



**M.Com. (Semester – III) (Acct. & Fin.) Examination, November 2015**  
**COO 3A1 : ECONOMETRICS FOR FINANCE (OA-18)**

Duration : 3 Hours

Max. Marks : 60

- Instructions :** 1) This paper consists of **nine** questions carrying **equal** marks.  
2) Question No. 1 consists of **5 compulsory** questions of **2 marks each**.  
3) Answer **any 5** questions from question 2, 3, 4, 5, 6, 7, 8 and 9.  
4) **Each** question carries **10** marks. Figures to the **right** indicate marks.

1. Answer the following. (5×2=10)
  - a) Distinguish between Null Hypothesis and Alternative Hypothesis.
  - b) Define Heteroscedasticity.
  - c) Write a note on  $R^2$  (coefficient of determination).
  - d) What you mean by Stationarity in Time Series ?
  - e) Distinguish between ANOVA and ANCOV models.
2. Explain the methodology of econometric modelling with suitable example. 10
3. Briefly discuss the assumptions of Classical Linear Regression Model. 10
4. Define Autocorrelation. How to detect the presence of autocorrelation using Durbin Watson Statistic ? 10
5. What is Panel Data ? Explain its applications. 10
6. What do you mean by Cointegration ? Explain Cointegrating Regression. 10



7. a) Explain Random walk model with drift and without drift. 5  
 b) Discuss Stationarity and non-stationarity process in time series. 5
8. Consider the below given output of multiple regression model and make necessary interpretation. 10

**Dependent Variable** : Y

**Method** : Least Squares

**Sample (adjusted)** : 2011:3-2015:2

	Coefficient	Std. Error	t-Statistic	Prob.
<b>Const</b>	10816.0	5988.35	1.806	0.0983
<b>X<sub>2</sub></b>	- 2227.70	920.466	- 2.420	0.0340
<b>X<sub>3</sub></b>	1251.14	1157.02	1.081	0.3027
<b>X</b>	6.28299	30.6217	0.2052	0.8412
<b>X<sub>5</sub></b>	-197.400	101.561	-1.944	0.0780

**R-squared** : 0.834699 **Durbin-Watson** : 2.333986

**F(4, 11)** : 13.88635 **P-value (F)** : 0.000281

Where,

<b>Y</b>	: Quantity of Roses Sold, Dozens
<b>X<sub>2</sub></b>	: Average Wholesale prices of Roses, \$ per dozen
<b>X<sub>3</sub></b>	: Average Wholesale prices of carnations, \$ per dozen
<b>X</b>	: Average weekly family disposable income, \$ per week
<b>X<sub>5</sub></b>	: Trends Variable 1, 2, 3, .....



9. a) What is dummy variable model ? Explain its important features. 5

b) From a sample of 1000 persons in May 2015, the following regression results were obtained : 5

$$Y_i = 7.7148 + 1.0997D_{2i} - 1.5729D_{3i}$$

$$se = (0.3015) (0.3642) (0.3854)$$

$$t = (20.9528) (1.3688) (-2.4462)$$

$$(0.0000)^* (0.0182)^* (0.0006)^* \quad R^2 = 0.0422$$

Y = hourly wage (\$)

$D_2$  = married status, 1 = married, 0 = otherwise

$D_3$  = region of residence; 1 = South, 0 = otherwise

i) Which is the benchmark category here ?

ii) Are the preceding average hourly wages statistically different compared to the base category ?

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