

Bachelor of Commerce Part - I Examination: May 2018
(Centre of Distance Education)

Day & Date	Part	Subject Name	Time	Code	Marks
Friday 11/05/2018	I	Statistics	02.30 PM to 05.30 PM	4108	100

Instructions: 1) Attempt any 5 Questions from both the Sections, selecting at Least 2 from each section.

2) Figures to the right hand indicate marks.

3) Use of Simple calculator is allowed.

4) Graph papers will be provided be request.

Section – I

- Q.1 A) Solve L. P. P. graphically. 08**
 Maximize: $Z = 8x + 10y$
 Subject to $2x + 3y \leq 24$
 $x + 2y \leq 30$
 $3x + y \leq 12$
 And $x \geq 0, y \geq 0$
- B) Find slope of the line passing through the points (-1, 2), (2, -3) 05**
C) Find the eqⁿ of the line having slope $\frac{2}{3}$ & passing through the pt (3, -4). 07
- Q.2 A) There are 2 books of accountancy, 3 of statistics & 6 of mathematics. 08**
 In how many ways these books are to be placed on a shelf, so that the books of the same subject are together.
- B) Find the value of ${}^9P_5 + 6 \times {}^9P_4$ 05**
C) The ages of two persons are at present in the ratio of 7:2. Five years 07
 ago their ages were in the ratio of 6:1. Find their present ages.
- Q.3 A) If three angles of a triangle are in the ratio 5:4:1, find these 3 angles in 05**
 degree.
- B) If $x:y = 3:2$ find the value of 07**

$$\frac{6x + 4y}{3x + 5y}$$
- C) An agent charges $\frac{1}{4}\%$ brokerage from the seller & 2% brokerage from 08**
 the buyer for sale of an estate of ₹ 25,000/- How much the buyer pays in total & how much the vendor gets?
- Q.4 A) A salesgirl was asked to sale 600 containers of face powder at Rs. 08**
 11.5 each & she was given a commission of 4.5% on sales in addition to her travelling allowances of ₹ 200. How much did she receive from the boss.
- B) A person buys a car for ₹ 1,52,000/- after a year he sells it at ₹ 06**
 1,45,000/- Find the loss in percentage.
- C) An article which costs ₹ 500/- is sold at 10% profit. What is the selling 06**
 price?

- Q.5** A) If $A = \begin{bmatrix} 1 & 2 & 3 \\ 4 & 2 & 1 \end{bmatrix}$ & $B = \begin{bmatrix} 2 & 3 \\ 1 & 5 \end{bmatrix}$ **06**
- Find $[AB]$
- B) Find the value of determinants **06**
- $$|A| = \begin{vmatrix} 1 & 2 & 5 \\ 7 & 2 & 3 \\ 4 & 2 & 5 \end{vmatrix}$$
- C) Solve the following equations by Cramer's Rule. **08**
- $$\begin{aligned} 3x + y - 4z &= 11 \\ x - 2y + 3z &= 8 \\ -2x + 5y - z &= 6 \end{aligned}$$

Section – II

- Q.6** A) Represent the data by Multiple Bar diagram. **08**

Courses	Year 2000	2001	2002
M. A	250	280	300
M.Com	300	500	700
M. Sc	150	180	220

- B) Draw O give curve from the following data **08**

Marks in Accounts	No. of Students
0 – 10	8
10 – 20	12
20 – 30	5
30 – 40	15
40 – 50	18
50 – 60	7

- C) Different types of Bar diagram? Explain. **04**

- Q.7** A) Calculate Mean, Median and Mode from the following. **09**

Marks	No. of Students
0 – 10	8
10 – 20	12
20 – 30	15
30 – 40	25
40 – 50	7
50 – 60	5
60 – 70	10

- B) Calculate Quartile deviation. **07**

X	F
5 – 10	6
10 – 15	8
15 – 20	17
20 – 25	21
25 – 30	15
30 – 35	11
35 – 40	2

C) What are merits and demerits of median? 04

Q.8 A) Calculate mean deviation from mode 09

Weekly Expenditure in ₹	No. of Families
50 – 70	20
70 – 90	60
90 – 110	70
110 – 130	40
130 – 150	10

B) Find the standard deviation and coefficient of variation for the following data 07

x	7	8	9	10	11	12	13
f	3	7	15	20	13	8	5

C) Calculate the range for the following data 04
170, 150, 290, 300, 450, 750, 215

Q.9 A) Calculate the coefficient of correlation between advertising expenditure and actual sales given below. 09

Advt. Expenses	Sales
3	11
7	16
4	9
2	4
1	7
4	6
1	3
2	8

B) Calculate Karl Pearson's coefficient of correlation for the following data. 07

X	7	5	4	11	10	12	14	9
Y	14	8	8	9	20	14	18	13

C) Marks secured by 10 students in statistics and economics are given below. Find the rank correlation coefficient between them. 04

Marks in Eco	35	28	32	42	52	72	80	15	70	55
Marks in Stats	23	25	30	51	48	58	47	10	50	31