University of the Punjab
Part I 2015 2nd Annual   Examination ADC/BCOM
Subject: Business Statistics & Mathematics
Paper: BC: 301
Time Allowed: 3 Hours   Maximum Marks: 100

Composed by Iftikhar Ali Lecturer Statistics, Finance & Accounting

NOTE: *Attempt any FIVE questions using proper method. All questions carry equal marks. Attempt at least TWO questions from each section.*

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Section I

Q.1: **The following are scores made by two batsmen A and B in a series of innings:**

A	28	22	46	85	9	59	175	42	11	92
B	52	18	4	95	125	12	90	58	7	79

Who is better as run getter? Who is more consistent player?

Q.2: Find the regression line X on Y and Y on X

X	125	137	156	112	107	136	123	106
Y	78	89	97	69	59	79	68	53

And show that $\sum(Y - \hat{Y}) = 0$

Q.3: Construct Index No for 2002 from the following data taken 2000 as base using Lasperre's, Paasche's, Fisher's and Marshall's Index number.

	2000		2002	
	Price	**Quantity**	**Price**	**Quantity**
A	5	100	6	120
B	7	120	10	80
C	10	80	12	80
D	4	50	5	60

Q.4: Test the association

Attributes	A1	A2	A3
B1	20	15	30
B2	30	18	35
B3	35	20	40

Tabulated value of Chi-Square at 5% level of significance 4 d.f is 9.488

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Section II

Q.5: *Find inverse of the matrix* $\begin{bmatrix} 4 & 10 & 0 \\ -7 & 1 & -2 \\ 6 & -5 & 6 \end{bmatrix}$

Q.6: (a) Half of two numbers addition is equal to 7/5and half of two numbers subtraction is7/12. Find the numbers.
(b) Solve the following $x^2 + 5x = 50$

Q.7: (a) For an A.P: a10 $= 275$ and a3 $= 450$. Find first term, general term and common difference of the progression.
(b) The 54th and 4th term of an A.P are -61 and 64 respectively. Show that the common difference is - 5/2 and 23rd term is 16.5.

Q.8: (a) How long will it take for 1500 invested at 8% simple interest to triple in amount?
(b) How long does it take for a money to double at 16% p.a compounded semi-annually?