BACHELOR'S DEGREE PROGRAMME

Term-End Examination

December, 2007

ELECTIVE COURSE : COMMERCE

ECO-7 : ELEMENTS OF STATISTICS

Time : 2 hours *Maximum Marks : 50*

Note : *Answer any **four** questions. All questions carry equal marks.*

1. (a) Fill in the blanks with the appropriate word given in the brackets :

(i) When you select the sample items from the population based on the ease of access, the method is called _____ sampling.
(convenience/judgment)

(ii) _____ errors are cumulative in nature.
(Unbiased/Biased)

(iii) To find time ratios it _____ always necessary to use fixed base. (is/is not)

(iv) The sum of absolute deviations from median is _____ . (minimum/maximum)

(v) The sum of deviations of a set of 10 items measured from 30 is zero. Hence their mean is _____ . (30/10)

(vi) An average _____ comparison.
(facilitates/does not help)

(vii) In a historigram, the time is taken on _____ axis. (X/Y)

(viii) Skewness is positive when mean is _____ than mode. (more/less)

(b) What are the sources of statistical errors ? Explain. *8, $4\frac{1}{2}$*

2. (a) Distinguish between primary data and secondary data.

(b) Compute the median from the following frequency distribution : *$4\frac{1}{2}$, 8*

Monthly Rent (in '000 Rs.)	No. of families paying
2 – 4	10
4 – 6	13
6 – 8	8
8 – 10	10
10 – 12	5
12 – 14	4

3. From the following data compute (a) Arithmetic mean, (b) Standard deviation, and (c) Co-efficient of variation : *$12\frac{1}{2}$*

Weight (kg)	*No. of persons*
10 – 20	7
20 – 30	10
30 – 40	20
40 – 50	18
50 – 60	7

4. (a) What are the precautions that you would keep in mind while using secondary data ?

(b) The following data show the maximum and minimum price quotations of the share of a company for three consecutive weeks. Present the data by range graph. $6\frac{1}{2}, 6$

Week	1	2	3
High Price	103	107	105
Low Price	100	103	101

5. (a) Rohan started a journey for a village located at a distance of 6 kms. He travelled 4 kms by a car at a speed of 40 kms per hour. He then travelled by a rickshaw at a speed of 10 kms per hour and covered 1·5 kms and covered the remaining distance on foot at a speed of 4 kmph. Find the average speed per hour.

(b) What are the reasons of non-sampling errors ? $6, 6\frac{1}{2}$

6. Explain, with examples, the purpose of statistical derivatives and the precautions to be taken while using these. $4, 8\frac{1}{2}$

7. Calculate Bowley's co-efficient of skewness from the following data : $12\frac{1}{2}$

Class	Frequency
0 – 15	10
15 – 30	40
30 – 45	20
45 – 60	10
60 – 75	40
75 – 90	16
90 – 105	14