Name:

Enrolment No:



UNIVERSITY OF PETROLEUM & ENERGY STUDIES DEHRADUN

End-Semester Examination 2021

Program/course: MA EconomicsSemester: IISubject: EconometricsMax. Marks: 100Code: ECON 7009Duration: 3 Hrs

No. of page/s : 4

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	•	l carry 5 Marks er all the questions by filling the	e blank	ç·		
Q1	detion: 7 ms we	or all the questions by ining the	<u>c orank</u>			
Q1	Heteroscedast	ticity is a				
	a.	Problem of time series data	c.	Primary data	[5]	CO1
	b.	Problem of cross-sectional data	d.	Secondary data	[5]	COI
Q2	****	1		6 11 4 1 4 24		
	When choosii	ng between regression models i	it is pre	ferable to choose the one with		
	a.	The highest R ² .	c.	The highest F value	[5]	CO1
	b.	The least number of independent variables.	d.	The most number of independent variables.		
Q3	When the esti		mple re	egression model $\hat{\beta}_2$, is zero, then		
	·	1	1	C FZ'		
	a.	$r^2 = 0$	c.	$0 \le r^2 \le 1$	[5]	CO1
	b.	$r^2 \le 1$	d.	$r^2 \leq 0$		
Q4						
	$E(Y/X_i)=f($	X_i) is known as				
	a.	conditional expectation function	c.	sample expectation function		904
	b.	Cobb-Douglas production	d.	conditional mean function	[5]	CO1

Q5	The wines	anfidanca intanval	l airran hrv	$D_{r} \begin{pmatrix} \wedge & & \\ \rho & & \\ \end{pmatrix}$	$\hat{\beta}_2 \leq \hat{\beta}_2 + \delta$ = $1 - \alpha i$	a Iznavin aa		
	The α in a c	omidence interval	i given by	$PI(\rho_2 - \delta \leq$	$p_2 \le p_2 + o$	S KHOWH as		
	·						[5]	CO1
	a.	Confidence coe	efficient	c.	Level of significan	nce	[2]	
	b.	Level of confid	lanca	d.	Confidence Limit			
Q6	0.	Level of confid	ience	u.	Confidence Limit			
	Systematic c	component of the	equation, 1	$Y_i = E(Y \mid X_i)$	+ u_i is			
	a.	u_i		c.	$E(Y \mid X_i)$		[5]	CO1
	a.	uį		C.	$\mathbf{L}(1 \mid \mathbf{M}_l)$			
	b.	Y_i		d.	X_i			
				SECTIO	N R			
1. Eac	h question wi	ll carry 10 marks		SECTIO.	IN D			
		er all questions					T	ı
Q7.	Examine firs	st five assumption	of classic	al linear regr	ession model.		[10]	CO2
Q8.	Illustrate Ga	uss–Markov theor	rem with p	properties of	least square estimator	rs.	[10]	CO2
Q9	The ANOVA	A table of one regr	ression res	ult is given b	pelow.			
		cal value of F(1,	· '	904 and $\alpha = 5$	5%.			
	Sourc		Df		MSS			
	Mode		1				[10]	G02
	Resid		16					CO2
	Total Compute	494463323	17					
	-	Mean sum of squar	es, (ii) F-	statistics, and	d (iii) State the overa	ll significance		
	О	f the model.						
Q10.		_	~ .	•	Consumption (Million			
		as dependent variance of multicolline			both VIF and TOL a	nd discuss		
	about presen	variable		VIF	1/VIF			
			+				[10]	CO3
		GDP CO2		260.14 249.21	0.003844 0.004013			CO3
		COP FDI		3.72 3.44	0.268896 0.290332			
		Mean VIF	٠,	129.13	0.230332			
		Medil VIP	1 -	2.13				

1.	Consider the	following regr	ession o	output:					[10]	CO3
	FDI	: Foreign dir	ect inve	estment, n	et inf	lows (%	of GDP)			
	CC	: Coal Const				•	,			
	OC	: Oil Consur		•		_	,			
	GDP	: GDP (cons	1	,		,				
	ODI	. GDT (Colls	tuiit 201	10 054)						
	Source	SS	df	MS			Number of obs			
	Model Residual	22.042701 8.22985362	3 36	7.347566 .2286070			F(3, 36) Prob > F R-squared Adj R-squared	= 0.0000 = 0.7281		
	Total	30. 2725546	39	.776219	348		Root MSE	= .47813		
	FDI	Coef.	Std. E	Err.	t	P> t	[95% Conf.	Interval]		
	СС	0131586	. 0089	983 -1	L. 46	0.152	031377	. 0050598		
	OC	.0168128	.00736		2.28	0.028	.0018723	.0317534		
	GDP _cons	1.83e-12 3090215	1.42e- .26002		l. 29 l. 19	0.205 0.242	-1.04e-12 836367	4.70e-12 .2183239		
	b) Test				affec	et FDI. W	Vhich test do yo	u use? And		
		the hypothesis			affec	et FDI. W	Vhich test do yo	u use? And		
	b) Test	the hypothesis					Vhich test do yo	u use? And		
Each	b) Test (why?	the hypothesis	that OC			et FDI. W	Vhich test do yo	u use? And		
nstı	b) Test of why? h Question caruction: Ans	the hypothesis arries 20 Mark	that OC ks. ions	does not	Secti	ion C				
<u>nstr</u> 2.	b) Test to why? h Question caruction: Ans In the follow	arries 20 Marker the questing multiple re	ks. ions	does not	Sect i	ion C	ty Consumption	ı (Million		
nstr 2.	b) Test to why? h Question caruction: Ans In the follow tonnes oil eq	arries 20 Mark wer the questing multiple reuivalent) is es	ks. ions egression timated	n result, I	Section Sectin Section Section Section Section Section Section Section Section	ion C pelectricit such as C	ty Consumption	n (Million -US dollars	[20]	CO4
2.	b) Test of why? h Question caruction: Ans In the follow tonnes oil eq per barrel (C	arries 20 Marker the questing multiple resulvalent) is es OP), GDP-con	ks. ions egression timated stant 20	n result, I using fac 010 US\$ (Section Sectin Section Section Section Section Section Section Section Section	ion C selectricits such as C), Foreig	ty Consumption Crude oil prices on direct investm	n (Million -US dollars nent, net	[20]	CO4
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2.	b) Test of why? h Question caruction: Ans In the follow tonnes oil eq per barrel (C inflows -% o dioxide (CO)	arries 20 Marker the questing multiple reuivalent) is es OP), GDP-conf GDP (FDI), a	ks. ions egression timated estant 20 and Carl	n result, I using fac 010 US\$ (bon Diox	Hydro etors s	ion C pelectricity such as C), Foreig missions	ty Consumption Crude oil prices on direct investments -Million tonne Number of obs F(4, 35) Prob > F R-squared	(Million -US dollars nent, net s carbon = 40 = 97.64 = 0.0000 = 0.9178	[20]	CO4
2.	b) Test of why? h Question caruction: Ans In the follow tonnes oil eq per barrel (C inflows -% o dioxide (CO) Source Model	arries 20 Mark wer the questing multiple resulvalent) is es OP), GDP-conf GDP (FDI), a 2).	ks. ions egression timated estant 20 and Carl	n result, I using fac 010 US\$ (bon Diox	Hydro etors s GDP ide E	ion C pelectricity such as C), Foreig missions	ty Consumption Crude oil prices on direct investments -Million tonne Number of obs F(4, 35) Prob > F R-squared Adj R-squared	(Million -US dollars nent, net s carbon = 40 = 97.64 = 0.0000 = 0.9178	[20]	CO4
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nst 1	b) Test of why? h Question caruction: Ans In the follow tonnes oil eq per barrel (C inflows -% o dioxide (CO) Source Model Residual Total	arries 20 Mariwer the questing multiple requivalent) is es OP), GDP-conf GDP (FDI), a 2). 55 1330. 5003 119. 230714 1449. 73101 Coef0163558	ks. ions egression timated astant 20 and Carl df 4 35 39 std. Ei	n result, I using face 10 US\$ (bon Diox 332.6250) 37.172	Hydro etors s (GDP) ide E	electricite such as Cookies, Foreign missions	ty Consumption Crude oil prices on direct investments -Million tonner Number of obs F(4, 35) Prob > F R-squared Adj R-squared Root MSE [95% Conf0221799	(Million -US dollars nent, net s carbon = 40 = 97.64 = 0.0000 = 0.9178 = 0.9084 = 1.8457 Interval] .0548915	[20]	CO4
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nst 1	b) Test of why? th Question caruction: Ans In the follow tonnes oil equestion per barrel (Conflows -% of dioxide (COnflows -	arries 20 Mariwer the questing multiple requivalent) is es OP), GDP-conf GDP (FDI), a 2). 55 1330. 5003 119. 230714 1449. 73101 Coef0163558	ks. ions egression timated astant 20 and Carl df 4 35 39 std. Ei	n result, I using face 10 US\$ (bon Diox 332.6250; 3.406591; 37.172; rr.	Hydro etors s (GDP) ide E	electricite such as Cookies, Foreign missions	ty Consumption Crude oil prices on direct investments -Million tonner Number of obs F(4, 35) Prob > F R-squared Adj R-squared Root MSE [95% Conf0221799	(Million -US dollars nent, net s carbon = 40 = 97.64 = 0.0000 = 0.9178 = 0.9084 = 1.8457 Interval] .0548915	[20]	CO4

Interpret the post estimation results and justify whether multicollinearity is present in the

model or not.

