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## **GURUDAS COLLEGE**

(GOVT.SPONSORED)

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Date: 05.12.2020

## <u>B.COM PART – I (HONS. & GENERAL)</u> <u>INTERNAL EXAMINATION – 2020</u> <u>SUBJECT – Business Mathematics and Statistics</u> <u>PAPER – C15G</u>

## Full Marks: 50

Time : 1hr 30mins

1. Write down True/False of the following statement (any five)	5 x 2= 10
<ul> <li>(i) If A= {0}, then A is a null set.</li> <li>(ii) Income is quantitative data.</li> <li>(iii) Mode is a measurement of central tendency.</li> <li>(iv) The value of correlation coefficient is between -1 and 1</li> </ul>	
(v) If $\log_2 x = 7$ , the value of x is 14. (vi) ${}^{n}C_{r} + {}^{n}C_{r-1} = {}^{n+1}C_{r}$	
(vii) Variance is always nonnegative in measures of dispersion.	
2. Answer the following questions (any five)	5 x 2= 10
<ul> <li>(i) What is meant by secondary data?</li> <li>(ii) What do you mean by kurtosis in statistics?</li> <li>(iii) If A = {a, b, d, e, f, g} and B= {c, e, f} then find A - B.</li> <li>(iv) Let A and B be two finite sets such that n(A) = 20, n(B) = 28 and n(A U B) = 36, fr (v) Write down two limitations of the classical definition of probability.</li> <li>(vi) Find the median of prime numbers between 21 and 50.</li> <li>(vii) Write down one demerit of tabulation.</li> </ul>	ind $n(A \cap B)$
3. Answer the following questions (any three)	3 x 10= 30
(i) A number is chosen at rendem from the first 50 positive integers. Find the probability that the	

(i) A number is chosen at random from the first 50 positive integers. Find the probability that the chosen number is divisible by 3 or 5.

(ii)  $\log_7 (x - 2) + \log_7 (x + 3) = \log_7 14$ , then find the value of x.

(iii) In how many different ways can the letters of the word 'OPTICAL' be arranged so that the vowels always come together?

(iv) In a group of 60 people, 27 like cold drinks and 42 like hot drinks and each person likes at least one of the two drinks. How many like both coffee and tea?

(v) The mean age of a group of 20 girls is 15 years and that of a group of 25 boys is 24 years. If the two groups are taken together to form a new group, what is the mean age of this group?