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Reg. No. : .....

Name : .....

Fourth Semester B.Com. LL.B. (Five Year Integrated) Degree Examination, March 2019

Paper – III : BUSINESS STATISTICS

Time : 3 Hours Max. Marks : 80

I. Answer **any five** of the following. **Each** carries **2** marks.

1) Define tabulation.
2) What do you mean by distrust of statistics ?
3) What are equally likely events ?
4) Define systematic sampling.
5) What is time series graph ?
6) What are the main methods of calculating co-efficient of correlation ?
7) List the uses of trend. **(5×2=10 Marks)**

II. Answer **any four** of the following. **Each** carries **4** marks.

1) Distinguish between census and sample method.
2) What are the utility of diagrams ?
3) Explain the methods to construct Consumer Price Index number.
4) Distinguish between seasonal variations and cyclical variations.
5) From the data given below, find the number of items.

   $r = 0.5$ $\sum xy = 120$ $\sum X^2 = 90$ $\sigma y = 8$

   (Where x and y are deviations from arithmetic mean) **(4×4=16 Marks)**

III. Answer **any four** of the following. **Each** carries **6** marks.

1) Define statistics. Explain its importance.
2) Goals scored by two teams in a football session were as under :

No. of goals scored	0	1	2	3	4	5	Total
No. of matches played by Team A	15	10	7	5	3	2	42
No. of matches played by Team B	20	10	5	4	2	1	42

Calculate CV and state which team is more consistent ?

P.T.O.

3) What are various kinds of correlation ?

4) Prepare index numbers from the following data. (Base 2008)

Year	2008	2009	2010	2011	2012	2013	2014	2015
Price	67	90	91	92	87	88	89	90

5) A problem in statistics is given to five students A, B, C, D, E. Their chances of solving it are $\frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5}$ and $\frac{1}{6}$. What is the probability that the problem will be solved ? **(4×6=24 Marks)**

IV. Answer **any three** of the following. **Each** carries **10** marks.

1) From the following data, calculate the mean, median and modal number of mobile phones per home.

Mobile phones per home	1	2	3	4	5	6	7	8
No. of homes	26	113	120	95	60	42	21	14

2) Determine the period of the moving average for the following data and calculate moving average for that period.

Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Value	130	127	124	135	140	132	129	127	145	158	153	146	145	164	170

3) Define index numbers. Explain its uses and limitations.

4) The following results were declared in subject A and subject B in degree examination.

	Scores in subject A (X)	Scores in subject B (Y)
Mean	30	40
S.D.	10	20

Karl Pearson's coefficient of correlation between X and Y = 0.4. Find the regression lines. Using these lines, estimate the value of Y for X = 40 and estimate the value of X for Y = 20. **(3×10=30 Marks)**
