

### **Assignment-3\_DADV**

Q.1 Explain the difference between probability and probability distribution. Provide an example of each.

Q.2 A bag contains 5 red balls, 3 blue balls, and 2 green balls. If one ball is randomly selected from the bag:

- Calculate the probability of selecting a red ball.
- Calculate the probability of selecting either a blue or a green ball.
- What is the probability distribution for selecting each color?

Q.3 What are the steps involved in hypothesis testing? Explain the significance of the null hypothesis and the p-value.

Q.4 What is an ANOVA test, and when is it used? Explain the difference between one-way ANOVA and two-way ANOVA.

Q.5 Explain the chi-square test and its applications. What are the differences between the chi-square goodness-of-fit test and the chi-square test of independence?

**Note: Submit the assignment on or before 31/08/2024.**

Date: 23/08/2024

Dr. Vinod Patidar  
Asst. Prof. (CSE Dept)  
PIT, Vadodara