18P151   (Pages: 2)   Name: …………………….

Reg. No…………………...

FIRST SEMESTER M.Com. DEGREE EXAMINATION, NOVEMBER 2018
(Regular/Supplementary/Improvement)

(CUCSS-PG)

CC15P MC1 C02 – QUANTITATIVE TECHNIQUES FOR BUSINESS DECISIONS
(Commerce)

(2015 Admission onwards)

Time: Three Hours   Maximum: 36 Weightage

PART-A
Answer *all* questions. Each question carries 1 weightage.

1. Define standard error.

2. What are the uses of the sampling distribution z?

3. Differentiate estimator and estimate with example.

4. Explain the assumptions of Analysis of variance

5. What is level of significance?

6. What is type of II error?

(6 x 1 = 6 Weightage)

PART-B
Answer any *six* questions. Each question carries 3 weightage.

7. A driver buys gasoline either at a Texaco station, T or at a Mobil Station, M and the following arrangements shows the order of the stations from which she bought gasoline over a certain period of time.

   TTTMTMTMTMMMTMMMTMMTMTMMTMMTTMTMMMTMTTTMTTMTTT TM

   Test for randomness at 5% land of significance.

8. In a village A out of a random sample of 1000 persons 100 were found to be vegetarians while in another village B out of 1500 persons 180 were found to be vegetarians. Do you find a significant difference in the food habits of the people of the two villages?

9. A random sample of size 25 from a population gives the sample standard deviation to be 8.5. Test the hypothesis that the population standard deviation is 10.

10. Sampling is necessary under certain conditions. Explain this with suitable examples

11. Define Regression? Why there are two regressions lines and derive the standard formula.

12. 1000 Ladies were chosen at random from the in habitants of Mumbai city and 550 were found to have dark eyes. Does this finding contradict the hypothesis that the event of a lady having dark eyes has probability ½ .

13. Test whether son's eye colour and father's eye colour are associated with the help of data given below.

		Son's eye colour	
		Not Light	Light
Father's eye colour	Not Light	230	148
	Light	151	471

On the basis of this data, can it be concluded that there is significant difference in the effect of the drug and sugar pills?

14. For a large group of students, x_1=score in theory, x_2=score in method, x_3=score in field work, the following results are found: $r_{12} = 0.69$, $r_{13} = 0.45$, $r_{32} = 0.58$. Determine partial Correlation, $r_{13.2}$ and $r_{32.1}$ and interpret the results.

(6 x 3 = 18 Weightage)

PART-C

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

15. Explain the uses of statistical quality control in business decisions.

16. The following table gives the number of products sold by 4 salesmen in three months May, June and July:

Month	Salesmen			
	A	B	C	D
May	50	38	46	39
June	46	48	50	45
July	36	42	42	39

(i) Is there significant difference in the sales made by the four salesmen?

(ii) Is there significant difference in the sales made during different months?

17. Each of 20 lots of rubber belts contains 2000 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

(2 x 6 = 12 Weightage)

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