# ST. ALOYSIUS COLLEGE, EDATHUA <br> M.Com DEGREE (C.S.S.) INTERNAL EXAMINATION, FEBRUARY 2020 <br> SECOND SEMESTER <br> <br> CM010204: Quantitative Techniques 

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Total: 20 Marks

SET: A<br>(Answer any $\mathbf{2}$ among first $\mathbf{4}$ questions. Last $\mathbf{2}$ questions are compulsory)

1. Comment on a Bi-parametric discrete probability distribution.
2. Write notes on rare events distribution.
3. Differentiate between one tailed and two tailed tests in hypothesis testing.
4. What do you mean by significance level?
(2 x 5 marks)
5. In order to make a survey of the buying habits, two markets $A$ and $B$ are chosen at two different parts of a city. 400 women shoppers are chosen at random in market A. Their average daily expenditure on food is found to be Rs. 250 with a standard deviation of Rs. 40 . The figures are Rs. 220 and Rs. 55 respectively in market B where also 400 women shoppers are chosen at random. Test at $1 \%$ level of significance whether the average daily food expenditures of the markets are equal.
6. On a large group of men $5 \%$ are under 60 inches in height and $40 \%$ are between 60 and 65 inches. Assuming a normal distribution find the mean height and standard deviation.
( $2 \times 5$ marks)

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SET: B<br>(Answer any $\mathbf{2}$ among first $\mathbf{4}$ questions. Last $\mathbf{2}$ questions are compulsory)

1. State the properties of Gaussian distribution for continuous variables.
2. State the properties of a Uni-parametric probability distribution.
3. Critically distinguish between statistics and parameter.
4. Mention the situation and cases for applying Z test.
( $2 \times 5$ marks)
5. In a sample of 600 students of a certain college 400 are found to use ball point pens. In another college from a sample of 900 students, 450 were found to use ball point pens. Test whether the two colleges are significantly different with respect to the habit of using ball point pens.
6. At a certain examination, $10 \%$ of the students who appeared for the paper in statistics got less than 30 marks and $97 \%$ of the students got less than 62 marks. Assuming the distribution to be normal, find the mean and standard deviation of the distribution.
