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DEPT: PHYSIOLOGY

MAT NO: 17/MHS01/214

COURSE CODE: STAT 312

COURSE TITLE: DEMOGRAPHY AND BIOSTATISTICS

**ASSIGNMENT.**

1. What do you understand by hypothesis testing?

ANS: That it is an act in statistics whereby an analyst tests an assumption regarding a population parameter which may be discredited or approved.

1. Differentiate between the classical and the p-value approach for hypothesis testing.

ANS:

**CLASSICAL APPROACH**.

The classical Approach to hypothesis testing is to compare a test statistic and a critical value. It is best used for distributions which give areas and require you to look up the critical value (like the student’s distribution) rather than distributions which have you look up a test statistic to find an area (like the normal distribution)

The classical Approach also has three different decision rules, depending on whether it is a left tail, right tail, or two tail test.

One problem with the Classical Approach is that if a different level of significance is desired, a different critical value must be read from a table.

WHILE

**P-VALUE APPROACH.**

The P-value Approach, short for Probability Value, approaches hypothesis testing from a different manner. Instead of comparing z-scores or t-scores as in the classical approach, your comparing probabilities, or areas.

The level of significance (alpha) is the area in the critical region. That is, the area in the tails to the right or left of the critical values.

The p-value is the area to the right or left of the test statistic. If it is a two tail test, then look up the probability in one tail and double it.

If the test statistic is in the critical region, then the p-value will be less than the level of significance. It does not matter whether it is a left tail, right tail, or two tail test. This rule always holds.

1. What is the importance of hypothesis testing in research?

ANS: Hypothesis testing is one of the most important concepts in statistics because it is how you decide if something really happened, or if certain treatments have positive e effects, or if groups differ from each other of 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.