

END TERM EXAMINATION**SECOND SEMESTER [B.COM(HONS)] MAY-JUNE 2014****Paper Code: B.COM-110****Subject: Business Statistics****Time: 3 Hours****Maximum Marks: 75****Note: Attempt any five questions. All questions carry equal marks.**

- Q.1 (a) What is the empirical relationship between mean, median and mode? When this relation is applied.
- (b) When would you consider median or mode to be a better representation of data? Discuss.
- Q.2 Find the missing frequencies f_1, f_2 in the following distribution. It is given that the median of the distribution is 41 and the total number of observation is 82.

Class Interval	10-20	20-30	30-40	40-50	50-60	60-70	Total
Frequency	10	F_1	15	20	F_2	11	42

19

12

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Also calculate Q_3 and D_7 for the complete frequency distribution.

- Q.3 (a) Explain mean deviation and coefficient of mean deviation.
(b) Explain the concept of Skewness and Kurtosis.
- Q.4 For the following distribution, calculate the first four central moments and two Beta coefficients:

Class Interval	Frequency
20-30	5
30-40	14
40-50	20
50-60	25
60-70	17
70-80	11
80-90	8

- Q.5 (a) Distinguish between linear and curvilinear correlation.
(b) Explain the regression coefficients in regression lines.
- Q.6 The heights of a sample of 10 fathers and their eldest sons are given below:

Height of Father (X)	170	167	162	193	167	166	169	171	164	165
Height of Son (Y)	168	167	166	166	168	165	168	170	165	168

- (i) Compute the correlation coefficient r .
 (ii) Find regression of Y on X . $Y - \bar{Y} = r \frac{\sigma_Y}{\sigma_X} (X - \bar{X})$
 (iii) Compute the coefficient of determination and give your comments.

- Q.7 (a) Define an index number stating its utility. Explain the problems faced in construction of index numbers.
 (b) Distinguish between aggregate type and average type index formula. How will you choose a base year for constructing an index number.

- Q.8 The price relatives and weights of a set of commodities are given in the following table:

Commodity	A	B	C	D
Price Relative	125	120	127	119
Weight	W_1	$2W_1$	W_2	W_2+3

If the sum of weights is 40 and the index for the set is 122, find the numerical value of W_1 and W_2 .