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Register Number:

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**ST. JOSEPH’S COLLEGE (AUTONOMOUS), BENGALURU-27**

**B.A ECONOMICS- VI SEMESTER**

**SEMESTER EXAMINATION: APRIL 2017**

**ECA-6316: Basic Econometrics**

**Time: 3 hrs Max Marks: 100**

*This paper contains two printed pages*

**PART A**

1. **Answer any TEN of the following questions 3X10=30**
2. What are Time series and Cross sectional data?
3. Distinguish between the regression and correlation.
4. What are mathematical and econometric models?
5. Distinguish between instantaneous and compound growth rates
6. What is an error term? What is its significance?
7. Differentiate between the R square and Adjusted R square
8. The following regression results give the information on determinants of consumption for the United States for 1980-1985.

 $\hat{Yi}$= -31116+1.0951 PDPI

$se$ = (0.0266)

$ $ R2= 0.992

 Where

 Y = Per capita consumption expenditure

 PDPI = Per capita Disposable Personal Income

1. Interpret the regression results
2. Do the results make economic sense
3. What is your interpretation for R2 ?
4. What are the BLUE properties of OLS estimators?
5. What are LIN-LOG and LOG –LIN models?
6. What is auxiliary regression? Give an example.
7. What is PARK test?
8. Briefly state Durbin-Watson d statistic.

**PART B**

1. **Answer any FIVE of the following questions 5X5=45**
2. Explain the process of hypothesis testing by confidence interval approach.
3. Write the properties of Normal Distribution.
4. Explain the assumption of Classical Linear Regression Model (CLRM).
5. State and explain the Gauss-Markov theorem.
6. How do you detect the problem of multicollinearity in a regression results?
7. What happens when the error terms are correlated? What are its consequences?

**ECA-6316-A-17**

1. Consider the following data:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Demand | 10 | 20 | 23 | 25 | 42 | 55 |
| Price | 8 | 7 | 6 | 4 | 3 | 1 |

1. Estimate the demand model D= β0+β1P+ui
2. Predict the demand when Price P = 9

**PART C**

1. **Answer any THREE the following questions 15X3=45**
2. Discuss the objectives and methodology of econometric model with an appropriate model.
3. The following data gives mean hourly wage($) by education derived by the population survey conducted in 1985 for United States.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Years of Schooling (x) | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| Mean wage (Y) | 4.4567 | 5.77 | 5.9787 | 7.3317 | 7.3182 | 6.5844 | 7.8182 | 7.8351 | 11.0223 | 10.6738 |

1. Build a two variable regression model of the form

$Y\_{i}$=$β\_{1}$+$β\_{2}X\_{2i}$+$u\_{i}$

1. Compute the Variance and standard errors of $\hat{β}$1 and $\hat{β}$2

1. Interpret the results.
2. Estimate R Square.
3. Explain the functional forms of Regression function with an example.
4. What is multicollinearity? What are its consequences? How is it detected? Suggest the remedial measures
5. What do you mean by heteroscadasticity? Explain the consequences? How is it detected? Suggest remedial measures.