BUSINESS STATISTICS - 2008

Section-A

Q.1 Select the correct answer. Attempt any five questions.

(i) The word statistics is used in:
(a) Singular sense
(b) Plural sense
(c) Both singular and plural sense
(d) None of these

(ii) Statistics can best be considered as:
(a) An art
(b) A science
(c) Both art and science
(d) Neither art nor science

(iii) Secondary data as compared to primary data are:
(a) Less reliable
(b) More reliable
(c) Equally reliable
(d) None of these

(iv) If the mean of a set of observations x_1, x_2, x_3 .... x_{10} is 20 then the mean of $x_1 + 4, x_2 + 8, x_3 + 12,$ .... $x_{10} + 40$ is:

(a) 34
(b) 42
(c) 38
(d) 40

(v) If the standard deviation of $x_1, x_2, ..., x_n$ is 3.5 then the standard deviation of $-2x_1-3, -2x_2-3, ..., 2x_n - 3$ is:
(a) -7
(b) -4
(c) 7
(d) 1.75

(vi) In a moderately skewed distribution the value of mean and median are 4 and 5 respectively. The value of mode in such a situation is approximately
(a) 4
(b) 5
(c) 6
(d) 7

(vii) Let X and Y be two variables with same variance and $U = X + Y, V = X - Y$ then correlation $r(U, V)$ is equal to:
(a) 1
(b) 0
(c) -1
(d) None of these

(viii) The algebraic sum of deviation of a set of values is always zero when measured from:
(a) Mean
(b) Median
(c) Mode
(d) Standard deviation

Section-B

Note: Answer any three of the following in brief.

Q.2 Define statistics and discuss the points relating to distrusts for it.

Q.3 Discuss the scope and limitation of statistics.

Q.4 Distinguish between primary and secondary data.

Q.5 Define a central tendency, and write down the characteristics of an ideal measure of control tendency.

Q.6 Define Kali Pearson's coefficient of correlation, and explain the various formulae.

Section-C

Note: Attempt any three questions

Q.7 How many measures of central tendency are there? Annotate, in brief, the inherent merits and demerits that are common to every measure of central tendency.

Q.8 Explain Lagrange's method of interpolation. Also point out its merits and demerits.

Q.9 In Barkatullah University, there are 25 Professors, 75 Readers and 200 Lecturers. Their monthly average salaries are Rs. 12000, Rs. 6000 and Rs. 3000 respectively. After 5 years, it is expected that each lecturer will become a Reader, and each Reader a Professor. Assuming no turnover of these employees, find the excess salaries that will be drawn on an average by these employees after 5 years.

Q.10 Determine the value of standard deviation from the following series-

C.I.:	5-14	15-24	25-34	35-44	45-54
f:	7	3	2	5	3

Q.11 From the following data, find out the Spearman's rank correlation and comment on the result-

Marks in commerce	Marks in statistics
60	42
56	34
25	56
90	35
35	40
14	50
52	45
27	60