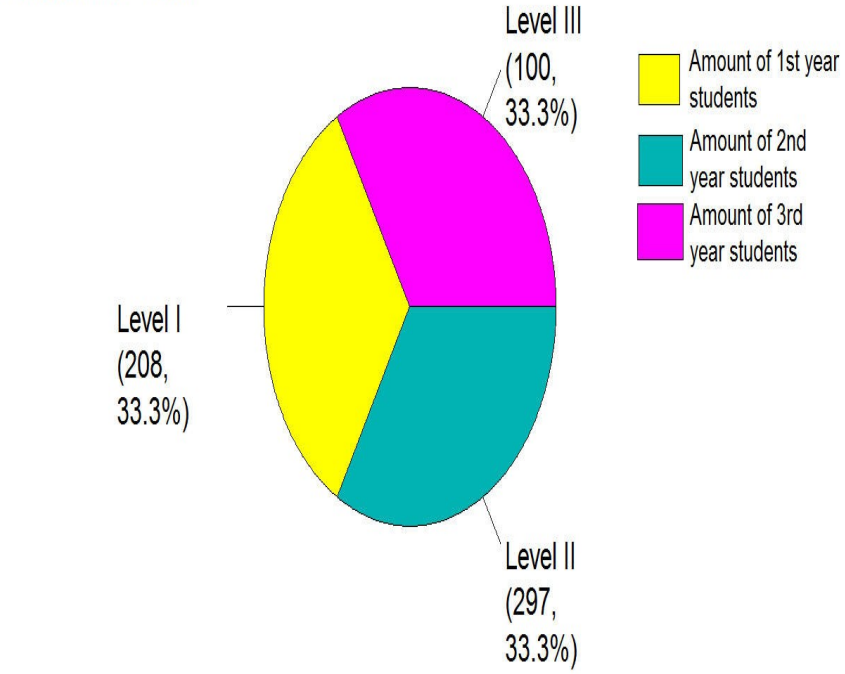
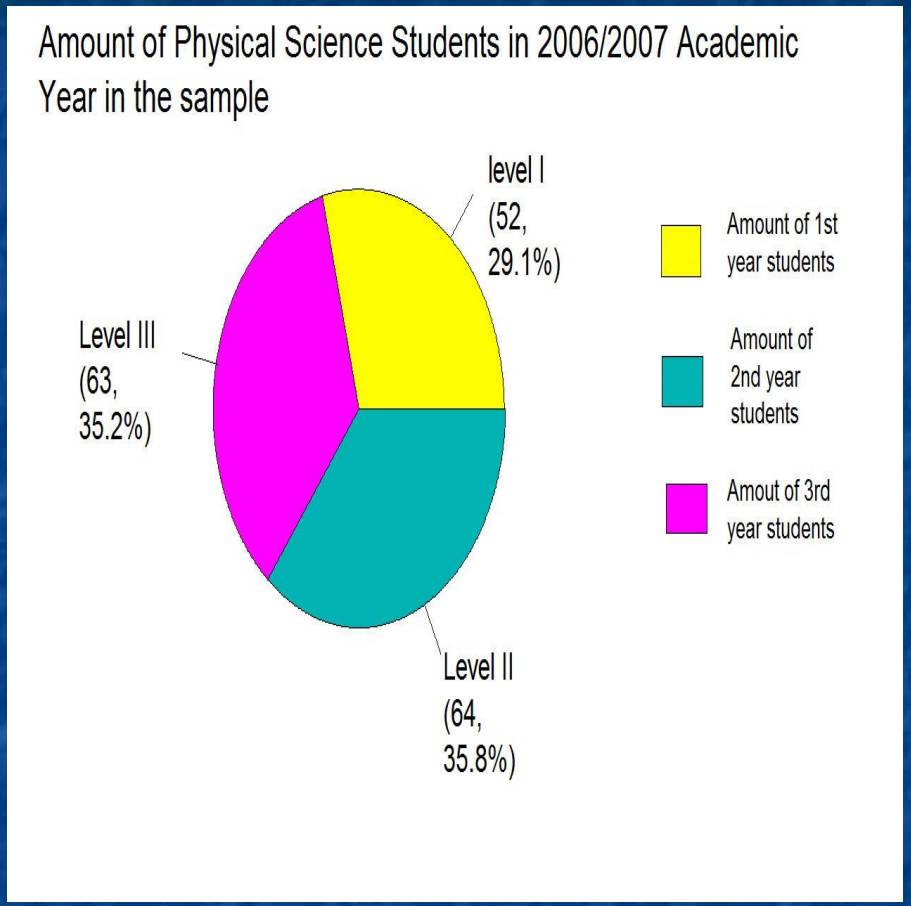


FIG:2 SAMPLE



- A sample of 179 Physical science students were selected from 605 population of registered students.

Comparing the sample of Bio Science Students

FIG:1 POPULATION

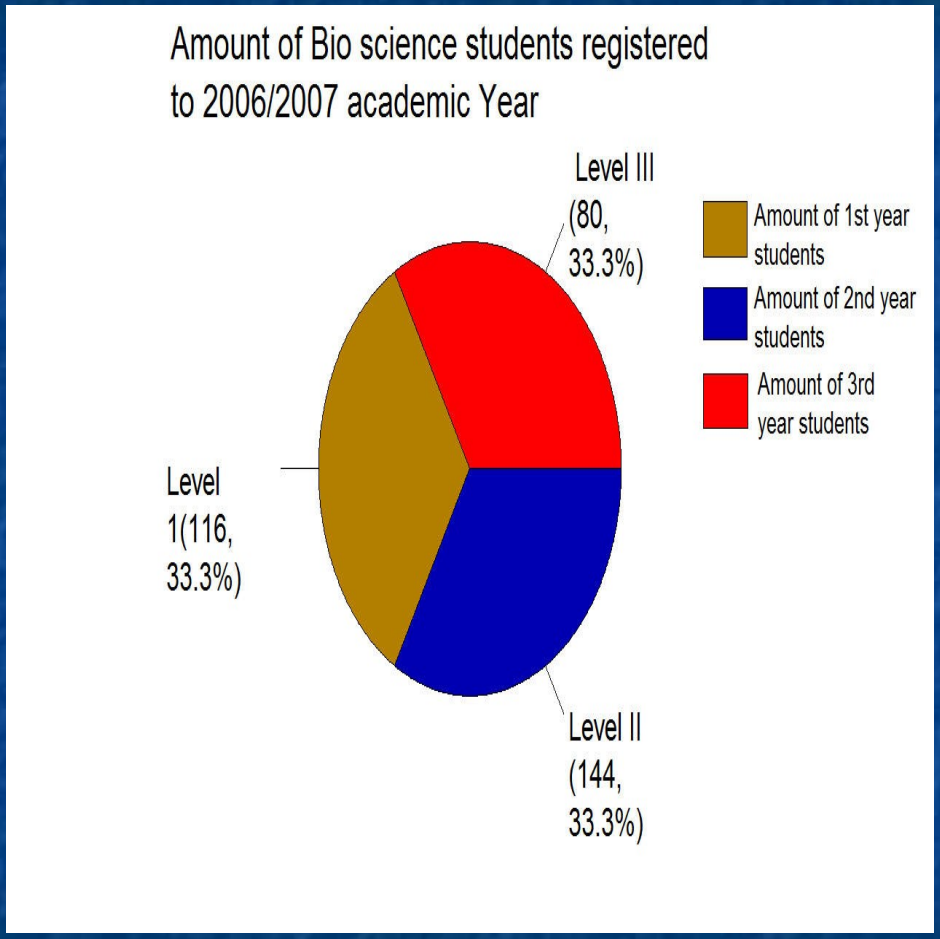
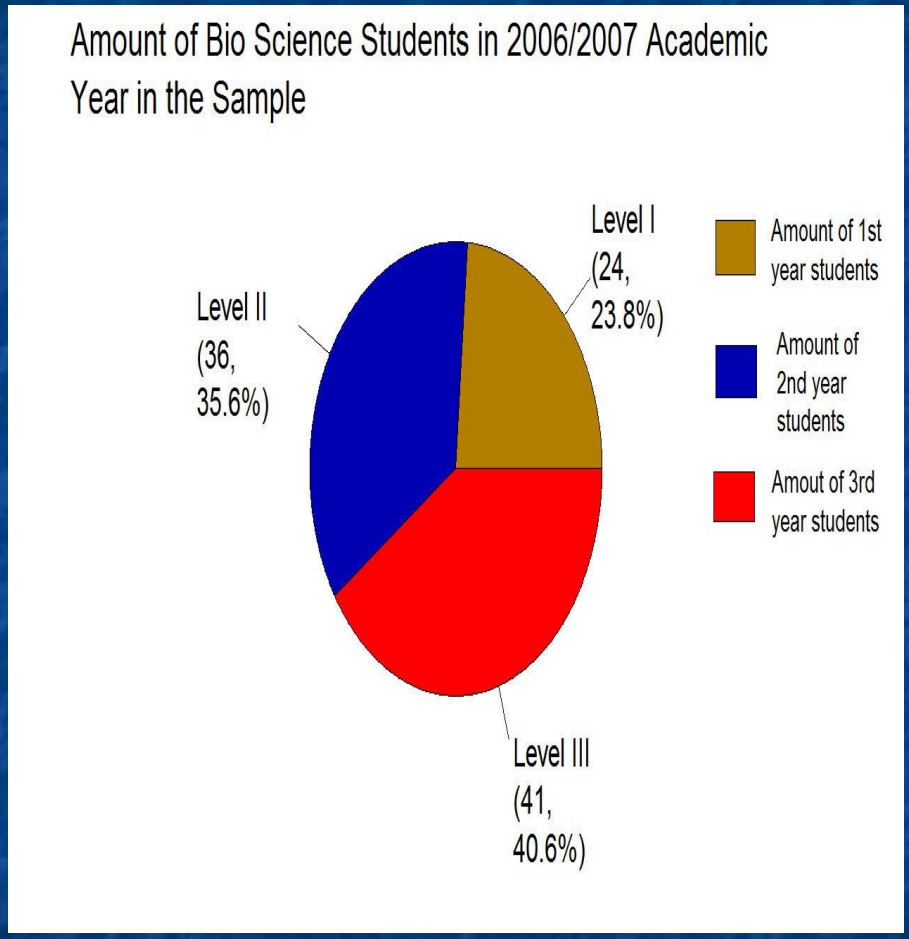
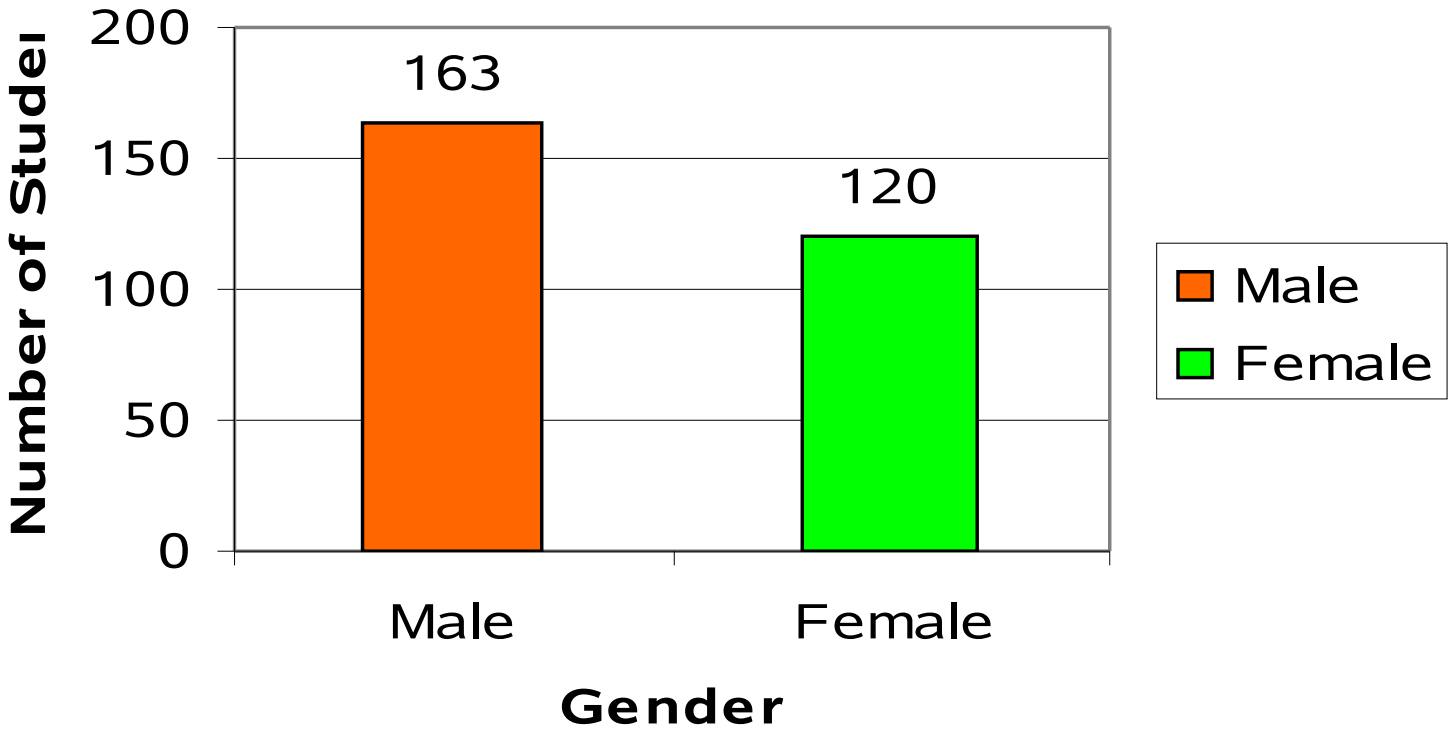


FIG:2 SAMPLE

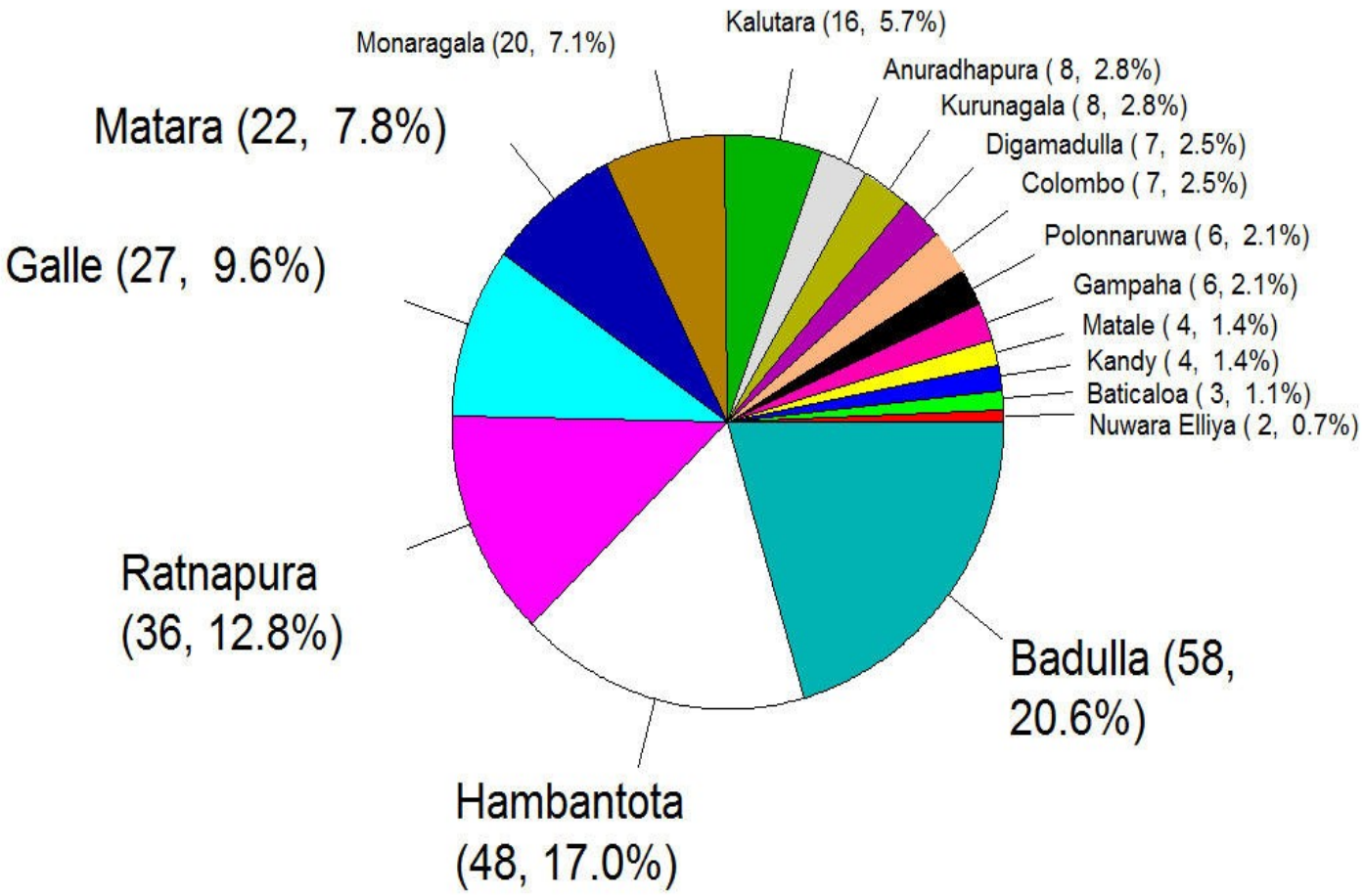


- A sample of 101 Bio science students were selected from 340 population of registered students.

AMOUNT OF STUDENTS DUE TO THE GENDER



AMOUNT OF STUDENTS DISTRICT VISE



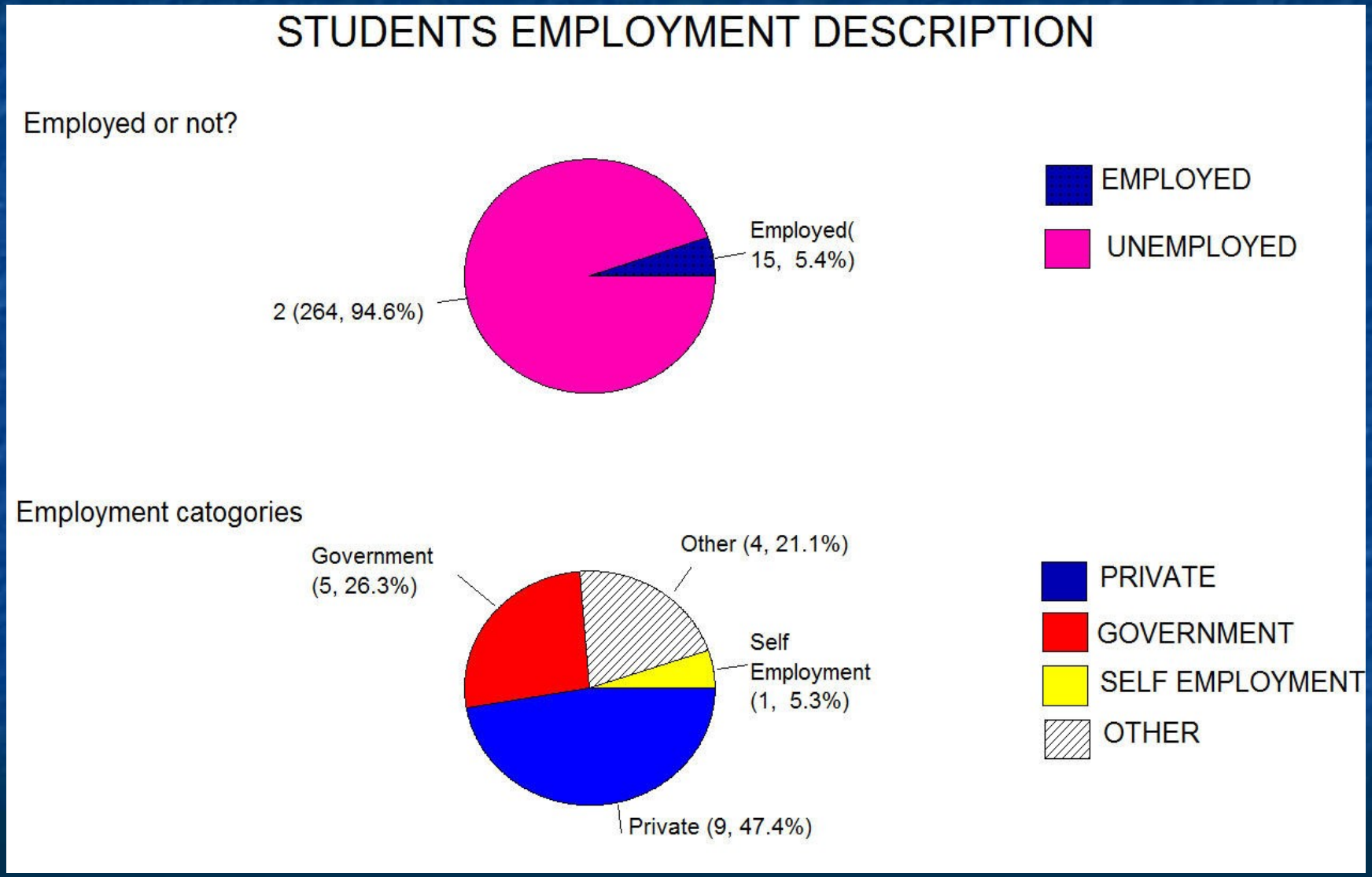
- Most of the students come from Badulla, Hambantota & Ratnapura.

Q: **Are you employed or not?**

Employed □ Unemployed □

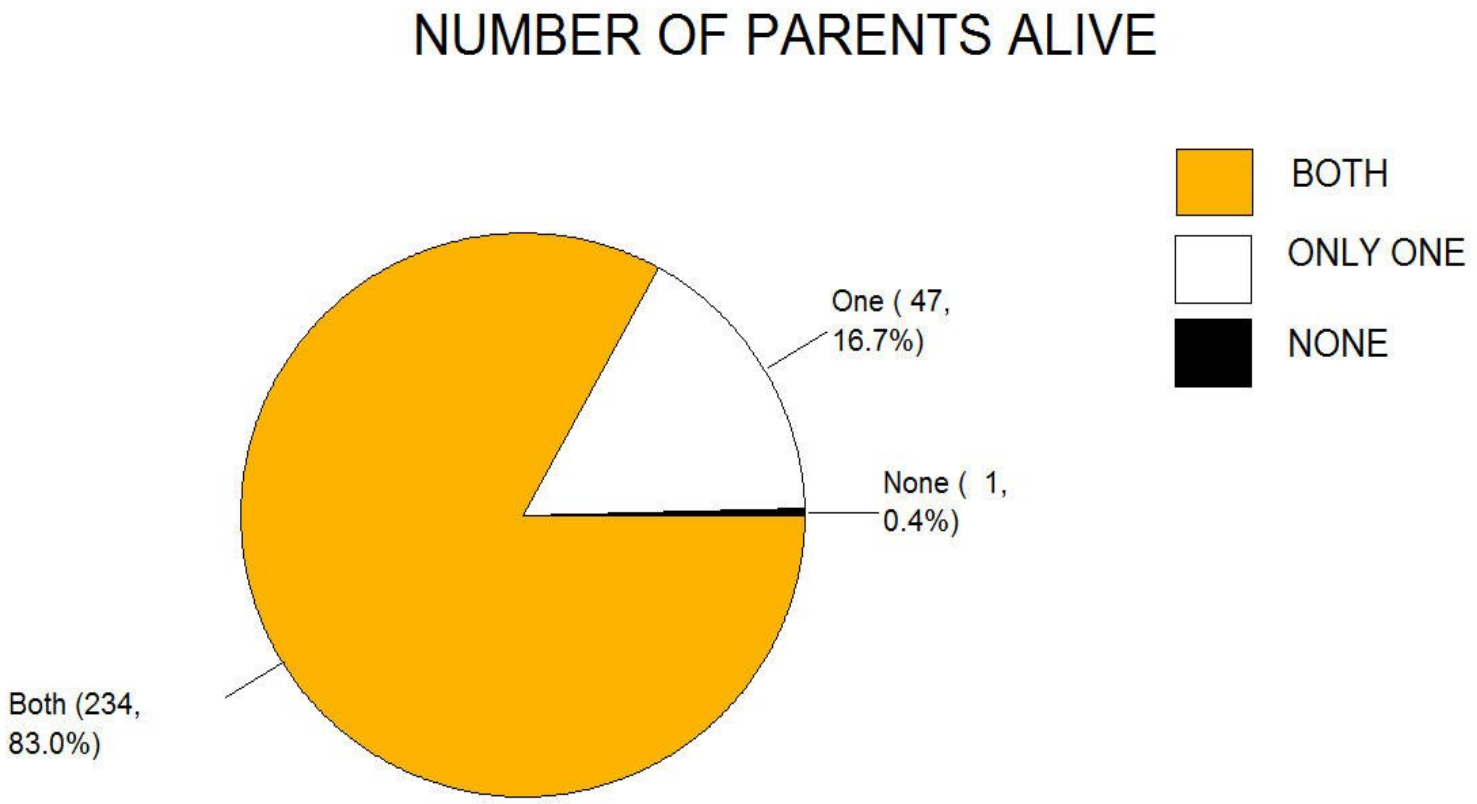
If you are employed fill the employment sector.

Private Sector □ Government Sector □ Self Employment □ Other □



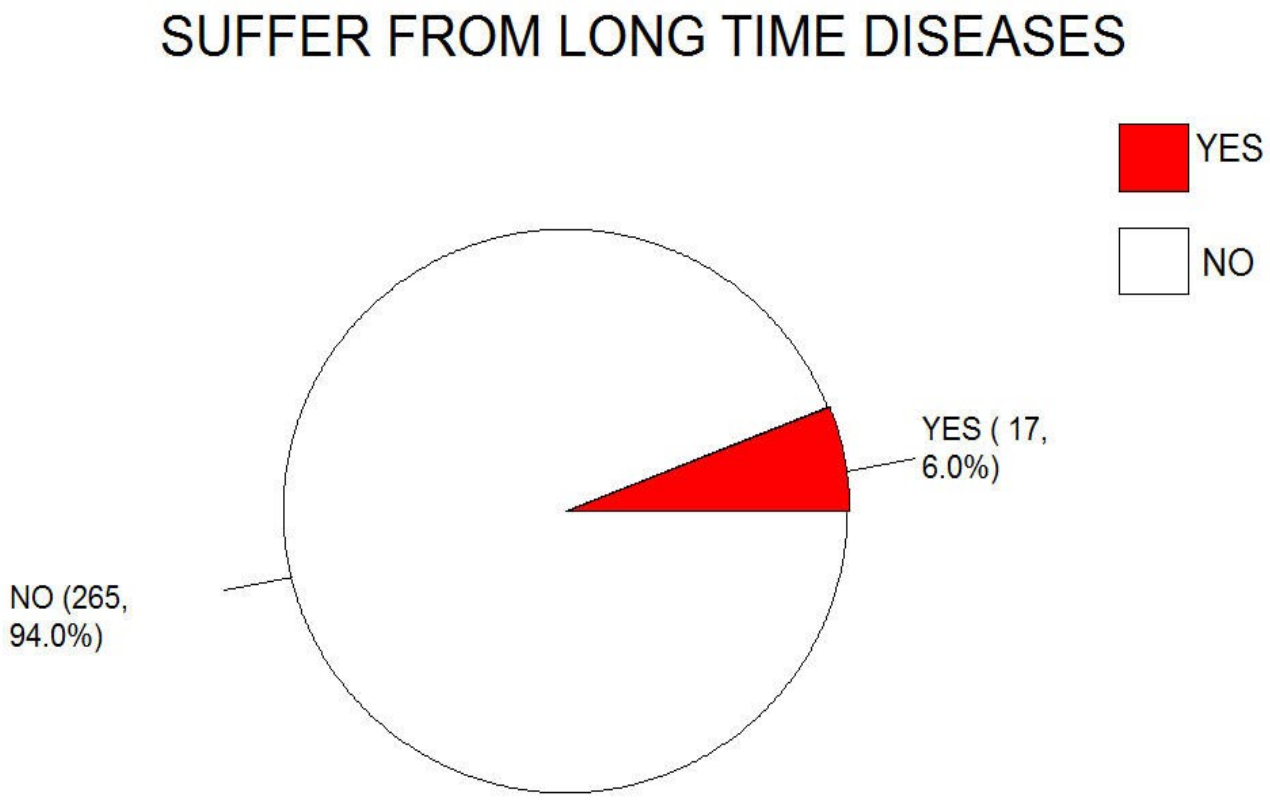
Q: Whether the parents are alive or not

Both are alive □ Only one alive □ Both are not live □



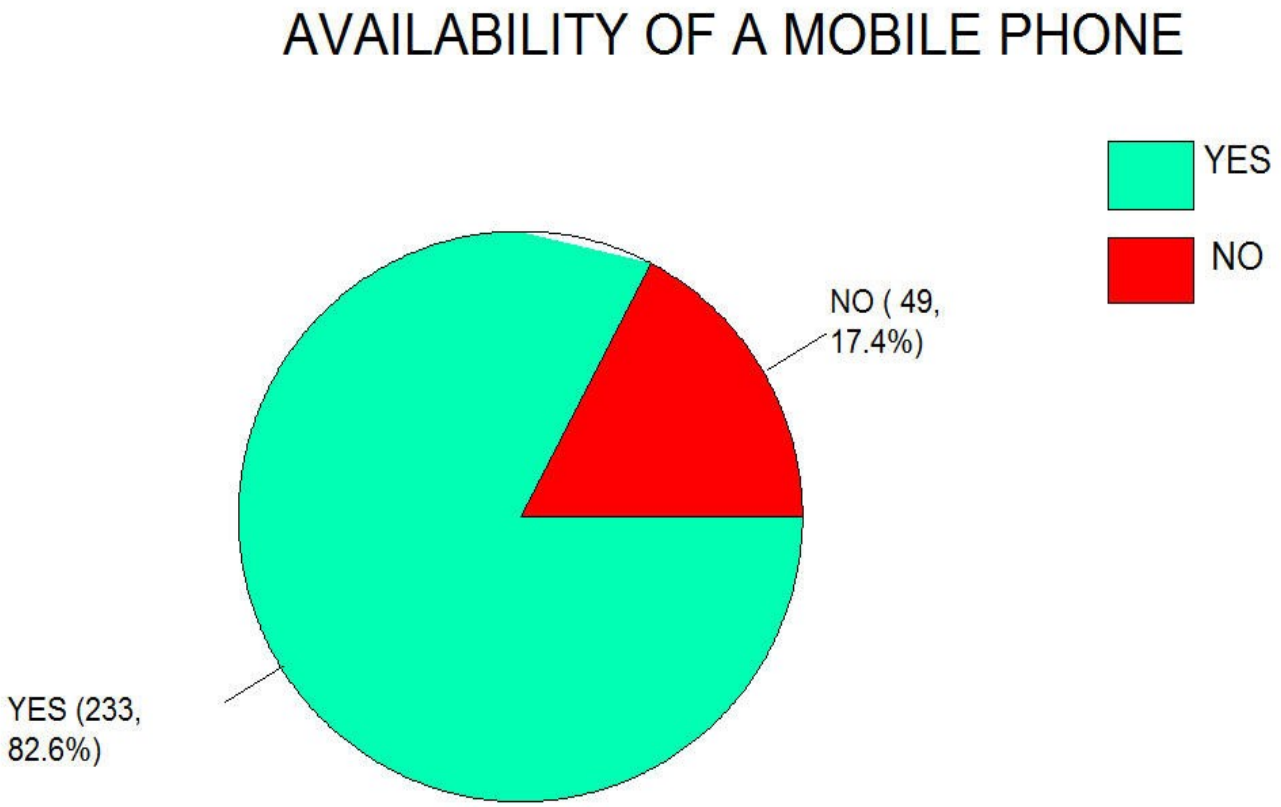
Q: Do you suffer from a long time diseases?

Yes □ No □



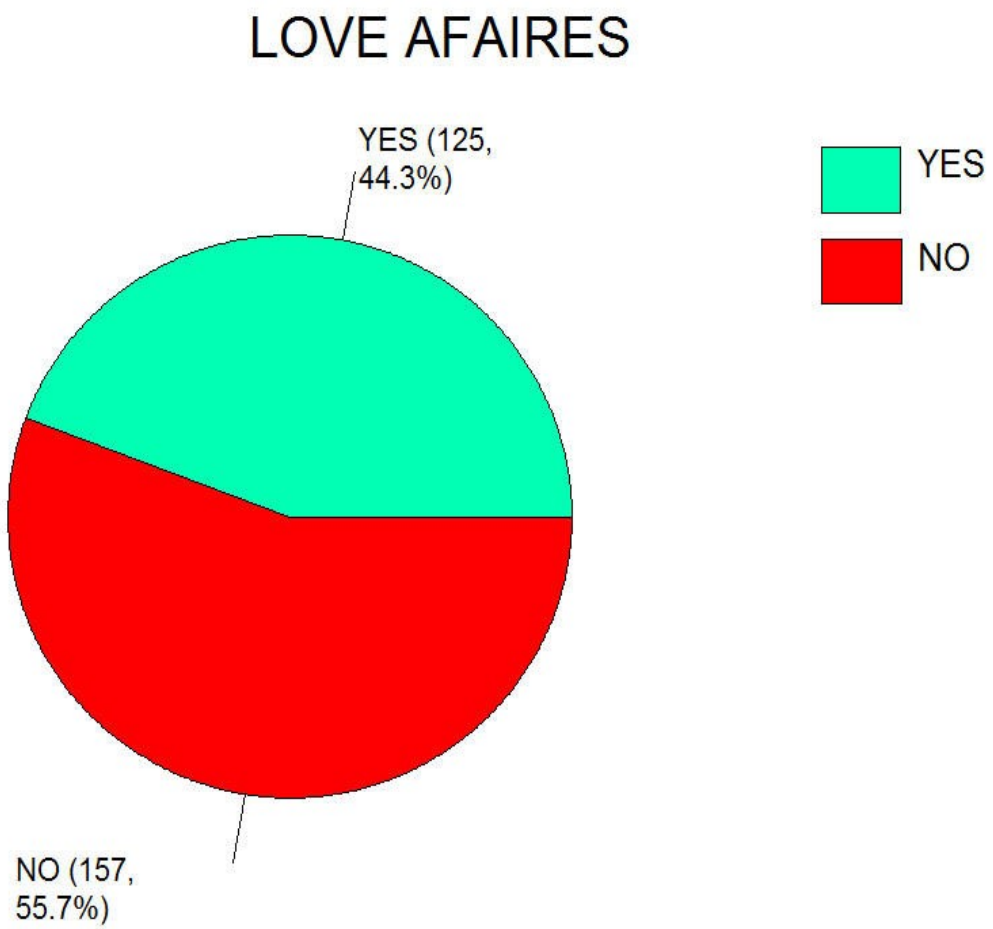
Q: Do you use a mobile phone?

Yes □ No □



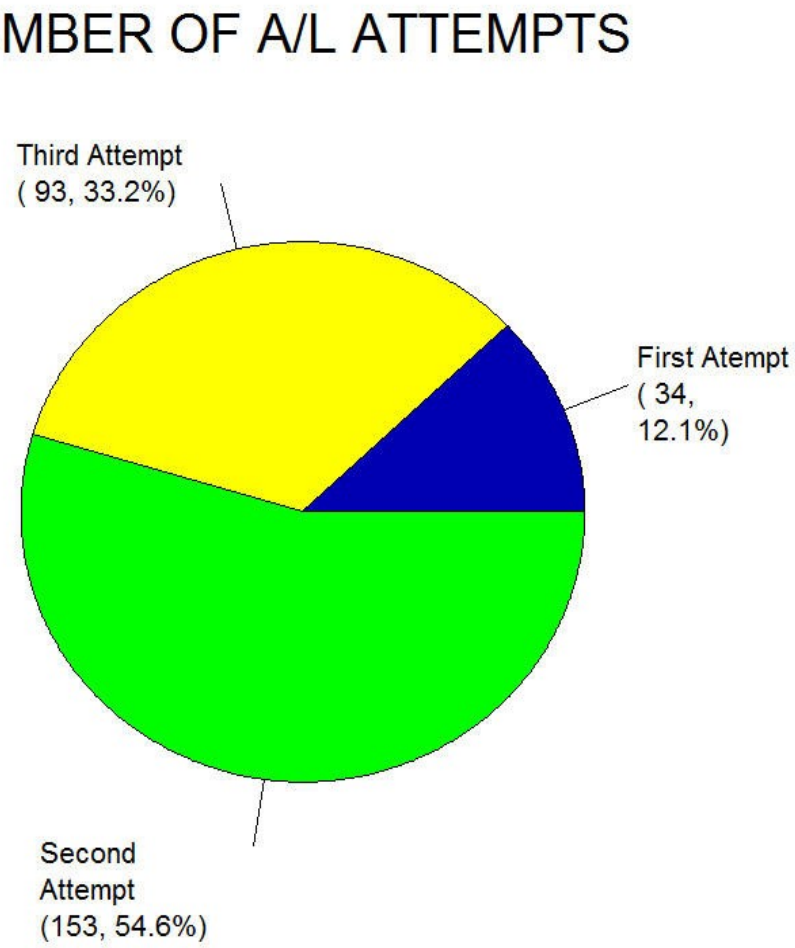
Q: Do you having a love affaire during the academic period?

Yes □ No □

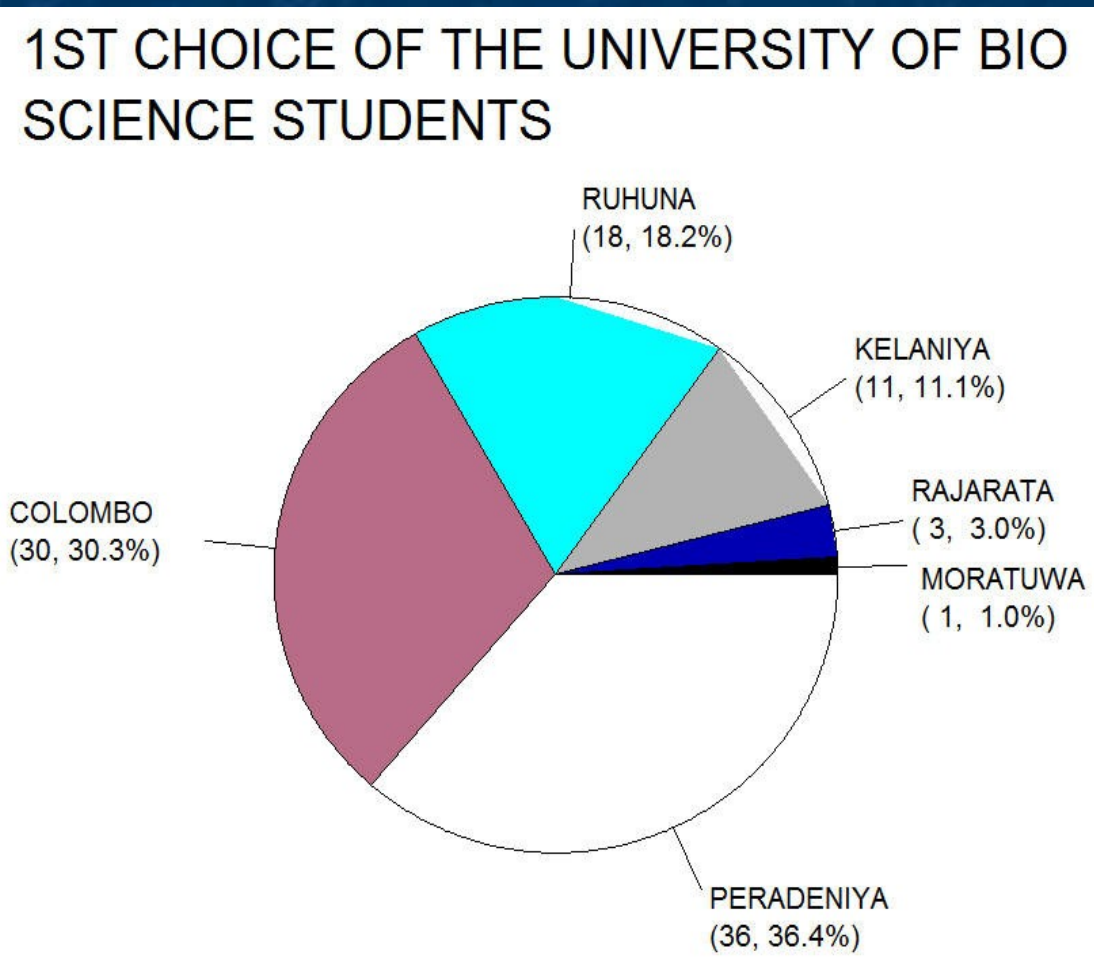


Q: From which attempt of Advanced level examination that you have selected to this university?

First Attempt □ Second Attempt □ Third Attempt □



Q: Which university was the first choice of the university entrance application?



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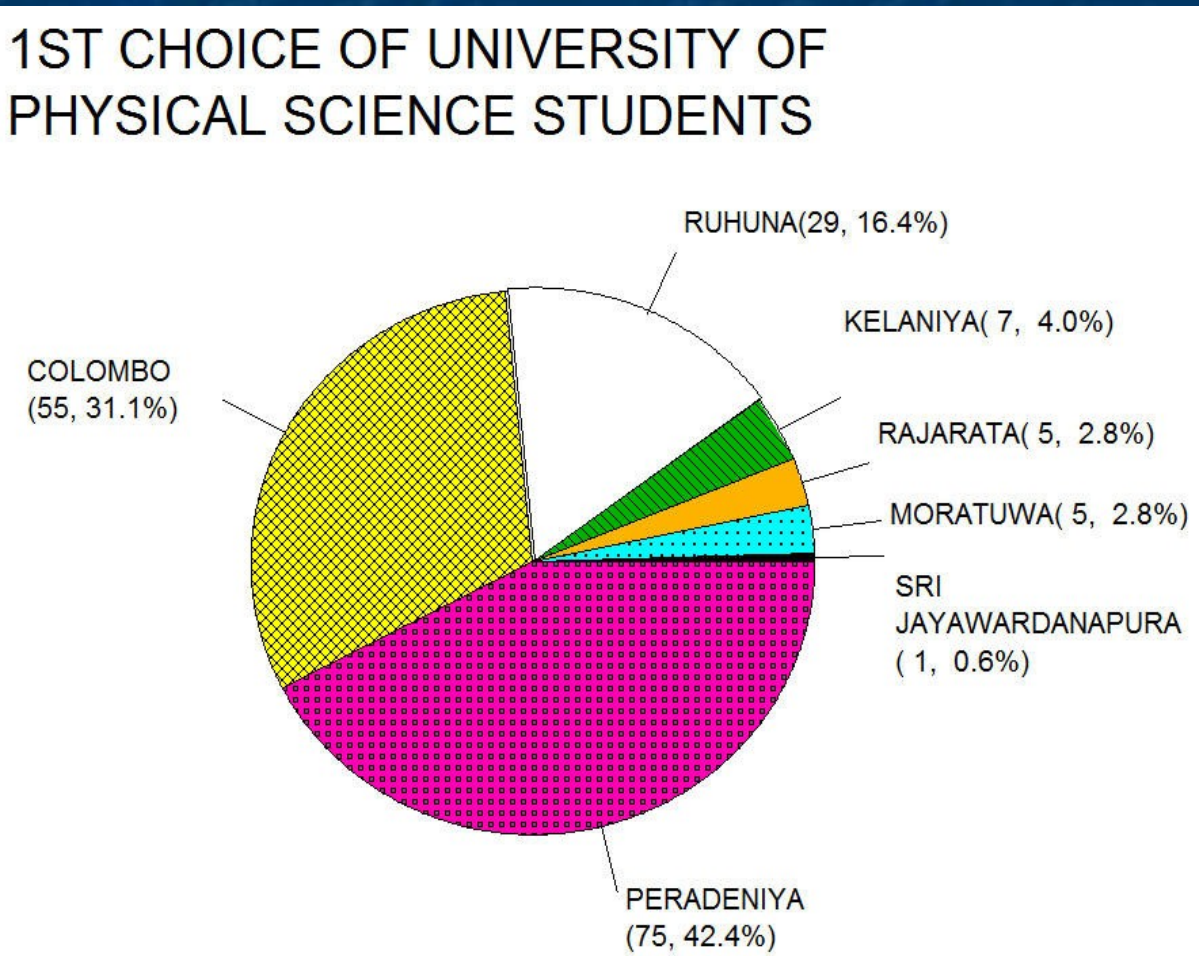
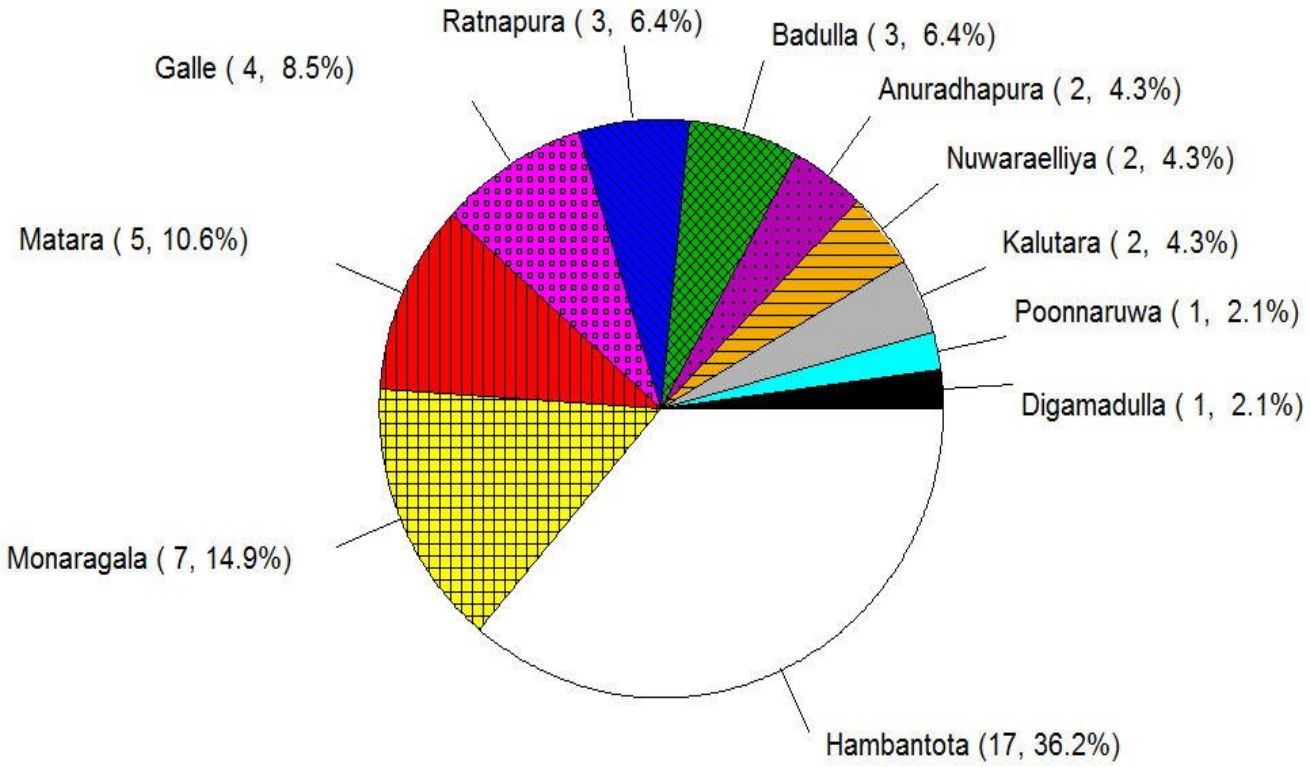


1st choice with Discticvise

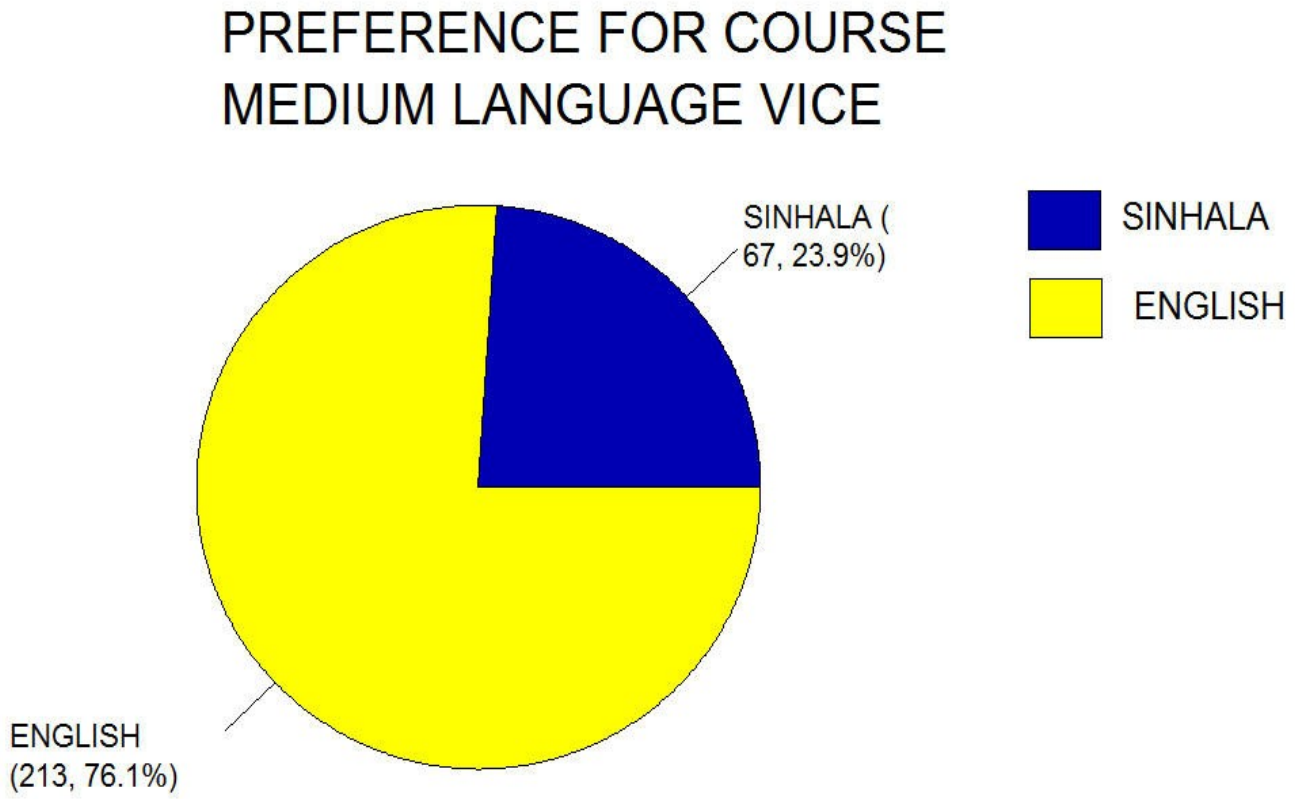
University of Ruhuna



Analysis about the Academic details of students.

Q: From which language do you like to follow the academic course?

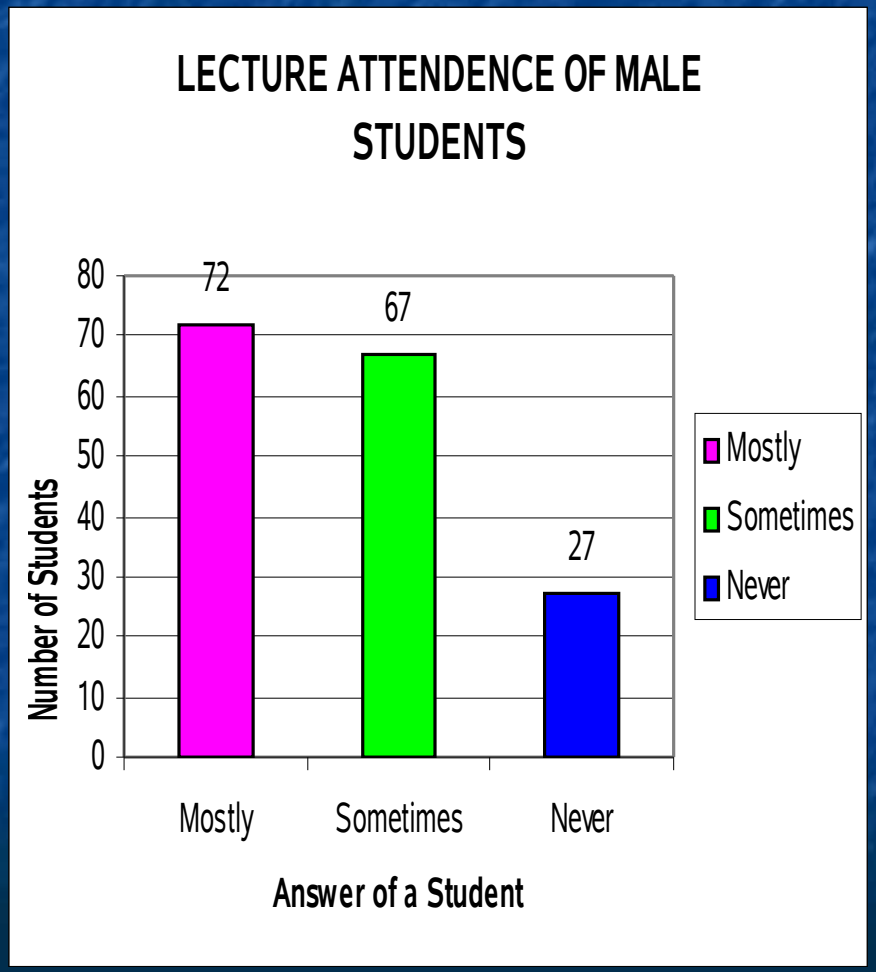
Sinhala □ English □

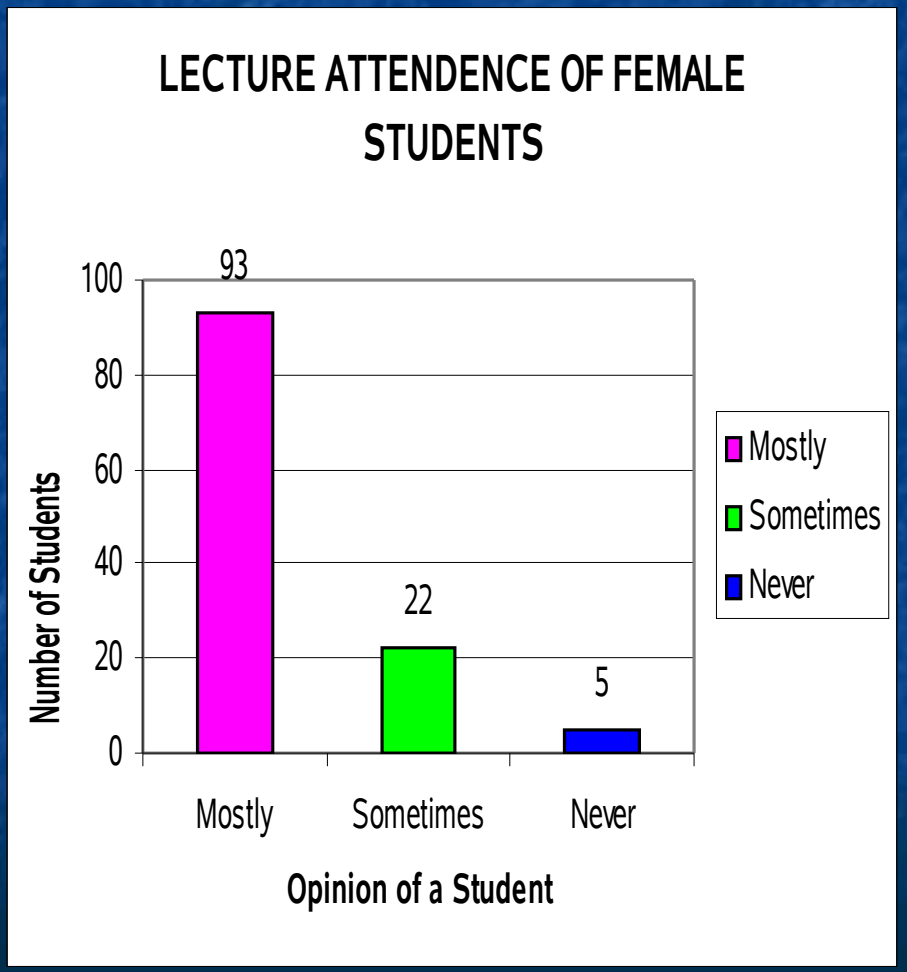


Relationship between the lecture attendance of students and gender

Q: Do you attend to the University lectures continuously?

Attends Mostly □ Attends Sometimes □ Never Attends □





Chi-Square Test

Hypothesis: H_0: Two classifications are independent

H_a: Two classifications are dependent

Decision Rule: Reject H_0 if *p* value < α

Accept H_0 if *p* value > α

Chi-Square Test: L_MOST, L_SOMETIMES, L_NEVER

Expected counts are printed below observed counts

	L_MOST	L_SOMETI	L_NEVER	Total
Female	72	67	27	166
	95.77	51.66	18.57	
Male	93	22	5	120
	69.23	37.34	13.43	
Total	165	89	32	286

Chi-Sq = 5.899 + 4.557 + 3.823 +

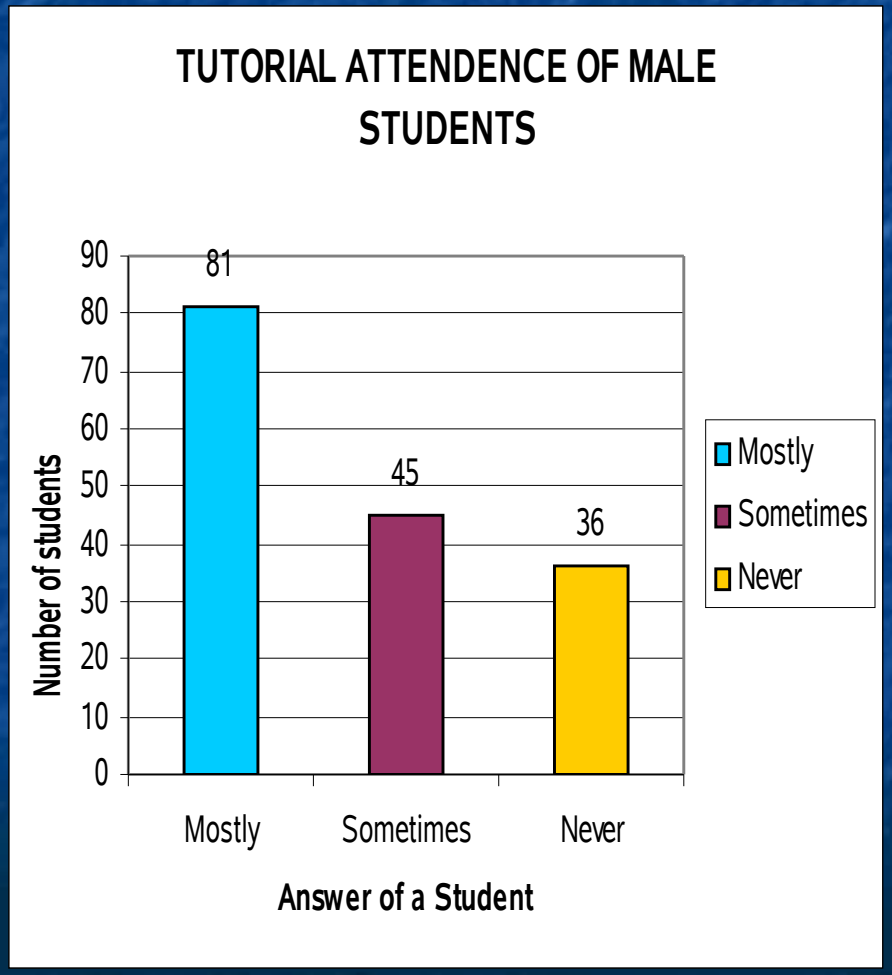
8.161 + 6.304 + 5.289 = 34.032

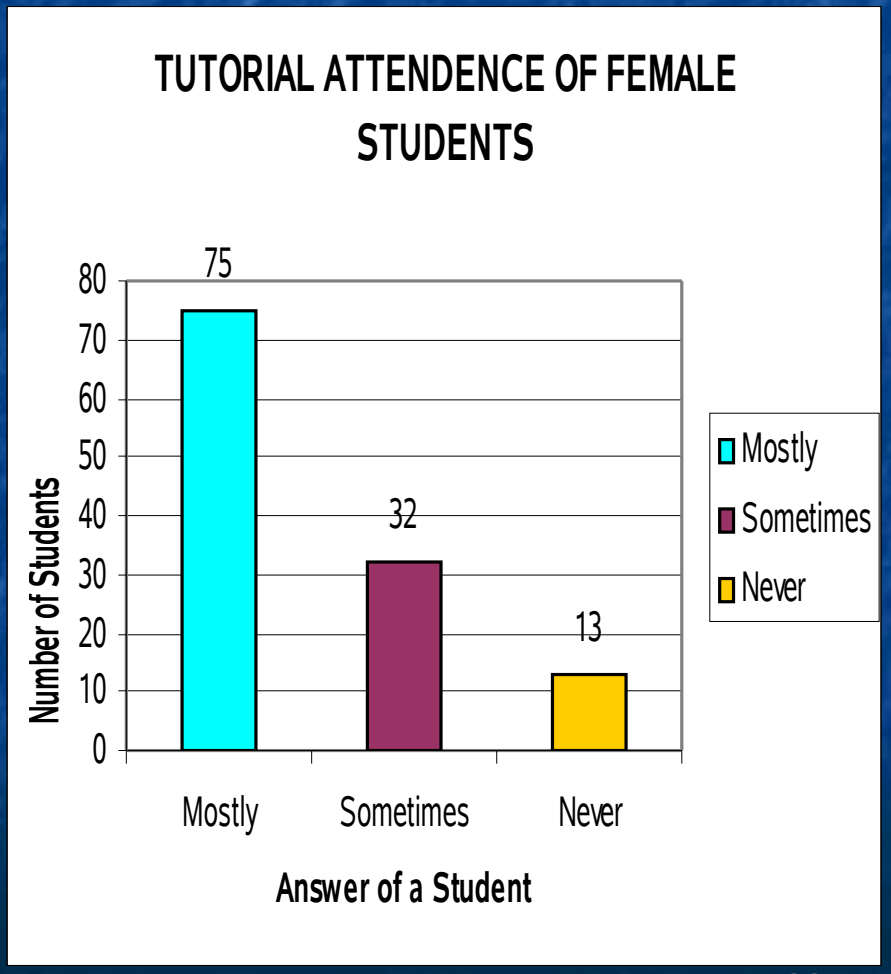
DF = 2, P-Value = 0.000

There is a relationship between lecture attendance and gender.

Relationship between the tutorial attendance of a student and gender

Q: Do you attends to the tutorial classes continuously?
Attends Mostly □ Attends Sometimes □ Never Attends □





Chi-Square Test

Decision Rule: Reject H_0 if p value < α

Accept H_0 if p value > α

Chi-Square Test: T_MOST, T_SOMETIMES, T_NEVER

Expected counts are printed below observed counts

	T_MOST	T_SOMETI	T_NEVER	Total
Female	81	45	36	162
	89.62	44.23	28.15	
Male	75	32	13	120
	66.38	32.77	20.85	
Total	156	77	49	282

Chi-Sq = 0.829 + 0.013 + 2.190 + 1.119 + 0.018 + 2.956 =7.124

DF = 2, P-Value = 0.028

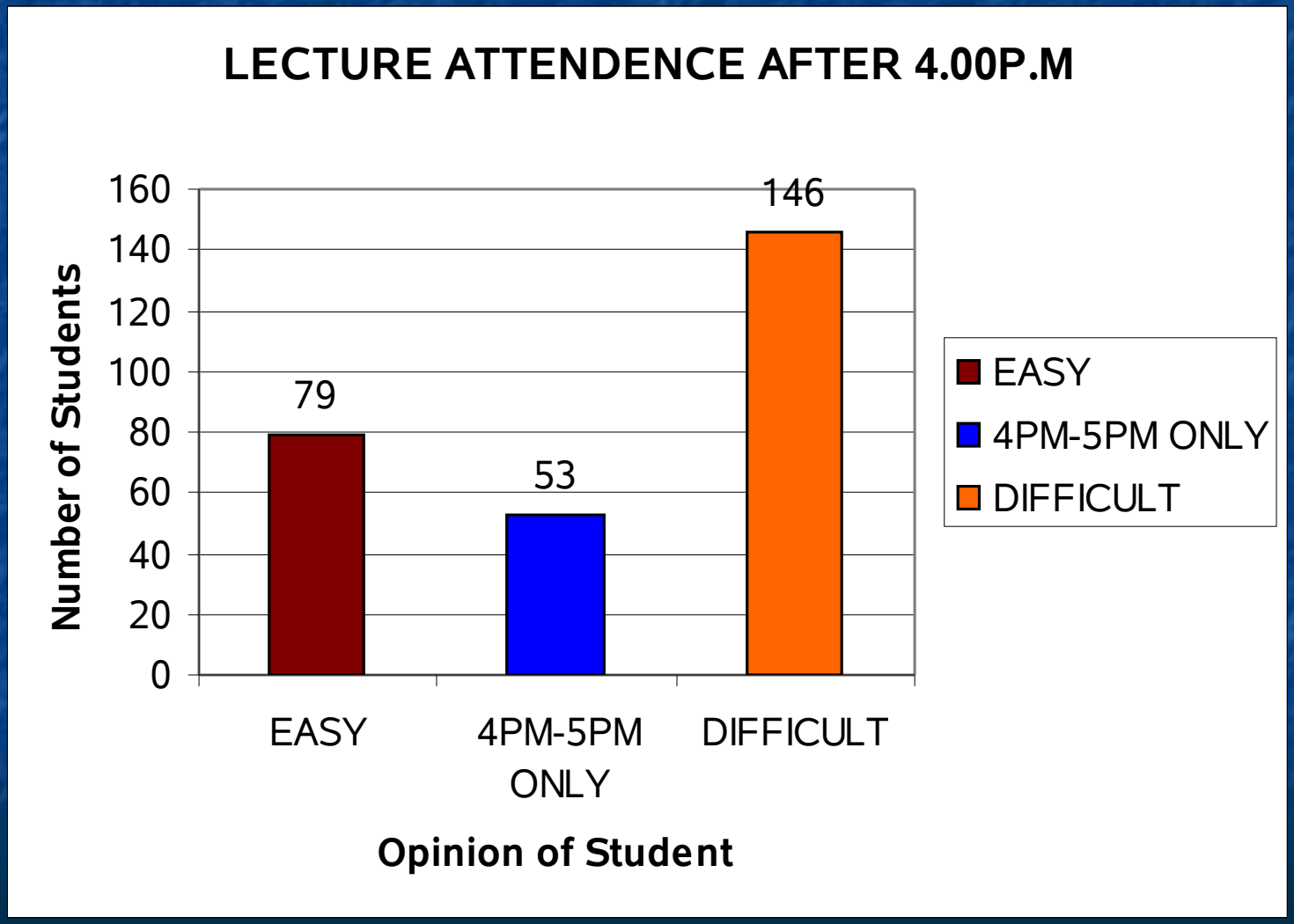
At α=0.025

Tutorial attendance and gender are independent

At α=0.05

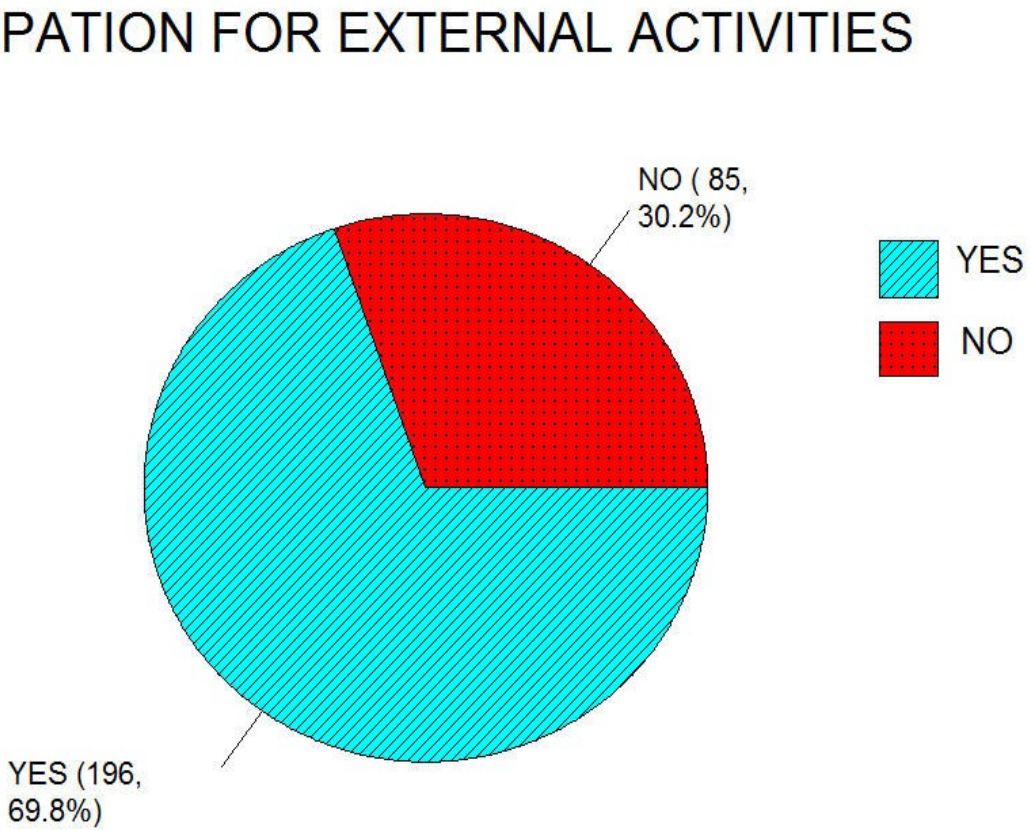
Tutorial attendance and gender are dependent

Q: Is it possible to attend to the lectures which is held after 4:P.M?
Possible □ Impossible □ possible during 4:00P.M-5:00P.M



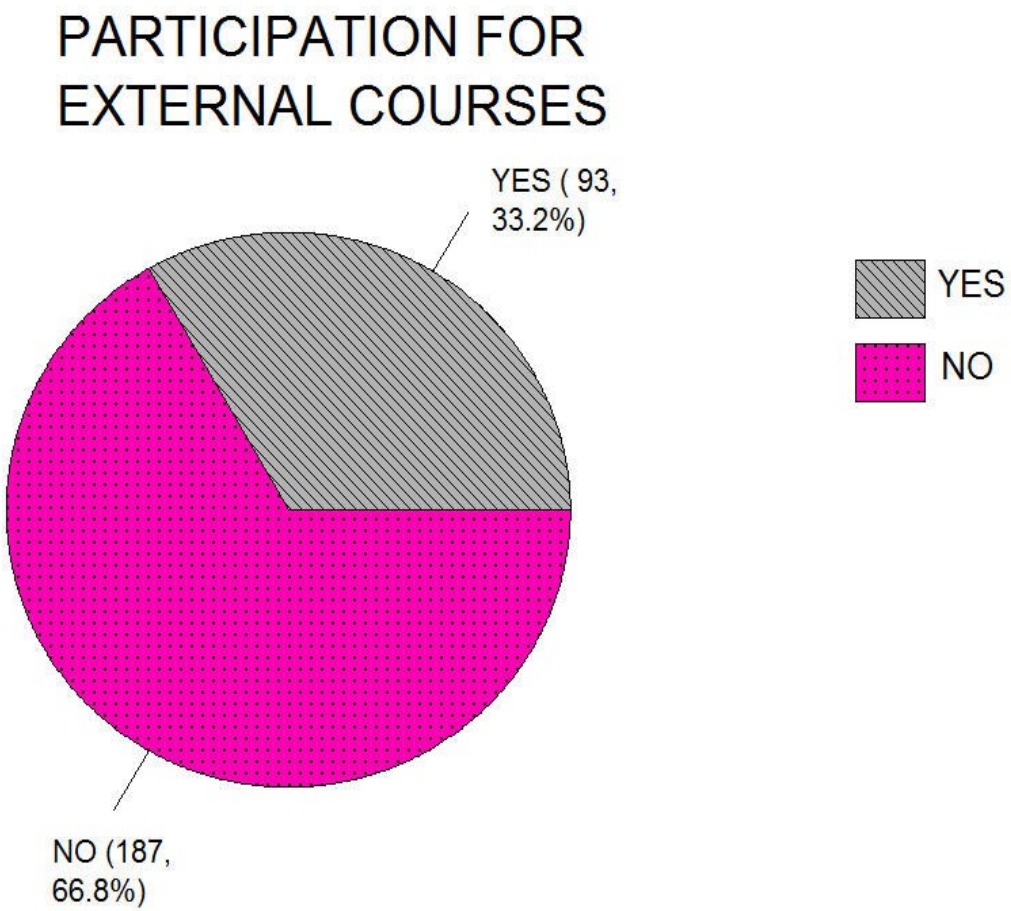
Q: Do you participate for the external activities except university education?

Yes □ No □



Q: Do you participate for the external courses except university education?

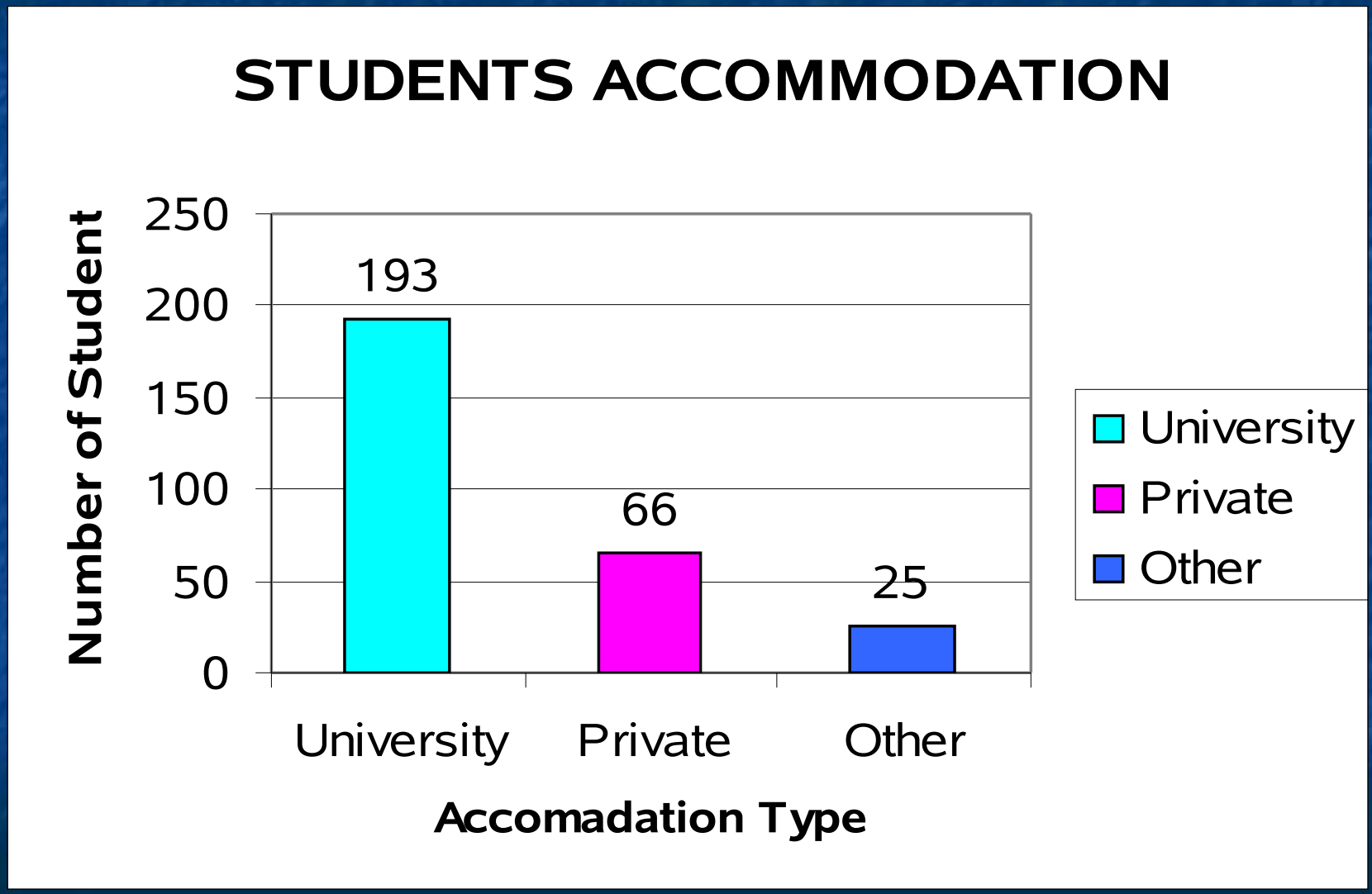
Yes □ No □



Analysis about the student's welfare & academic facilities

Q: Accommodation during the academic period

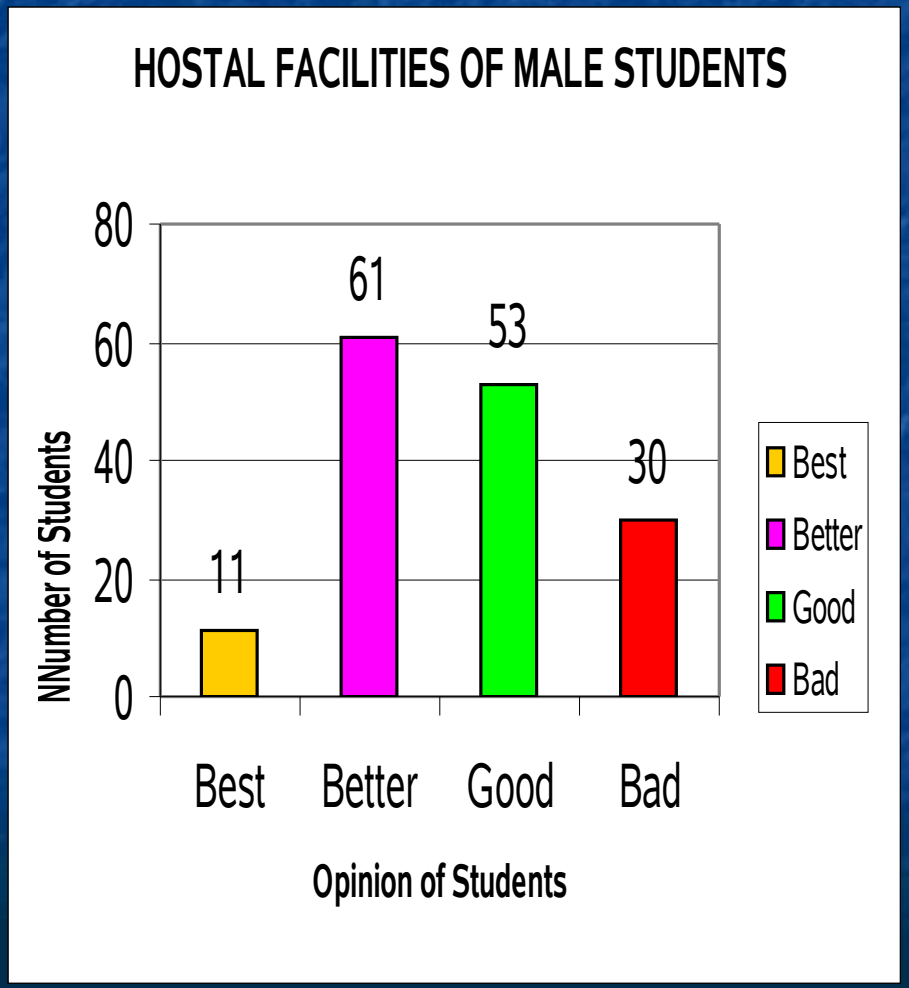
University Hostels □ **Private Hostels □** **Other □**

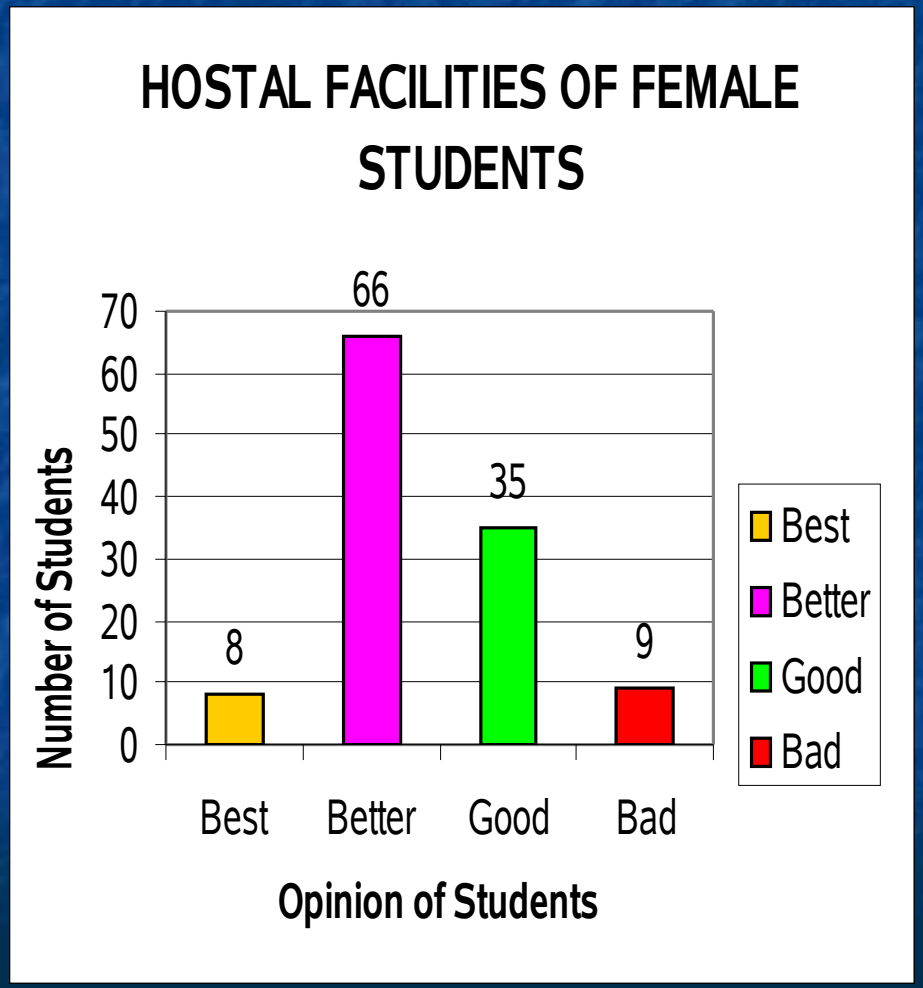


Relationship between the opinion of students about hostel facilities and gender

Q: Opinion about the facilities of university hostels

Best □ Better □ Good □ Bad □





Chi-Square Test

Decision Rule: Reject H_0 if p value < α

Accept H_0 if p value > α

Chi-Square Test: BEST, BETTER, GOOD, BAD

Expected counts are printed below observed counts

	BEST	BETTER	GOOD	BAD	Total
Female	11	61	53	30	155
	10.79	72.11	49.96	22.14	
Male	8	66	35	9	118
	8.21	54.89	38.04	16.86	
Total	19	127	88	39	273

Chi-Sq = 0.004 + 1.711 + 0.185 + 2.788 +

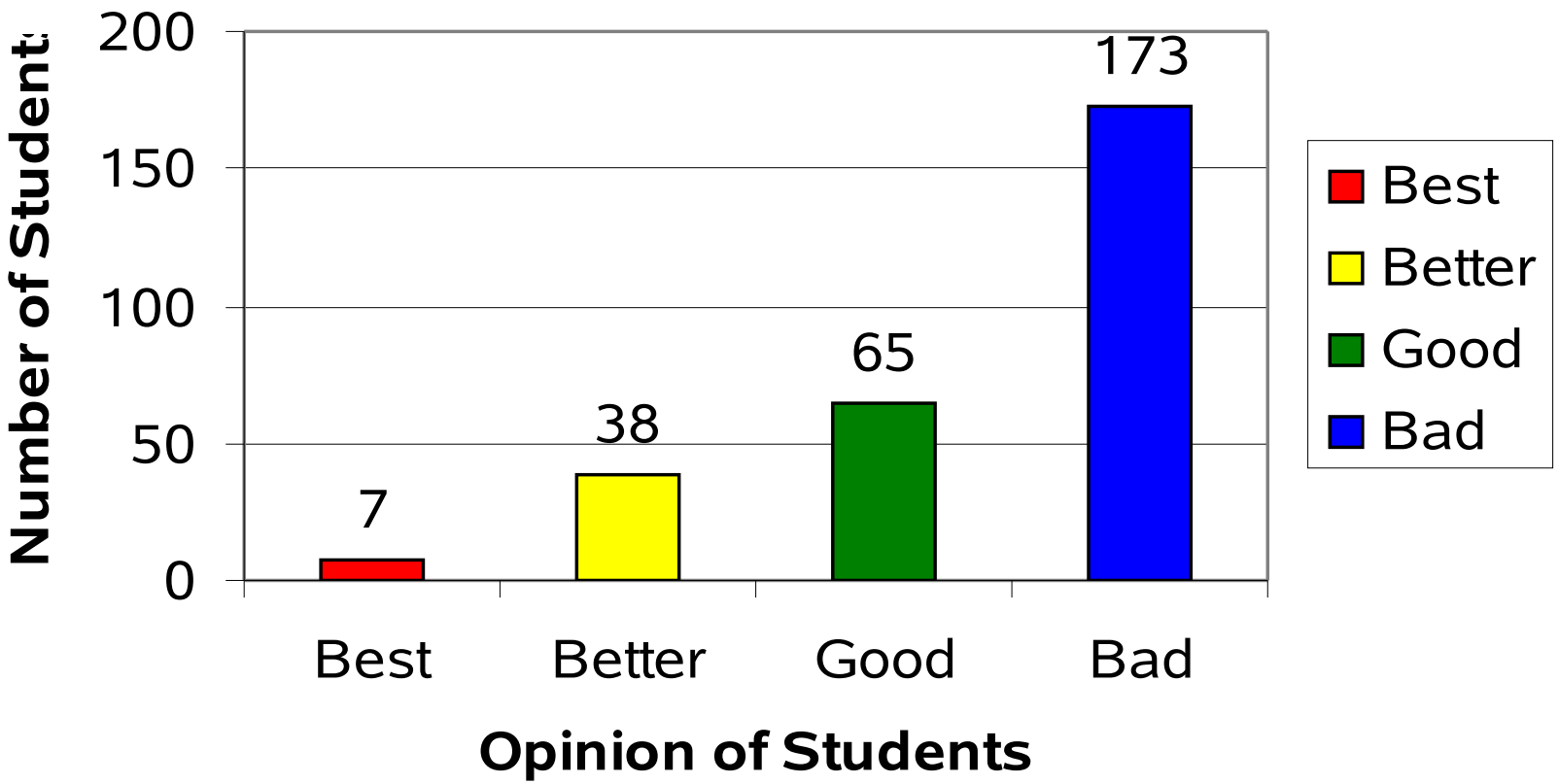
0.005 + 2.247 + 0.242 + 3.662 = 10.845

DF = 3, P-Value = 0.013

There is a relationship between the opinion of a student about hostel facilities and gender.

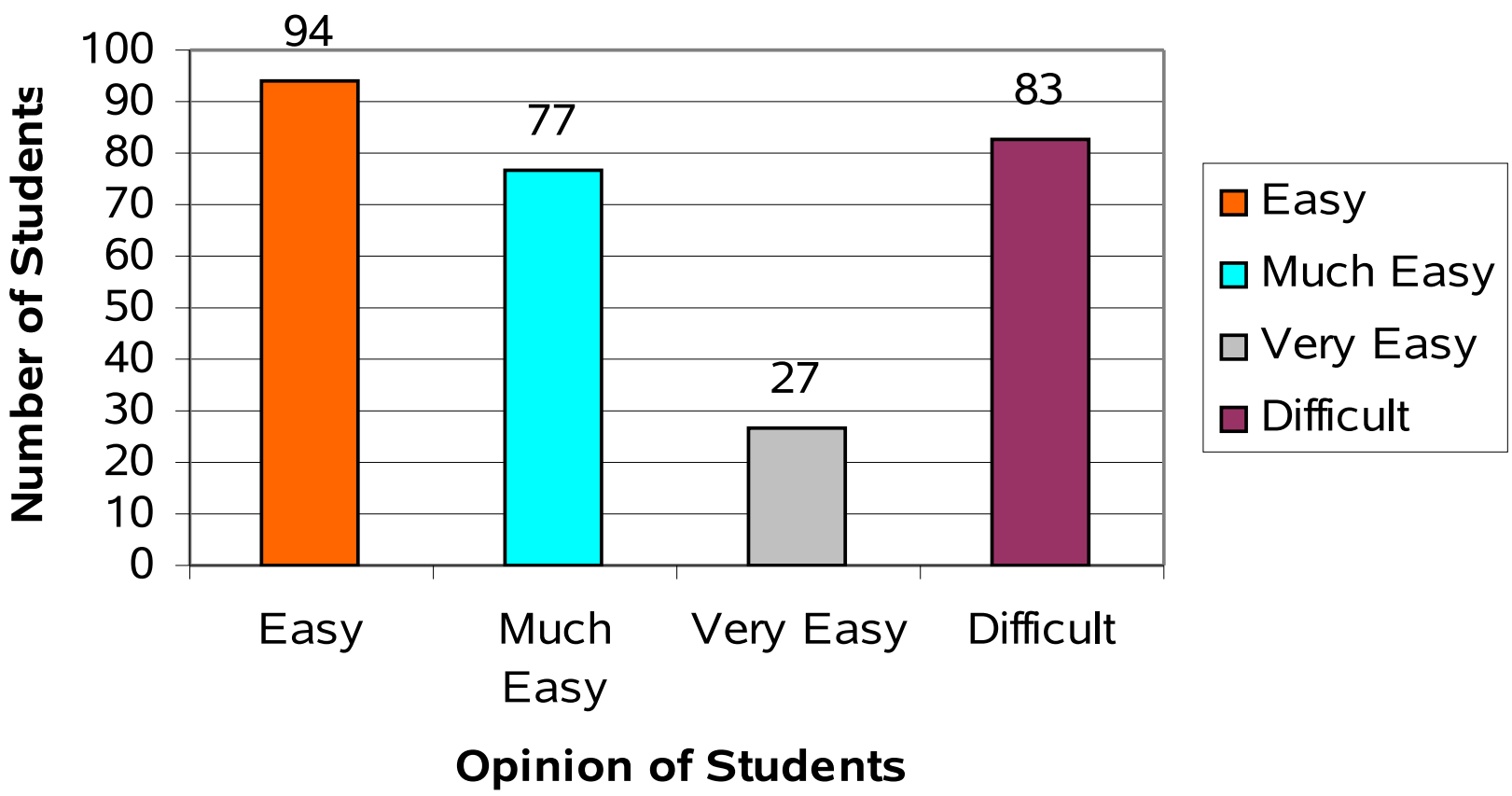
Q: Opinion about the facilities of university canteens

Best □ Better □ Good □ Bad □



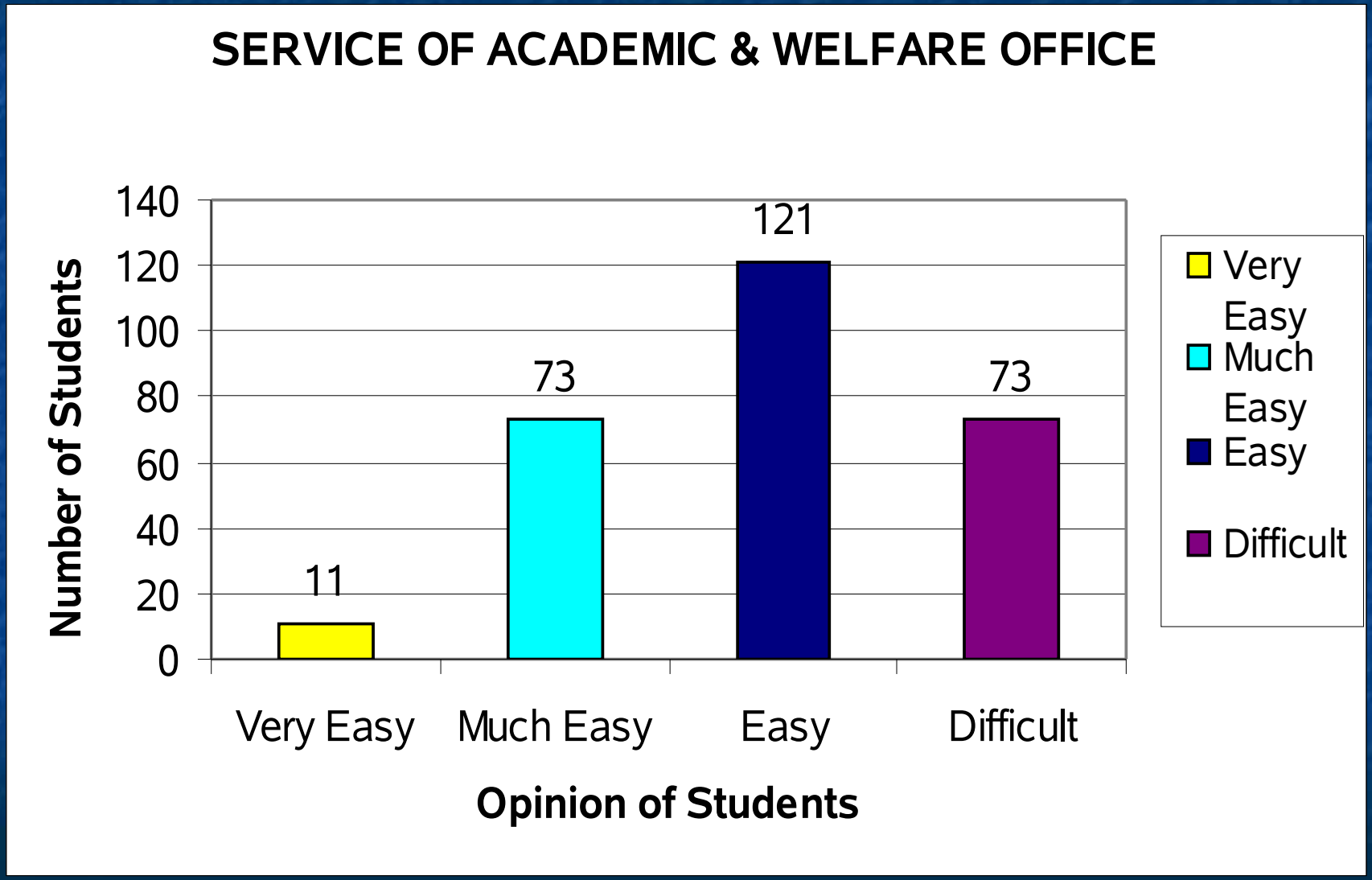
Q: **Opinion about the service of student's unions?**

Easy □ Much easy □ Very Easy □ Difficult □

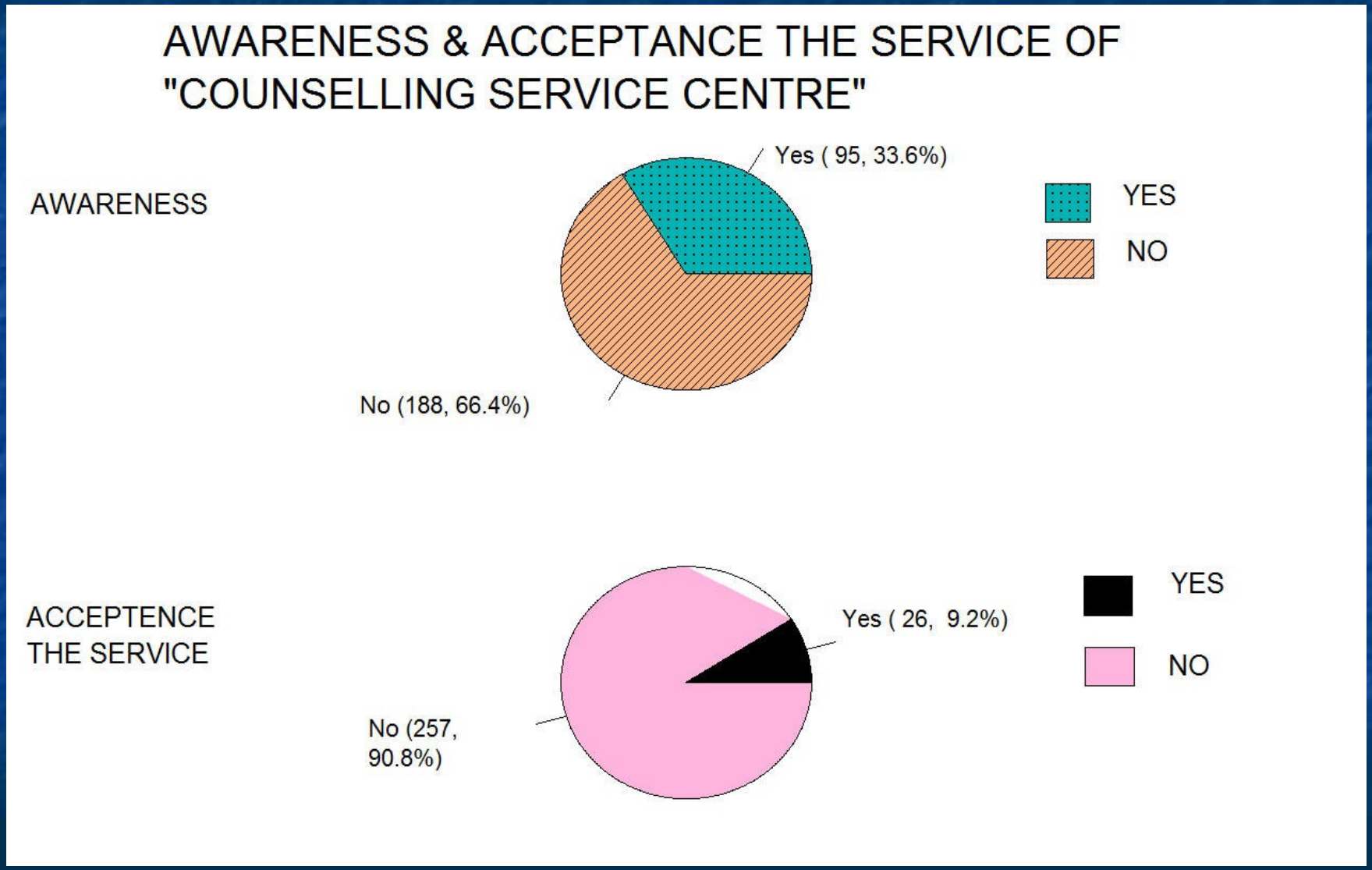


Q: **Opinion about the service of Academic & welfare offices?**

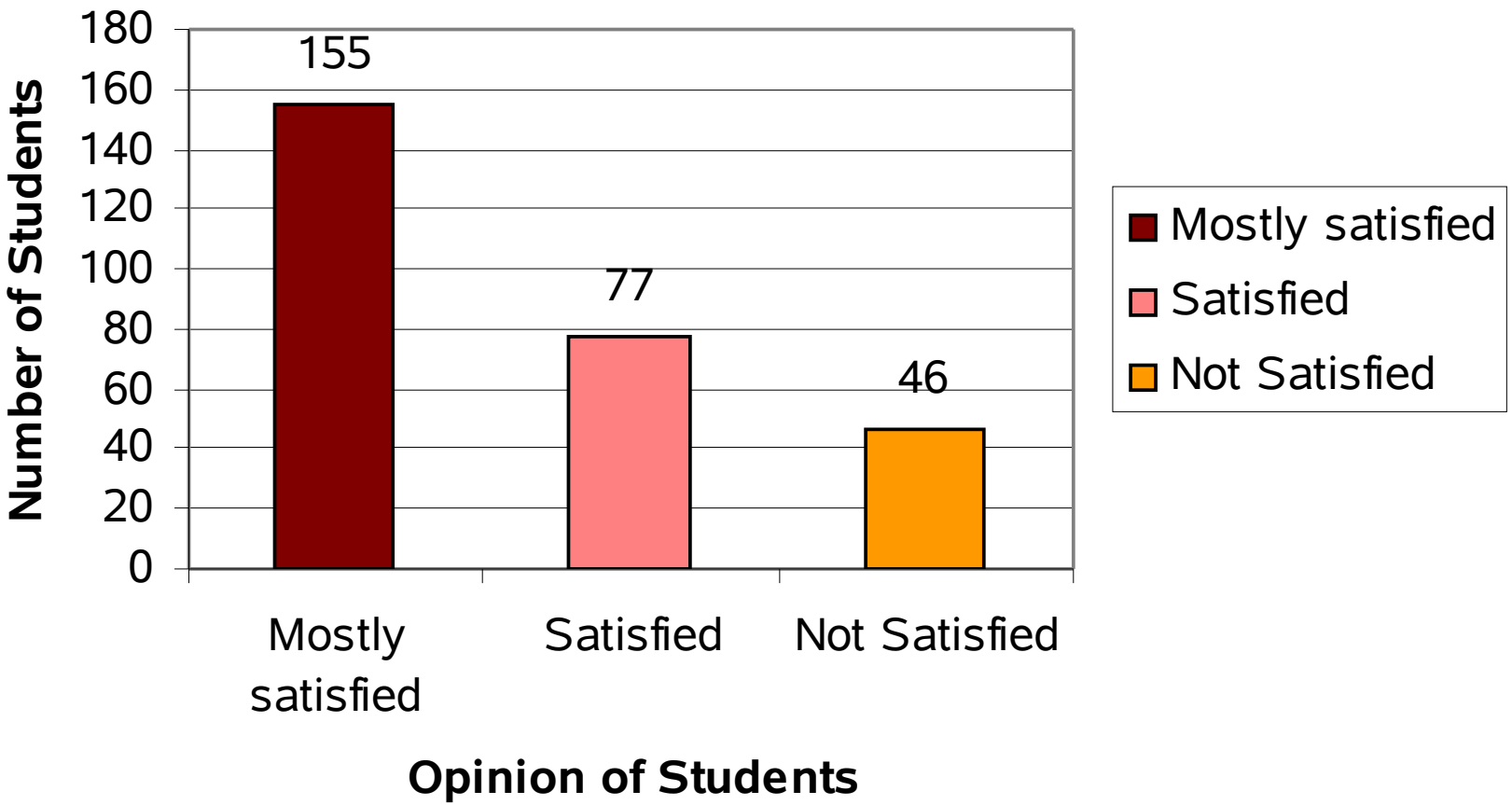
Easy □ Much easy □ Very Easy □ Difficult □



Q: **Do you know about the "counseling service center"? Yes □ No □**
If you know about that Have you ever been accept the service? Yes □ No □

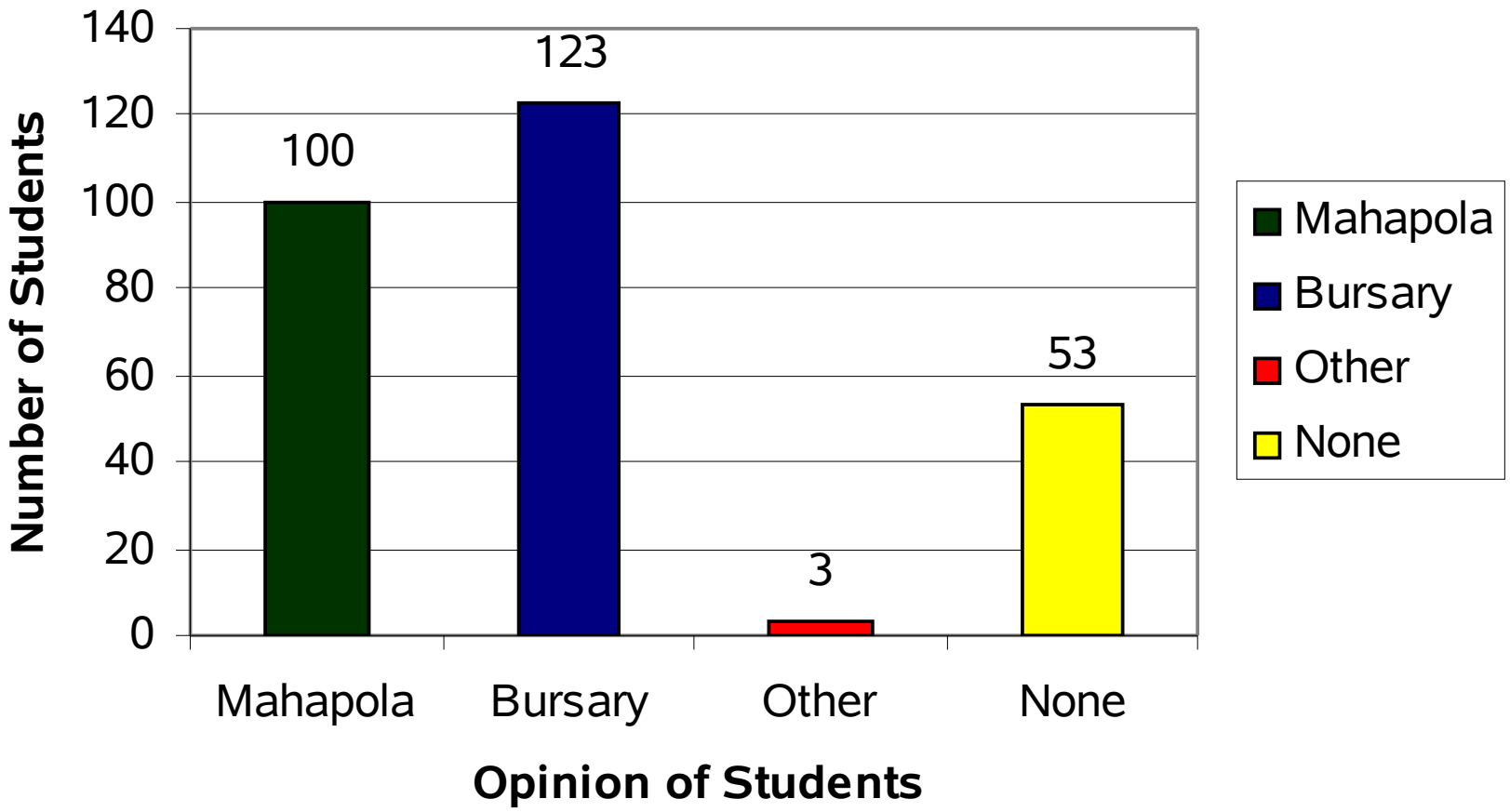


Q: **Do you satisfied about the medical facilities of University of Ruhuna?**
Mostly satisfied □ Satisfied □ Not satisfied □



Q: Information about Bursaries

Mahapola □ Bursary □ Other □ Do not get bursary □



Regression out put

Response Variable:" Average"-Average marks of students

Average=Total Marks/Total Grades

"A"-70
"B"-60
"C"-40
"D"-30
"E"-20

Predictors:-"Z-Score marks" , " Distance from home" , " Gender" , "Lecture Attendance" & "Tutorial Attendance"

Backward Elimination

Hypothesis: $H0: \beta_k = 0$

$Ha: \beta_k \neq 0$

Decision Rule: Reject H_0 if p value < α

Accept H_0 if p value > α

The Final regression equation is

AVERAGE = 54.0 + 5.94 FEMALE + 4.67 L_MOST - 2.39 T_MOST

Hypothesis: H_0: $\beta_k=0$

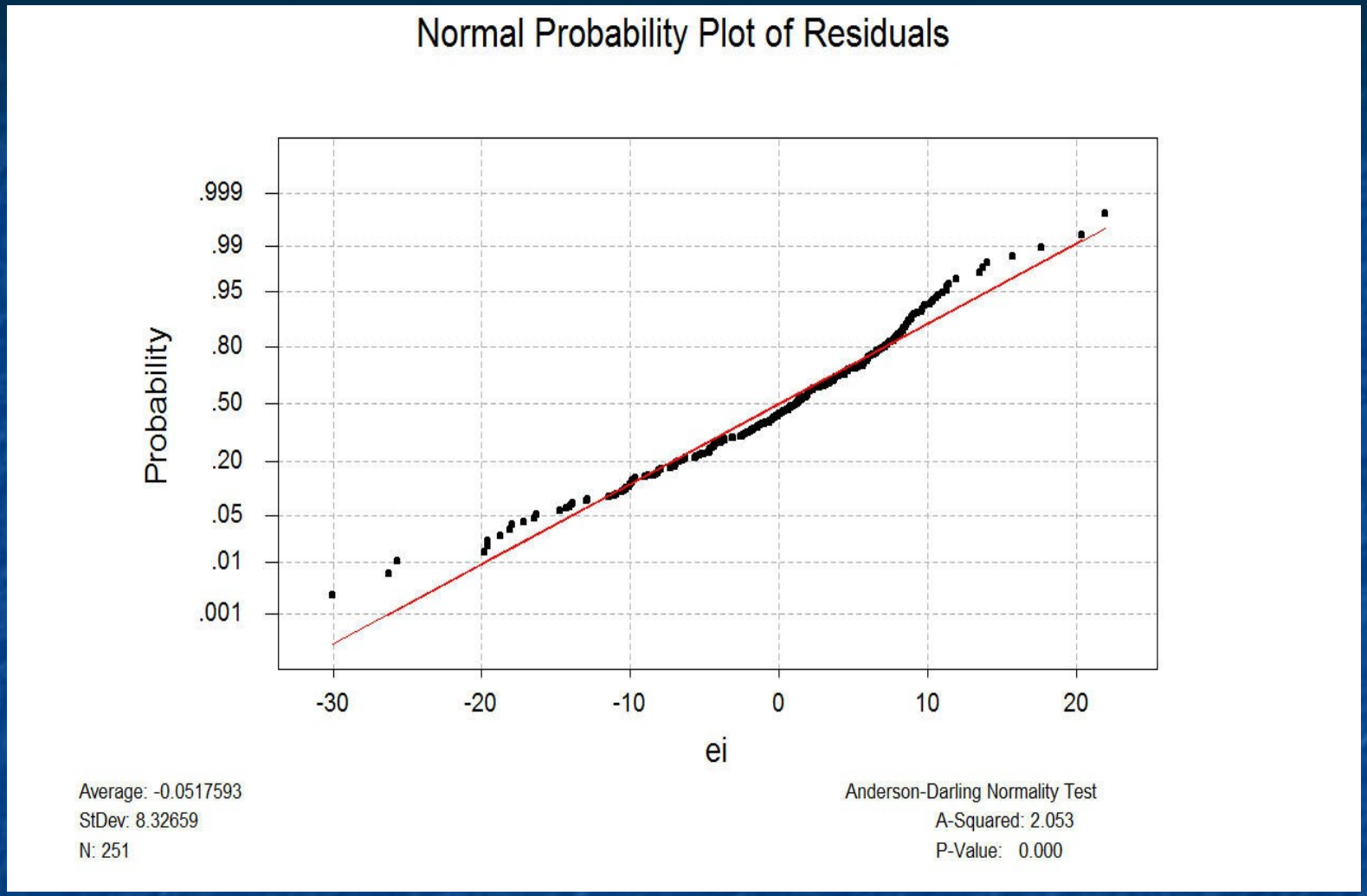
H_a: $\beta_k\neq0$

Decision Rule: Reject H_0 if p value < α

Accept H_0 if p value > α

Predictor	Coef	SE Coef	T	P
Constant	53.989	1.203	44.89	0.000
MALE	-5.937	1.136	-5.22	0.000
L_MOST	4.667	1.439	3.24	0.001
T_MOST	-2.393	1.417	-1.69	0.093

S = 8.377 R-Sq = 16.6% R-Sq(adj) = 15.6%



Residuals are normally distributed.

Chi-Square Test

Decision Rule: Reject H_0 if p value < α

Accept H_0 if p value > α

Chi-Square Test: L_MOST_1, L_SOMETIMES_1, L_NEVER_1

Expected counts are printed below observed counts

	L_MOST_1	L_SOMETI	L_NEVER_	Total
"0-45"	19	22	8	49
	30.11	14.37	4.53	
"46-100"	134	51	15	200
	122.89	58.63	18.47	
Total	153	73	23	249

Chi-Sq = 4.098 + 4.057 + 2.666 +

1.004 + 0.994 + 0.653 = 13.474

DF = 2, P-Value = 0.001

1 cells with expected counts less than 5.0

There is a relationship between average mark of a student and lecture attendance.

Chi-Square Test

Decision Rule: Reject H_0 if p value < α

Accept H_0 if p value > α

Chi-Square Test: Female, Male

Expected counts are printed below observed counts

	Female	Male	Total
"0-45"	10	39	49
	22.56	26.44	
"46-100"	106	97	203
	93.44	109.56	
Total	116	136	252

Chi-Sq = 6.989 + 5.961 +

1.687 + 1.439 = 16.076

DF = 1, P-Value = 0.000

There is a relationship between average mark of a student and gender.

Chi-Square Test

Decision Rule: Reject H_0 if p value < α

Accept H_0 if p value > α

Chi-Square Test: T_MOST_1, T_SOMETIMES_1, T_NEVER_1

Expected counts are printed below observed counts

	T_MOST	T_SOMETI	T_NEVER	Total
"0-45"	18	20	11	49
	22.75	18.67	7.58	
"46-100"	99	76	28	203
	94.25	77.33	31.42	
Total	117	96	39	252

Chi-Sq = 0.992 + 0.095 + 1.539 + 0.239 + 0.023 + 0.372 = 3.260

DF = 2, P-Value = 0.196

At α=0.025

There is no relationship between average mark of a student and tutorial attendance.

At α=0.05

There is a relationship between two categories

Conclusions

- Most of the students in faculty of science were from Badulla, Hambantota & Ratnapura districts.
- The opinion of students about the hostel facilities are good.
- The opinion of students about the canteen facilities are not in a good condition.
- The average marks of a female students is nearly 5 times greater than from mail's.
- The average marks of the students who attend to the lectures mostly is nearly 4 times greater than from others.
- There is a negative relationship between the average makes of student and tutorial attendance.