



B.Com. IV Semester (CBCS) Degree Examination, May - 2018

COMMERCE (General & TPP)

Quantitative Techniques - II

(New)

Time : 3 Hours

Maximum Marks : 70

Instructions to Candidates:

Attempt all sections according to internal choice.

SECTION - A

Answer any FIVE questions from the following :

(5×2=10)

1. What are the elements of time series.
2. State any two features of Index numbers.
3. Give the meaning of deflating.
4. What is multiple correlation.
5. Write any two merits of Rank correlation.
6. State any two advantages of Regression.
7. What do you mean by permutations.

SECTION - B

Answer any THREE questions from the following.

(3×5=15)

8. Draw a trend line by the method semi averages.

| | | | | | | | |
|---------------|------|------|------|------|------|------|------|
| year : | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| sales (000) : | 110 | 105 | 115 | 112 | 120 | 118 | 130 |

9. Why index numbers are called economic barometers and explain problems involved in construction of index numbers?

[P.T.O]



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10. Calculate Karl Pearson's coefficient of correlation by taking assumed mean as 50 for X and 24 for Y.

X: 30 40 50 60 70 80

Y: 18 14 24 28 30 12

11. From the following data obtain the regression equation of Y on X using the method of least squares.

X: 2 4 6 8 10

Y: 5 7 9 8 11

12. Out of 6 Hindus and 3 Sikhs a cabinet of 5 ministers is to be formed in how many ways can this be done if the cabinet is to include at least 3 Hindus?

SECTION - C

Answer any **THREE** of the following questions :

(3×15=45)

13. Fit a straight line trend by the method of least squares to the following data.

| | | | | | | | |
|--------------------|------|------|------|------|------|------|------|
| year : | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| Earnings (lakhs) : | 80 | 90 | 92 | 83 | 94 | 99 | 92 |

Calculate trend for all years. <https://www.vskub.com>

14. From the following data given below construct Index number by using Fisher's method and show that it satisfies both TRT and FRT.

| Commodity | Price | | Expenditure | |
|-----------|-------|------|-------------|------|
| | 2001 | 2011 | 2001 | 2011 |
| A | 2 | 5 | 40 | 75 |
| B | 4 | 8 | 16 | 40 |
| C | 1 | 2 | 10 | 24 |
| D | 5 | 10 | 25 | 60 |

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15. Calculate co-efficient of correlation between the marks obtained by a batch of 100 students in a F.A/Cs and Q.T. are given bellow.

| Marks in Q.T. | Marks in A/Cs | | | | | Total |
|---------------|---------------|-------|-------|-------|-------|-------|
| | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 | |
| 15-25 | 5 | 9 | 3 | - | | 17 |
| 25-35 | | 10 | 25 | 2 | | 37 |
| 35-45 | | 1 | 12 | 2 | | 15 |
| 45-55 | | | 4 | 16 | 5 | 25 |
| 55-65 | | | | 4 | 2 | 6 |
| Total | 5 | 20 | 44 | 24 | 7 | 100 |

16. Calculate the two regression equations of X on Y and Y on X from the data given bellow taking deviations from actual means of X and Y.

| | | | | | | | | | | |
|-----------------|----|----|----|----|----|----|----|----|----|----|
| Marks in Q.T. | 25 | 28 | 35 | 32 | 31 | 36 | 29 | 38 | 34 | 32 |
| Marks in A/Cs : | 43 | 46 | 49 | 41 | 36 | 32 | 31 | 30 | 33 | 39 |

17. Define probability? Explain types of events in brief with examples.

