**Econometrics Test Full marks is 25.**

**1 Is it possible to identify the following equations with any standard equation referred in discussion relating two variable linear regression? If yes, write down the name of the equation. Otherwise write no.**

(8)

**2. For a two variable linear regression equation, develop a procedure for testing the significance of the coefficient of the explanatory variable. A sample of size N is drawn from the population.**

**Answer with respect to the following points:**

1. **Null hypothesis**
2. **Alternative hypothesis**
3. **What is the sample statistic?**
4. **How to convert the sample statistic into test statistic?**
5. **What distribution is followed by the test statistic?**
6. **What is the degree of freedom associated with the test statistic?**
7. **What assumption is to be used to calculate the test statistic?**
8. **p value decided by the investigator**
9. **Actual p value**
10. **How does the test arrive the result? (10)**
11. **Can you find out regression equation of x on y from regression equation of y on x? Justify with special reference to principle of least squares. (4)**

**4.We already used X in explaining Z. Now, we want to test whether another variable Y may be used in explaining Z, over and above X.**

**Which test statistics need to be used?**

**What other test statistic one may use ? (3)**