

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI – 600 086.
(For candidates admitted during the academic year 2019-2020 and thereafter)
SUBJECT CODE: 19CO/AC/QT15
B.COM DEGREE EXAMINATION DECEMBER 2020
CORPORATE SECRETARYSHIP
FIRST SEMESTER

COURSE : ALLIED CORE

PAPER : QUANTITATIVE TECHNIQUES FOR BUSINESS

TIME : 90 MINUTES

MAX. MARKS: 50

SECTION- A

Answer All the Questions

(3X2 = 6)

1. What is meant by Time Series Analysis?
2. On the basis of the following information, calculate $r_{23.1}$
 $r_{12} = 0.70$; $r_{13} = 0.61$; $r_{23} = 0.40$
3. Enumerate the basic assumptions in Analysis of Variance.

SECTION-B

Answer any three Questions

(3x8 = 24)

4. Fit a Straight line trend to the data given below by the method of least squares. Calculate trend values and estimate the Gross Ex-Factory value of output for the year 2020

Year	2013	2014	2015	2016	2017	2018	2019
Gross Ex-Factory value of Output (Rs.Crores)	672	824	968	1205	1464	1758	2058

5. The following table gives the number of good and bad parts produced by each of three shifts in a factory:

Shift	Good	Bad	Total
Day	900	130	1030
Evening	700	170	870
Night	400	200	600
Total	2000	500	2500

Is there any association between the shift and the quality of parts produced?

6. Ten Specimens of Copper wires from a large lot have the following breaking strength (in kg.wt)

5.6	4.4	4.3	3.9	3.8	5.2	4.1	3.9	4.6	4.2
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Test whether the mean breaking strength of the lot may be taken to be 3.4 kg,wt at 1% level of significance.

7. The following table gives the age of cars of certain make and annual Maintenance cost. Obtain the regression equation of Y on X.

Age of Cars in years :	2	4	6	8
Maintenance cost in Rs.hundreds:	10	20	25	30

Section – C

Answer any one Question

(1X20=20)

8. Calculate Seasonal Indices from the following data with the help of the method of link relatives:

Quarter	2015	2016	2017	2018	2019
I	31	42	49	47	51
II	39	44	53	51	54
III	45	57	65	62	66
IV	36	45	55	50	58

9. Three varieties of drug were analyzed by four Scientist and the ash content in the varieties was found to be under

Varieties	Scientist- I	Scientist- II	Scientist- III	Scientist- IV
A	8	5	5	7
B	7	6	4	4
C	3	6	5	4

Do the varieties differ significantly in their ash content? Perform two-way ANOVA on the data.
