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**MATRIC NO: 17/ MHS01/028**

**DEPARTMENT: PHYSIOLOGY**

**COURSE TITLE:DEMOGRAPHY AND BIOSTATISTICS**

**COURSE CODE: STA 312**

**ASSIGNMENT**

1. Hypothesis testing is an act in statistics whereby an analyst [tests](https://www.investopedia.com/terms/w/wilcoxon-test.asp) an assumption regarding a population parameter. The methodology employed by the analyst depends on the nature of the data used and the reason for the analysis. Hypothesis testing is used to assess the plausibility of a hypothesis by using sample data. Such data may come from a larger population, or from a data-generating process.
2. Classical probability is the statistical concept that measures the likelihood of something happening, but in a classic sense, it also means that every statistical experiment will contain elements that are equally likely to happen. **WHILE** The P value, or calculated probability, is the probability of finding the observed, or more extreme, results when the null hypothesis (H0) of a study question is true the definition of ‘extreme’ depends on how the hypothesis is being tested. P is also described in terms of rejecting H0 when it is actually true, however, it is not a direct probability of this state.
3. Statistical hypothesis testing, also called confirmatory data analysis, is often used to decide whether experimental results contain enough information to cast doubt on conventional wisdom. For example, at one time it was thought that people of certain races or color had inferior intelligence compared to Caucasians. A hypothesis was made that intelligence is not based on race or color. People of various races, colors and cultures were given intelligence tests and the data was analyzed. Statistical hypothesis testing then proved that the results were statistically significant in that the similar measurements of intelligence between races are not merely sample error. Hypothesis testing is one of the most important concepts in research because it is how you decide if something really happened, or if certain treatments have positive effects, or if groups differ from each other or if one variable predicts another. In short, you want to proof if your data is statistically significant and unlikely to have occurred by chance alone. In essence then, a hypothesis test is a test of significance.