Name:
Enrolment No:

UPES
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UNIVERSITY OF PETROLEUM & ENERGY STUDIES
End Semester Examination (Online) – December, 2020

Program: BA (EE) III — Semester: III
Subject/Course: Basic Econometrics — Max. Marks: 100
Course Code: ECON2001 — Duration: 3 Hours

Q.No.		COs
	SECTION A (6*5= 30 Marks) **1. Each Question will carry 5 Marks** **2. Instruction: Complete the statement / Select the correct answer(s)**	**COs**
1.	Which equation is true for the assumption of 'no autocorrelation'? **A) Covariance (μ_t, μ_{t-s})= 0** **B) Covariance (μ_t, μ_{t-s}) $\neq$ 0**	CO4
2.	Does the value of ρ fall between 0 to 1?	CO4
3.	In Durbon-Watson test, what does quadrant $d_4<d<4-d_4$ indicates? **A) +ACT** **B) –ACT** **C) Inconclusive decision** **D) No ACT**	CO4
4.	From the given options, what will be the correct formulae of OLS Homoscedasticty? **A)** $Var(\beta cap) = \frac{\sigma^2}{\sum xi^2}$ **B)** $Var(\beta cap) = \frac{\sigma^2 xi^2}{(\sum xi^2)^2}$	CO2
5.	Which statement is false for adjusted R^2? a) $\bar{R}^2$ is always less than R^2. b) $\bar{R}^2$ Can't be negative and always lies between -1 to 1 c) $\bar{R}^2$ fail to adjust degree of freedom. **i) both a & b** **ii) both b& c** **iii) both a & c** **iv) only c**	CO3
6.	a) Existence of non-linearity in the model. b) Regressors can't be fixed number c) Mean of the disturbance term is 0. **Referring to above points, we can apply OLS assumption only in?** **i) a situation** **ii) b situation** **iii) c situation** **iv) none is correct.**	CO1
	Section B (5*10= 50 Marks) **1. Each question will carry 10 marks** **2. Instruction: Write short / brief notes**	
1	Derive and explain best estimator under 'Gauss Markov Theorem'.	CO2
2	Discuss asymptotic properties of OLS estimator	CO1
3	Using suitable examples, clearly explain the decision rule of T-test and F-test	CO3
4	Critically explain the reasons of occurring autocorrelation.	CO4
5	Derivate the estimation of 'beta cap' in GLRM.	CO3
	Section C (1*20)= 20 Marks	

	1. Each Question carries 20 Marks. **2. Instruction: Write long answer.**	
1	Discuss in detail about nature, detection, consequences and relevant measures for Multicolinearity. OR Discuss in detail about nature, detection, consequences and relevant measures for Hetroscedasticity.	CO4