

Business Statistics & Mathematics

Punjab University BCOM/ADP Commerce I Paper 2011

Time: 3 Hours

Max. Marks: 100

Note: Attempt any five questions in all taking two questions from each section. Question No 1 is compulsory. All questions carry equal marks.

Section I

Q.1 Required: Obtain Mean, Median and Coefficient of Variation

Classes	Frequency	Classes	Frequency
12.5—17.5	2	37.5—42.5	4
17.5—22.5	22	42.5—47.5	6
22.5—27.5	19	47.5—52.5	1
27.5—32.5	14	52.5—57.5	1
32.5—37.5	3		

Q.2

X:	5	6	7	8	9	10	11	12	13	14	15
Y:	9	7	10	3	13	11	14	10	14	12	18

Required: Calculate coefficient of correlation and also the line of regression y on x

Q.3. A population consists of six numbers 3, 6, 9, 12 and 18. Consider all the possible samples of size 3 which can be drawn without replacement from this population. Calculate:

- (i) The Mean of Population
- (ii) The Standard Deviation of Population
- (iii) The Mean of the Sampling Distribution of Means
- (iv) The Standard Error

Q.4. The following data gives the prices and quantities of various commodities for the year 1995 and 2002:

Commodity	Prices (Rs. Per Quintal)		Quantities (1000 Per Quintal)	
	1995	2002	1995	2002
A	60	80	270	290
B	40	45	125	140
C	20	25	130	140
D	55	70	270	350

Calculate weighted index number of prices for the year 2002 by taking the year 1995 as base year and using formulae recommended by Laspeyre, Fisher, Paasche's and Marshall

Section II

Q.5 If $A = \begin{bmatrix} 1 & 3 & 2 \\ 3 & 2 & 0 \\ 4 & 5 & 6 \end{bmatrix}$, $B = \begin{bmatrix} -2 & 5 & 4 \\ 0 & 3 & -5 \\ -1 & 4 & 2 \end{bmatrix}$ Calculate (i) $A + 3B$ (ii) AB

Q.6 (a) Solve the following $x^2 + 5x = 50$

(b) The sum of two consecutive even integers is 66. Find the numbers.

Q.7 (a) The 54th and 4th terms of an A.P are -61 and 64 respectively. Show that the common difference is -2.5 and 23 term is 16.5.

(b) Show that the sum of the series $0.53 + 0.0053 + \dots -53 + 0.000053 + \dots$ to infinity is $\frac{53}{99}$.

Q.8 (a) A property changed hands 3 times and at each time the loss to the seller was 10%. If in the last transaction the loss was Rs. 202.50. Find out the original value of the property.

(b) The difference between the simple and compound interest on a certain sum is Rs. 31 for three years at 10% p.a. Find out the sum.

The End

For More Learning Visit <https://www.bcfeducation.com>