Name: **Enrolment No:**	UPES UNIVERSITY WITH A PURPOSE

UNIVERSITY OF PETROLEUM & ENERGY STUDIES

End Semester Examination (Online) – July, 2020

Program/course	**: MA Economics (EE)**	**Semester**	**: II**
Subject	**: Econometrics Modeling**	**Max. Marks**	**: 100**
Code	**: ECON 7009**	**Duration**	**: 3 Hrs**

IMPORTANT INSTRUCTIONS

1. *The student must write his/her name and enrolment no. in the space designated above.*
2. *The questions have to be answered in this MS Word document.*
3. *After attempting the questions in this document, the student has to upload this MS Word document on Blackboard.*

Attempt all the questions		**Marks**	**COs**
Q.1	To explain what determines the price of air conditioners, Raju obtained the following regression results based on a sample of 19 air conditioners: $\hat{Y}_i = -68.236 + 0.023X_{2i} + 19.729X_{3i} + 7.653X_{4i}$ Se= (0.005) (8.992) (3.082) R^2= 0.84 Where, Y= the price in dollars X_2= the *British thermal units* (BTU) rating of air conditioner X_3= the energy efficiency ratio X_4= the number of settings I. Interpret the regression results; do the results make any economic sense? II. At α = 5%, test the hypothesis that the BTU rating has no effect on the price of an air conditioner versus that it has a positive effect; what would be your interpretation of R^2?; justify the negative intercept in this model.	20	CO1
Q.2	Explain the following methods in detecting heteroscedasticity: I. Graphical Method II. Park Test	20	CO2
Q.3	Define Durbin-Watson *d* test. Explain its assumption and mechanism in detecting autocorrelation.	20	CO3
Q.4	Describe 8-steps of methodology of econometrics with example from energy sector.	20	CO4
Q.5	Define Gauss–Markov theorem with properties of least square estimators.	20	CO3, CO4

ANSWERS