

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 86
(For Candidates admitted during the academic year 2019 – 2020 and thereafter)
SUBJECT CODE: 19EC/AC/EM45
B.A. DEGREE EXAMINATION APRIL 2022
BRANCH IV - ECONOMICS
FOURTH SEMESTER

COURSE : ALLIED - CORE

PAPER : INTRODUCTORY ECONOMETRICS

TIME : 3 HOURS

MAX.MARKS: 100

SECTION A

ANSWER ANY TEN QUESTIONS. EACH ANSWER NOT TO EXCEED 50 WORDS:

(10 x 2 = 20)

1. What is econometrics?
2. Following is a hypothetical population data on weekly consumption and income.

Estimate the E ($Y_i/X= 2500$)

	Weekly Income (Rs.)					
	1000	1500	2000	2500	3000	3500
Weekly Consumption (Rs.)	700	850	1150	1500	1800	2000
	750	950	1200	1600	1850	2200
	800	1000	1350	1700	1900	2250
	850	1200	1450	1800	2050	2300
	900	1250	1500	1900	2150	2400
		1350	1550		2250	2600
			1600			

3. Generate a sample data using the information provided in question number 2.
4. Calculate E ($U_i /X=3000$).
5. Derive an expression for Var (Y_i).
6. Distinguish between mathematical and econometric model.
7. What is the relationship between Y and X in a reciprocal model?
8. If $C= a + bY$; what is the economic significance of 'a' and 'b'?
9. If $Q= a+bP$, how does one estimate the price elasticity of demand?
10. What is a composite hypothesis?
11. What Is the difference between stochastic disturbance term and the residual error term?
12. What are the different types of data?

SECTION B

ANSWER ANY FIVE QUESTIONS. EACH ANSWER NOT TO EXCEED 400 WORDS:

(5X 8 = 40)

13. Estimate and draw the PRF for the data provided in question number 2.
14. From the sample data generated in question number 3, estimate and draw the SRF.
15. Derive the OLS estimators of the two-variable linear regression model.
16. Derive the OLS estimators of the three-variable linear regression model.
17. Explain the reciprocal model with the help of a suitable economic theory.
18. List and explain the significance of the assumptions underlying the three-variable linear regression model.
19. Explain the components of coefficient of determination.
20. With suitable examples discuss the different types of data.

...2

SECTION C**ANSWER ANY TWO QUESTIONS. EACH ANSWER NOT TO EXCEED 1000 WORDS:****(2 X 20 = 40)**

21. Sales, Selling expense and Price of Miller Pharmaceutical Company, sample of nine years: Estimate a relevant regression model and test the overall significance of the same.

Selling expense (millions of dollars)	Sales (millions of units)	Price (Dollars)
2	6	0
1	4	1
8	16	2
5	10	3
6	12	4
4	8	5
7	12	6
9	16	7
8	14	8

22. Explain simultaneous equation bias with the help of Keynes income determination model.

23. Prove that the OLS estimators of a two-variable regression model are also BLUE.

24. CM: 128 204 202 197 96 209 170 240 241 55 75
 129 94 165 94

FLR%:37 22 16 65 76 26 45 29 11 55 87
 55 93 31 77

PGNP:1870 130 310 570 2050 200 670 300 120 290 1180
 900 1730 1150 1160

Estimate a relevant model given CM: Child Mortality, FLR: Female Literacy Rate and PGNP: Per capita National Product.

Test the overall significance of the model.
