

2019**M. Com.****2nd Semester Examination****BASIC STATISTICS****PAPER – COM – 204***Full Marks : 50**Time : 2 Hours**The figures in the right-hand margin indicate full marks.**Candidates are required to give their answers in their own words
as far as practicable.***UNIT – I****1. Answer any two of the following questions. 2x2**

- a) Find the class boundaries, if the class limits are $9-10\frac{3}{4}$, $11-12\frac{3}{4}$ and $13-14\frac{3}{4}$
- b) Give the HM of 15,20,25,30 and 50.
- c) State any two properties of correlation coefficient.
- d) Examine whether the following variables are discrete or continuous – Age of a person, Size of a family, Temperature, Monthly sales of a shop.

2. Answer any two of the following questions. 4x2

- a) There are two branches of a company employing 100 and 80 persons respectively, if the AM of salary paid by the branches are ` 275 and ` 225 respectively. Find the composite mean.
- b) From the data given calculate the COV. Skewness = 0.42, AM = 86 and Median = 80.

(Turn Over)

(02)

- c) The value of $r = 0.60$, $SD_X = 1.50$, $SD_Y = 2.00$, $AM_X = 10$, $AM_Y = 20$. Calculate the regression lines of Y1X and X on Y
- d) The SD of 32 observations are 5. If the sum of the observations are 80, then what is the sum of the squares of these observations?

3. Answer any one of the following questions. 8x1

- a) Derive the regression line which you consider more important.

Output (000)	5	7	9	11	13	15
Profit per unit (₹)	1.70	2.40	2.80	3.40	3.70	4.40

- b) The table below gives the diastolic blood pressure of 250 men. The readings were made to the nearest millimeter and the central value of each group is given :

Blood pressure (mm)	60	65	70	75	80	85	90	95
Number of men	4	5	31	39	114	30	25	2

Calculate from the data the Mean and the Median.

UNIT – II

4. Answer any two of the following questions. 2x2

- a) A coin is tossed for three times, give the sample space.
- b) The AM and SD of a Binomial Distribution are respectively 4 and $\sqrt{\frac{8}{3}}$. Find the value of **p** and **q**.
- c) In a single cast with two die, find the chance of throwing 7.
- d) Given that $P(A) = \frac{3}{8}$, $P(B) = \frac{5}{8}$ and $P(A+B) = \frac{3}{4}$. Find $P(\frac{A}{B})$ and $P(\frac{B}{A})$

5. Answer any two of the following questions. 4x2

- a) Write the properties of Chi- Square Distribution.

(03)

- b) Three groups of children contain respectively 3G and 1B, 2G and 2B, 1G and 3B. One child is selected at random from each group. Find the chance that the selected group consists of 1G and 2B.
- c) What are the causes of BIAS in Sampling ?
- d) What do you mean by Stratified Sampling ?

6. Answer any one of the following questions. 8x1

- a)

PRODUCTS				
Test Type	I	II	III	IV
A	9	10	9	10
B	12	11	9	11
C	11	12	10	12

Perform the ANOVA to discuss whether there are any significant differences among the products or between the tests.

(Given $F_{0.05} = 5.14$ for d.f.(2,6) and $F_{0.05} = 4.76$ for d.f.(3,6))

- b) A man has the choice of running either a hot snack stall or an ice cream stall at a sea side during the summer season. If it is a fairly cool summer he should make Rs. 5000 by the hot snack stall if the summer is quite hot then he could expect Rs. 1000. On the other hand if he operates ice cream, the profit will be Rs. 6500 and if it is cool then it would be Rs. 1000. There is a 40% chance of the summer being hot. Should he opt for running hot snack stall or the ice cream stall?

(Internal Assessment: 10 marks)

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