

Name:
Enrolment No:



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

Program: BA (EE) III
Subject/Course: Basic Econometrics
Course Code: ECON2001

Semester: III
Max. Marks: 100
Duration: 3 Hours

SECTION A (6*5= 30 Marks)		
Q.No.	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 Homoscedasticity? 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 Multicollinearity. <p style="text-align: center;">OR</p> Discuss in detail about nature, detection, consequences and relevant measures for Heteroscedasticity.	CO4