RAJARATA UNIVERSITY OF SRILANKA

FACULTY OF APPLIED SCIENCES, MIHINTHALE

B.Sc. (General) Degree

Third Year Semester II   Examination - October 2014

MAT 3204 - INDEX NUMBERS

Answer **All Questions**   Time allowed: **Two Hours**

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1. a) i.   What is an index number?
        ii. Briefly describe three characters of an index number.

    b) i.   Construct index numbers for 1992 taking 1991 as base by simple Aggregative method

Commodity	Price in 1991($)	Price in 1992($)
A	9	9.5
B	4	5
C	9	11
D	3	3.5

        ii. Construct an index for 1988 taking 1987 as base by Average of relatives methods using Arithmetic mean and Geometric mean.

Commodity	Price in 1991($) 1987	Price in 1992($) 1988
A	5	7
B	4	6
C	8	9
D	11	12
E	2	2

P.T.O

2. a) Distinguish between Time reversal and factor reversal tests.

   b) i. Find the Laspeyre's and Paasche's index numbers for the following data.

Commodity	Base year		Current year	
	price	value	price	value
A	5	50	6	72
B	7	84	9	81
C	10	80	12	96
D	4	20	5	30
E	8	56	8	64

   ii. With the help of about data, prove that fisher's ideal index satisfies both the time reversal and factor reversal tests.

3. a) Write the short notes about followings:
   i. Base shifting of index numbers
   ii. Splicing of index numbers

   b) i. The following three series of index numbers are given:

Year	Index A(1954=100)	Index B(1969=100)
1954	100	-
1960	120	-
1969	200	100
1975	-	125
1985	-	200

   Spliced to series B in series A.

   ii. The following are the index numbers of whole sales prices of a certain commodity base on 1992:

year	1992	1993	1994	1995	1996
Index no:	100	108	120	150	210

   Shift the base to 1994 and obtain new index numbers.

   iii Calculate chain index number with 2000 as base from the following data.

commodity	2000	2001	2002	2003	2004
X	25	30	20	35	50
Y	40	50	45	55	70
Z	50	55	50	60	70

   iv Convert above chain base index number into fixed base index numbers.

P.T.O.

4 a) What are the two methods of constructing CPI and briefly explain them.

   b) Prepare the consumer price index for 1996 on basis of 1995 from the following data by
       both methods.
       Also show that the consumer price index is same for both methods.

Commodities	Quantities consumed in 1995	Price in 1995	Price in 1996
A	6	5.75	6.00
B	6	5.00	8.00
C	1	6.00	9.00
D	6	8.00	10.00
E	4	2.00	1.50
F	1	20.00	15.00

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