

## **STATISTICS WORKSHEET-8**

### **Answers the Following Questions-**

Ans 1-b. The probability of failing to reject  $H_0$  when  $H_1$  is true

Ans 2-a. correct hypothesis

Ans 3-d. Type I error

Ans 4-b. the t distribution with  $n - 1$  degrees of freedom

Ans 5-a. accepting  $H_0$  when it is false

Ans 6-d. a two-tailed test

Ans 7-b. the probability of committing a Type I error

Ans 8-a. the probability of committing a Type II error

Ans 9-a.  $z > z_\alpha$

Ans 10-c. the level of significance

Ans 11-a. level of significance

Ans 12-d. All of the Above

Ans 13-Analysis of Variance, i.e. ANOVA in SPSS, is used for examining the differences in the mean values of the dependent variable associated with the effect of the controlled independent variables, after taking into account the influence of the uncontrolled independent variables.

Ans 14-There are three primary assumptions in ANOVA: The responses for each factor level have a normal population distribution. These distributions have the same variance. The data are independent.

Ans 15-The only difference between one-way and two-way ANOVA is the number of independent variables. A one-way ANOVA has one independent variable, while a two-way ANOVA has two.

One-way ANOVA: Testing the relationship between shoe brand (Nike, Adidas, Saucony, Hoka) and race finish times in a marathon.

Two-way ANOVA: Testing the relationship between shoe brand (Nike, Adidas, Saucony, Hoka), runner age group (junior, senior, master's), and race finishing times in a marathon