

M.Com. (Semester – II) Examination, April 2019 (Repeat)
COC205 Business Statistics & Econometrics for Managers

Duration: 3 Hours

Total Marks: 60

Instructions:

- 1) This paper consists of nine (9) questions carrying equal marks.
 - 2) Question No. 1 consist of 5 compulsory questions of 2 marks each.
 - 3) Answer any five (5) questions from 2, 3, 4, 5, 6, 7, 8 and 9.
 - 4) Required statistical tables will be provided on request.
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Q.1. Answer the following questions.

(5×2=10)

- a. What are Seasonal Variations?
- b. What is the significance of T-Test in research?
- c. Explain difference between “Variable” and “Attribute” with a suitable example.
- d. What is Factor Analysis?
- e. What is BLUE in regression analysis?

Q.2. Elaborate the methodology of Econometrics with suitable examples. 10

Q.3. Explain the methods used in measurement of Trend with suitable examples. 10

Q.4. Explain Multiple Regression Analysis with an hypothetical example. 10

Q.5. What is Heteroscedasticity? Explain how Heteroscedasticity is detected and suggest remedial measures to deal this problem in research. 10

Q.6. The sales of a company in millions of rupees for the years 1994-2001 are given below:

Year	2011	2012	2013	2014	2015	2016	2017	2018
Sales	550	560	555	585	540	525	545	585

- a) Find the linear trend equation.
- b) Estimate the sales for the year 2010.
- c) Find the slope of the straight line trend.
- d) Do the figures show a rising trend or a falling trend? 10

Q.7. following are the responses to the question “How many hours do you study before a Econometrics Test?”

6	5	1	2	2	5	7	5	3	7	4	7
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Use the Sign Test to test the hypothesis at the 0.05 level of significance that the median number of hours a student studies before a Econometrics Test is 3. 10

Q.8. From the information given to students' at large number of different schools, the mean Marks were 74.5 and standard deviation was 8. At one particular school, where 200 students to the exam, the mean Marks were 75.9

a) Test whether there is any significant difference exists between the particular school and the population.

b) Test whether average weight of the particular school is more than the population. **10**

Q.9. Write an interpretation of the following correlation and regression output. **10**

	LE	WG	SL
LE	1		
WG	0.91	1	
SL	0.75	0.95	1

Where LE refers to Labour Efficiency and is the Regressand. The regressors are WG which is the wages and SL which is the salaries.

The regression equation is: **LE = 0.2556 + 0.856WG + 0.689SL**

It is known that the R-Squared is 0.66, Durbin Watson Statistic is 3.89 and P-values of Serial Correlation LM Test and Heteroscedsticity Test:ARCH are 0.225 and 0.365 respectively.

Frame necessary hypothesis and interpret the correlation and regression output.