



AC-2714
Second Year B. Com. (Honours) (Sem. IV) Examination
March/April – 2015
Business Statistics : Paper - IV

Time : 2 Hours]

[Total Marks : 50

Instructions :

(1)

<p>नीचे दृष्टावेक निशानीवाणी विगतो उत्तरवही पर अवश्य कपवी. Fillup strictly the details of signs on your answer book.</p> <p>Name of the Examination : SECOND YEAR B. COM. (HONOURS) (SEM. 4)</p> <p>Name of the Subject : BUSINESS STATISTICS : PAPER - IV</p> <p>Subject Code No. : 2 7 1 4 Section No. (1, 2,.....): Nil</p>	<p>Seat No. : <input type="text"/><input type="text"/><input type="text"/><input type="text"/><input type="text"/><input type="text"/></p> <div style="border: 1px solid black; border-radius: 15px; padding: 10px; text-align: center; width: 100%;">Student's Signature</div>
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- (2) Every question is compulsory.
(3) Statistical tables would be supplied on request.

- 1 (a) What is Probable Error ? State the limitations of Karl-Pearson's method to find the coefficient of correlation. 3
- (b) Calculate Rank coefficient of correlation for the following data : 3

Rank of x	6	4.5	4.5	2.5	1	2.5
y	9	9	9	5	1	7.5

- (c) If the regression line of x on y is, $x = 4y + 7$ and if the variance of x is 25 times more than the variance of y, then find the value of coefficient of correlation. 3
- (d) The coefficient of correlation between two variables is 0.72. If one regression coefficient is five times more than other regression coefficient, then obtain both the regression coefficients. 3

- 2 (a) State the limitations of cost of living Index Number. 3
 (b) The geometric mean of Index Number of Laspeyre and Paasche is 229.5648, while the sum of Laspeyre and Paasche's Index Number is 480, then find out Laspeyre and Paasche Indices. 3
 (c) If $L_{I.N} : P_{I.N} = 42 : 40$ then find the value of a for the following data : 4

Commodity	P_0	q_0	P_1	q_1
A	1	10	2	5
B	1	5	a	2

- (d) If $\sum P_1 q_1 = 250$, $\sum P_0 q_0 = 150$, Paasche's I.N. = 150 4
 Dorbish-Bowley's I.N. = 145, then obtain Fisher's I.N. and Marshall-Edgeworth's I.N. 4
- 3 (a) State the methods of forecasting. Explain the factors affecting company sales. 5
 (b) By taking the initial forecast as 100 and $\alpha = 0.4$, forecast the sales for the given years by the exponential smoothing method : 7

Year	2006	2007	2008	2009	2010	2011
Sales in lakhs of Rs.	110	120	121	125	124	122

- 4 (a) What is Bernoulli trials ? State the importance of Normal distribution. 4
 (b) For a Poisson variate x if
 $p(x = 2) = 9 p(x = 4) + 90 p(x = 6)$
 then find its mean and standard deviation. 4
 (c) The weight of 5,000 students, studying in a University is distributed normally. Their mean weight is 50 kg and variance is 25 kg. Then obtain the probability that out of 10 students, 3 students would have weight more than 52.5 kg. 5