

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI – 600 086
(For candidates admitted from the academic year 2019 – 2020 & thereafter)

SUBJECT CODE: 19EC/PC/RM24

M.A. DEGREE EXAMINATION, APRIL 2022
BRANCH IV – ECONOMICS
SECOND SEMESTER

COURSE: MAJOR CORE

MAX. MARKS: 60

PAPER: RESEARCH METHODS AND ANALYSIS II (THEORY)

TIME: 2 HOURS

SECTION – A

(4 x 16 = 60)

ANSWER ANY 4 QUESTIONS IN ABOUT 300 WORDS EACH.

1. Explain the different methods of describing a data?
2. Examine the application of various non-linear regression models in economics.
3. Discuss the importance and properties of normal distribution.
4. Explain the assumptions of linear regression?
5. There are three alternative proposals before a businessman to start a new project:
Proposal A: Profit of Rs.5 lakhs with a probability of 0.6 or a loss of Rs.80,000 with a probability of 0.4.
Proposal B: Profit of Rs.10 lakhs with a probability of 0.4 or a loss of Rs.2 lakhs with a probability of 0.6.
Proposal C: Profit of Rs.4.5 lakhs with a probability of 0.8 or a loss of Rs.50,000 with a probability of 0.2.
If he wants to maximize the profits and minimize the loss, which proposal should he prefer.
6. Explain the different types of correlation with examples?

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M.A. DEGREE EXAMINATION, APRIL 2022
BRANCH IV – ECONOMICS
SECOND SEMESTER

COURSE: MAJOR CORE

MAX. MARKS: 40

PAPER: RESEARCH METHODS AND ANALYSIS II (PRACTICAL)

TIME: 1 HOUR

SECTION – B

(4 X 10 = 40)

ANSWER ANY FOUR QUESTIONS.

1. Given below is the population data of 12 countries. Represent the data graphically.

COUNTRY	YEAR 2000	YEAR 2015
Afghanistan	20779957	34413603
Australia	19153000	23815995
China	1262645000	1379860000
Brazil	174790339	204471759
Germany	82211508	81686611
India	1056575548	1310152392
Indonesia	211513822	258383257
Japan	126843000	127141000
Norway	4490967	5188607
Singapore	4027887	5535002
United Kingdom	58892514	65116219
United States	282162411	320738994
Sweden	8872109	9799186
Switzerland	7184250	8282396
United Arab Emirates	3134067	9262896

2. Given below is the data on Gold Prices and Wholesale price index. Fit the following model and advise whether gold can be a hedge against inflation.

$$\text{Gold Price} = \beta_1 + \beta_2 \text{WPI}_t + u_t$$

Year	Gold Price	WPI	Year	Gold Price	WPI
1979	1158.75	31.2	1994	4667.24	112.6
1980	1522.44	36.9	1995	4957.6	121.6
1981	1719.17	40.4	1996	5070.71	127.2
1982	1722.54	41.4	1997	4347.07	132.8
1983	1858.47	45.3	1998	4268	140.7
1984	1983.92	48.5	1999	4393.56	145.3
1985	2125.47	51.3	2000	4473.6	155.7
1986	2323.49	54	2001	4579.12	161.3
1987	3082.43	58.2	2002	5332.36	166.8
1988	3175.22	62.2	2003	5718.95	175.9
1989	3229.33	66.9	2004	6145.38	187.3
1990	3451.52	73.7	2005	6900.56	195.6
1991	4297.63	83.9	2006	9240.32	206.2
1992	4103.66	92.3	2007	9995.62	215.7
1993	4531.87	100			

3. Fit a regression model to the data given in Question No.2, to estimate the rate of increase in gold prices over the period.
4. Analyse the following data to find the impact of gender and age on income.

Income (in \$)	Age	Gender
45000	23	Male
48000	25	Female
54000	24	Male
57000	29	Female
65000	38	Female
69000	36	Female
78000	40	Male
83000	59	Female
98000	56	Male
104000	64	Male
107000	53	Male

5. Estimate the elasticity of demand from the data given below:

Price	Quantity Demanded
10	1000
9	1200
8	1400
7	1700
6	2000
5	2400
4	3000
3	3700
2	4500

6. The GPA scores of 8 students (Group 1) who have smoked marijuana and 12 students (Group 2) who have never smoked has been recorded as follows. Assuming the samples are normally distributed with equal population variance and independent of each other find out if there is a relation between marijuana smoking and academic performance as measured by GPA?

Group 1	Group 2
2.6	2.65
2.79	2.79
2.73	2.93
3.02	2.93
2.79	2.84
2.85	3.12
2.58	2.94
2.96	2.89
	2.78
	3.05
	2.63
	2.59
