GOVERNMENT COLLEGE UNIVERSITY, FAISALABAD

QUESTION PAPER FOR EXTERNAL EXAMINATIONS

B.Com. Part 1st   Annual -2012   Roll No. ....

Course Code: **BC-301**   Course Title: **Business Mathematics & Statistics**

Time Allowed: 03:00 Hours   Maximum Marks: 100   Pass Marks: 40%

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Note: *Attempt any five questions. All questions carry equal marks. Attempt at least two questions from each section.*

Section -I

1.

Classes	Frequency	Classes	Frequency	Classes	Frequency
12.5-17.5	2	27.5-32.5	14	42.5-47.5	6
17.5-22.5	22	32.5-37.5	3	47.5-52.5	1
22.5-27.5	19	37.5-42.5	4	52.5-57.51	1

Required: Obtain Mean, Median and Co-efficient of Variation.

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.

3. A population consists of six numbers 3, 6, 9, 12, 15 and 18.consider all possible samples of size three numbers, which can be drawn without replacement from this population. **Find**:
   a. The Mean of Population.
   b. The standard deviation of the population.
   c. The mean of the, "Sampling Distribution" of the means.
   d. The "Standard Error".

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 of quintals)	
	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, Paache's and Marshall.

Section -II

5. If

$$A = \begin{matrix} 1 & 3 & 2 \\ 3 & 2 & 0 \\ 4 & 5 & 6 \end{matrix} \qquad B = \begin{matrix} -2 & 5 & 4 \\ 0 & 3 & 5 \\ -1 & 4 & 2 \end{matrix}$$

Calculate: 1) A-3B   2) AB

6. **a)** Solve the following: $X^2 + 5X = 50$

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

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 23rd term is 16.5

b) Show that the sum of the series 0.53+0.0053+0.000053+…………. to infinity is $\dfrac{53}{99}$

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 simple and compound interest on certain sum is Rs.31 for three years at 10% p.a. Find out the sum.