

19P142A

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Name:

Reg. No.....

FIRST SEMESTER M.Com. DEGREE EXAMINATION, NOVEMBER 2019

(Supplementary/Improvement)

(CUCSS-PG)

CC15P MC1 C02 – QUANTITATIVE TECHNIQUES FOR BUSINESS DECISIONS

(Commerce)

(2015 to 2018 Admissions)

Time: Three Hours

Maximum: 36 Weightage

PART - A

Answer *all* questions. Each question carries 1 weightage.

1. What is standard error and what are its uses?
2. What do you mean by power of a test and critical region?
3. Show that sample mean is an unbiased estimator of population mean.
4. Explain the assumptions of Analysis of variance.
5. Explain the Double Sampling Plan with an example.
6. What are the properties of residuals?

(6 x 1 = 6 Weightage)

PART - B

Answer any *six* questions. Each question carries 3 weightage.

7. The coefficient of rank correlation of the marks obtained by 10 students in Physics and chemistry was found to be 0.2. It was later observed that the difference in the ranks in the two subjects obtained by the students was wrongly taken as 9 instead of 7. Find the correct coefficient of rank correlation
8. The percentage of defective parts turned out by the same machine on two consecutive days are 8 and 6. If 500 parts are turned out on each of the two days, would it be justified to claim that the quantity has improved. ($\alpha = 0.01$)
9. In an experiment with plants breeding at certain species 240 offspring were classified into 4 classes with respect to the structure of their leaves as follows

Class	i	ii	iii	iv	Total
Frequency	21	127	40	52	240

According to theory of heredity, the probabilities of the four classes should be in the ratio 1:9:3:3. Are these data consistent with theory?

10. What are the desirable properties of a good estimator?
11. Explain the steps in testing hypothesis.

12. The scores under two conditions obtained by the respondents are given below:

X: 12 16 18 8 6 4 11
 Y: 7 12 14 17 5 12 8

Apply the sign test and comment on your findings

13. Each of 20 lots of rubber belts contains 200 rubber belts. Numbers of defective rubber belts in those lots are

410,420,324,332,292,311,281,300,318,298,392,432,292,324,222,400,258,226, 460,280.

Calculate control limits for Fraction defective chart and give your conclusions

14. If $r_{12}=0.7$, $r_{13}=0.61$, $r_{23}=0.4$. Find $r_{12.3}$, $r_{23.1}$ and $r_{13.2}$

(6 x 3 = 18 Weightage)

PART - C

Answer any *two* questions. Each question carries 6 weightage.

15. Explain the utility of statistics as a managerial tool. Also discuss the limitations.

16. The following figures to production in kilogram of three varieties A, B and C of wheat sown in 12 plots.

A	B	C
14	14	18
16	13	16
18	15	16
	22	19
		20

Is there significant difference in the production of three varieties?

17. Obtain the regression of Y on X and X on Y from the following table and estimate the blood pressure (BP) when the age is 50

Age (X): 56 42 72 36 63 47 55 49 38 42 68
 60
 BP (Y): 147 125 160 118 149 128 150 145 115 140 152
 155

(2 x 6 = 12 Weightage)
