Assignment_19.1

Here is the table of expected counts:

	High School	Bachelors	Masters	Phd.	Total
Female	50.886	49.868	50.377	49.868	201
Male	49.114	48.132	48.623	48.132	194
Total	100	98	99	98	395

So, working this out $X^2 = \Sigma[(O-E)^2/E]$

$\therefore X^2 = \frac{(60-50.886)^2}{50.886} + \frac{(54-49.868)^2}{49.868} + \ldots + \frac{(57-48.132)^2}{48.132} =$

$8.006.$

The critical value of X^2 with 3 degree of freedom is 7.815.

Since $8.006 > 7.815$, therefore we reject the null hypothesis and conclude that the education level depends on gender at a 5% level of significance.