



RAN-0287

Second Year B.Com. (Honours) (Sem.-IV) Examination

March / April - 2019

Business Statistics : Paper IV

[Total Marks: 50

સૂચના : / Instructions

(1)

નીચે દર્શાવેલ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the details of signs on your answer book

Name of the Examination:

Second Year B.Com. (Honours) (Sem.-IV)

Name of the Subject :

Business Statistics : Paper IV

Subject Code No.: **0 2 8 7**

Seat No.:

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Student's Signature

- (2) Every question is compulsory.
- (3) Statistical tables would be supplied on request.
- (4) Figures to the right indicate full marks of questions.
- (5) Simple calculator can be used.

Que.1.a) Give meaning of correlation. Prove that correlation co-efficient is geometric mean of regression co-efficients. **[4]**

b) If the value of Karl Pearson's correlation co-efficient and its probable error are 0.80 and 0.07 respectively. Find the value of n. Also find limits within which the population correlation co-efficient lies. **[4]**

c) Equations of two lines of regression are : **[5]**

$$8x - 10y + 66 = 0 \text{ and } 40x - 18y = 214$$

Find :

- (1) Means of X and Y.
- (2) Regression co-efficients b_{xy} and b_{yx}
- (3) Correlation co-efficient between X and Y.

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[1]

[P.T.O.]

Que.2a) Describe various properties of normal distribution. [4]

b) For a Poisson variate $p(x = 3) = p(x = 4)$ then find value of parameter and $p(x \leq 1)$ [5]

c) The probability of winning the cricket match of India against Pakistan is $\frac{2}{3}$. They will play five matches. What is the probability that India will win at most one match?

Que.3a) What is an Index number? What are uses of Index numbers? [4]

b) An inquiry into the budgets of middle - class families in a certain city gave the following information. [5]

Expense Weight	Food	Fuel	Clothing	Rent	Miscellaneous
	35%	10%	20%	15%	20%
Price (1985)	Rs. 150	Rs. 25	Rs. 75	Rs. 30	Rs. 40
Price (1986)	Rs. 145	Rs. 23	Rs. 65	Rs. 30	Rs. 45

What is cost of living index number of 1986 as compared to 1985.

c) From the fixed base index numbers given below, find chain base index number. [3]

Year	1969	1970	1971	1972	1973	1974
Fixed base Index number	376	392	408	380	392	480

[Consider C.B. Index number of 1969 = 100]

Que.4a) Give meaning of forecasting. What are the factors that influence the sales results? [5]

b) From the following data of a particular city, Fit an exponential trend $y = ab^x$ and forecast the trend value of year 2016. [7]

Year	2010	2011	2012	2013	2014
Population (in '000)	145	159	164	170	185