Business Statistics & Mathematics

Punjab University BCOM/ADP Commerce I Paper 2007

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.

Q.1 Provide short answers for the following. Unnecessary details will be penalized.

(a) Define median
(b) What is probability?
(c) What do you mean by principle of least square?
(d) Define random variable.
(e) Define range.

Section I

Q.2 Make a frequency distribution taking class as 1.20-1.49, 1.50-1.79, and so on:
3.20, 3.17, 2.87, 1.45, 1.49, 2.37, 2.86, 2.50, 1.67, 2.66, 3.18, 3.06, 2.56, 1.86, 1.99, 2.06, 2.45, 2.22, 3.10, 1.72, 2.04, 2.15, 2.45, 2.68, 2.75, 2.89, 1.14, 1.60, 1.54, 1.48

Q.3 Find Mean & Median of the following data:

Height(Inches)	45--50	50--55	55--60	60--65	65--70	70—75
No of Persons	2	7	12	18	13	3

Q.4 The following table gives the aptitude test scores and productivity indices of 10 workers selected at random estimate.

Aptitude Scores (X)	60	62	65	70	72	48	53	73	65	82
Productivity index (Y)	68	60	62	80	85	40	52	62	60	81

Calculate Correlation Coefficient between aptitude scores and productivity index

Q.5 Compute index number from the following data using Fisher's Ideal Index Formula.

Commodity	**1999**		**2000**	
	Price	**Quantity**	**Price**	**Quantity**
A	12	10	15	12
B	15	7	20	5
C	24	5	20	9
D	5	16	5	14

Section II

Q.6 (a) A mobile company in its 3rd year of existence produce 6000 sets and 9000 sets in 5th year. What is the production of the company in the first year?

(b) 0.323232….. = p/q, where p and q are integers find the values of p and q.

Q.7 If A= $\begin{bmatrix}1 & 4\\5 & 3\end{bmatrix}$, B = $\begin{bmatrix}0 & -2\\1 & 2\end{bmatrix}$
Required: Prove A + B = B + A

Q.8 (a) Solve the following simultaneous equations
465x + 75y = 615
75x + 465y = 1005

(b) Solve the quadratic equation $x^2 - 5x + 6 = 0$

Q.9 Mr. Masood deposits Rs. 500 at the end of each quarter. So as to accumulate a sum of Rs. 10,000 to purchase a refrigerator. If the interest rate is 5% compounded quarterly, how many such quarterly deposits he will have to make.

The End