

**Q.P. Code : 13324**

**Third Semester B.Com. (Regular/Tourism/LS/SP)  
Degree Examination, November/December 2019**

*(CBCS Scheme)*

**Commerce**

**Paper 3.6 – QUANTITATIVE ANALYSIS FOR BUSINESS  
DECISIONS – II**

*Time : 3 Hours]*

*[Max. Marks : 70*

*Instructions to Candidates : Answer should be written in English.*

**SECTION – A**

Answer any **FIVE** of the following questions. Each question carries **2** marks :  
**(5 × 2 = 10)**

1. (a) What is the meaning of Positive and Negative Correlation?
- (b) What is meant by Interpolation and Extrapolation?
- (c) Write the meaning of Irregular variations.
- (d) State the methods of non-probability sampling.
- (e) It  $r = 0.6$  and  $N = 64$  find out the probable error.
- (f) What is meant by Sampling?
- (g) Expand  $(y-1)^4$ .

**SECTION – B**

Answer any **THREE** of the following questions. Each question carries **6** marks :  
**(3 × 6 = 18)**

2. Find the Karl Pearson's coefficient of correlation between sales and advertising expenditure from the following data :  
Sales (Rs. in lakhs) :                    65 66 67 68 69 70 71 72 73  
Advertising Exp. Rs. in '000' : 66 67 64 67 71 69 70 68 70
3. Estimate missing data from the following using Binomial Expansion formula :  
Year :        2006    2007    2008    2009    2010    2011  
Exports : 2,100 2,300    ?    2,800 3,000 3,500

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4. A box contains 5 white, 4 red and 8 black balls. Find out the probability of getting a white or black ball in a single draw.
5. Formulate X on Y regression line from the following data :
- |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|
| X: | 40 | 32 | 38 | 42 | 36 | 46 |
| Y: | 30 | 35 | 40 | 36 | 28 | 35 |
6. Calculate trend values by the method of 'least squares'.
- |                           |      |      |      |      |      |
|---------------------------|------|------|------|------|------|
| Year :                    | 2006 | 2007 | 2008 | 2009 | 2010 |
| Production in 000 units : | 100  | 120  | 136  | 124  | 118  |

**SECTION - C**

Answer any **THREE** of the following questions. Each question carries **14** marks :  
**(3 × 14 = 42)**

7. 10 student obtained the following marks in Statistics and Accountancy Calculate Rank correlation :
- |                        |    |    |    |    |    |    |    |    |    |    |
|------------------------|----|----|----|----|----|----|----|----|----|----|
| Marks in Statistics :  | 81 | 90 | 21 | 87 | 98 | 80 | 98 | 90 | 98 | 70 |
| Marks in Accountancy : | 75 | 73 | 85 | 70 | 76 | 82 | 65 | 76 | 68 | 80 |
8. Given the following data :
- |    |   |   |   |   |   |   |   |   |
|----|---|---|---|---|---|---|---|---|
| X: | 1 | 2 | 3 | 5 | 1 | 1 | 3 | 7 |
| Y: | 6 | 0 | 0 | 1 | 1 | 2 | 5 | 1 |
- (a) Fit a regression line of X on Y and Predict X if Y = 2.5  
(b) Fit a regression line of Y on X and Predict Y if X = 5.
9. Given below are the figures of production (tons) of a sugar factory :
- |                   |      |      |      |      |      |      |      |      |
|-------------------|------|------|------|------|------|------|------|------|
| Year :            | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| Production Tons : | 150  | 154  | 176  | 188  | 170  | 182  | 196  | 180  |
- (a) Fit a straight line by 'Least Squares' method  
(b) Show the actual and trend line on a graph sheet and  
(c) Estimate the production for the year 2013.
10. By using Newton's Advancing Difference method estimate the number of persons earning wages between Rs.160 and Rs. 190 per day.
- |                     |           |         |         |         |         |
|---------------------|-----------|---------|---------|---------|---------|
| Wages per day Rs. : | Below 140 | 140-160 | 160-180 | 180-200 | 200-220 |
| Number of persons : | 500       | 240     | 200     | 140     | 100     |

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11. From the following table, find out if there is any relationship between density of population and death rates :

Districts :	A	B	C	D	E
Sq. Kilometers :	120	150	80	50	200
Total population :	24,000	75,000	48,000	40,000	50,000
No. of deaths :	288	1,125	768	720	650

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