

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
