

20P145

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Name:

Reg. No.....

FIRST SEMESTER M.Com. DEGREE EXAMINATION, NOVEMBER 2020

(CBCSS-PG)

(Regular/Supplementary/Improvement)

CC19P MCM1 C03 – QUANTITATIVE TECHNIQUES FOR BUSINESS DECISIONS

(Commerce)

(2019 Admission onwards)

Time: Three Hours

Maximum: 30 Weightage

Section A

Answer any *four* questions. Each question carries 2 weightage.

1. What are the properties of Binomial Distributions?
2. What is Simple and Composite Hypothesis?
3. Compare the use of sampling error and standard deviation.
4. Chi square as a test of homogeneity. Comment.
5. What are the assumptions of non parametric test?
6. Explain the term spurious correlation with an example.
7. Explain the steps to open an excel file in SPSS.

(4 x 2 = 8 Weightage)

Section B

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

8. Explain presentation of any three types of chart using MS Excel.
9. Of the two salesmen, X claims that he has made larger sales than Y. For the accounts examined which were comparable for the two men results were

	No. of sales	Average size	S.D.
X	10	6200	690
Y	17	5600	600

Do these average sizes of sales figures differ significantly? Explain your result.

10. A project yields and average cash flow of Rs. 500 lakhs with a SD of Rs. 60 lakhs. Calculate the following probabilities if it follow normal distribution:
 - a) Cash flow will be more than Rs. 560 lakhs.
 - b) Cash flow will be less than Rs. 420 lakhs
 - c) Cash flow will be between Rs.460 lakhs and Rs. 540 lakhs
11. Compare and explain critical region and acceptance region in hypothesis testing.

12. Two samples were drawn from two normal populations. From the following data test whether the two samples have the same variance at 5 % level:

Sample 1: 60 65 71 74 76 82 85 87

Sample 2: 61 66 67 85 78 63 85 86 88 91

13. In a trivariate distribution Mean $x_1=53$, Mean $x_2=52$, Mean $x_3 = 51$, $\sigma_1=3.88$, $\sigma_2=2.97$, $\sigma_3= .86$, $r_{23}=0.8$, $r_{31}=0.81$, $r_{12}= 0.78$. Find the linear regression equation of x_2 on x_1 and x_3 .

14. A machine produced 20 defective articles in a batch of 400. After overhauling it produced 10 defectives in a batch of 300. Has the machine improved?

(4 x 3 = 12 Weightage)

Section C

Answer any *two* questions. Each question carries 5 weightage.

15. “Statistical methods are most dangerous tools in the hands of inexpert”. Comment

16. A test was given to 5 students chosen at random from the B.Com. class of each of the three universities in Mumbai. Their scores were found as follows:

University	Scores				
A	90	70	60	50	80
B	70	40	50	40	50
C	60	50	60	70	60

Perform analysis of variance and show if there is any significant difference between the scores of the students in the three universities.

17. The following mistakes per page were observed in a book

No. of mistakes per page	:	0	1	2	3	4	5	6	7	8
No. of pages	:	56	156	132	92	37	22	4	0	1

Fit a Poisson distribution and test the goodness of fit

18. A panel of judges A and B graded seven debaters and independently awarded the following marks:

Debaters	:	1	2	3	4	5	6	7
Mark by A	:	40	34	28	30	44	38	31
Mark by B	:	32	39	26	30	38	34	28

The eighth debater was awarded 36 marks by judge A while judge B was not present. If judge B were also present, how many marks would you expect him to award to the eighth debater assuming that the same degree of relationship exists in their judgment?

(2 x 5 = 10 Weightage)
