MBA (C) I/12.14.1072 Reg. No.

B

MBA (FT)/MBA (IB)/MBA (TT)/MBA (PT) DEGREE I SEMESTER EXAMINATION DECEMBER 2014

SMS 2102/SMI 2102/SMT 2102/SMP 2102 QUANTITATIVE TECHNIQUES

(2012 Scheme)

Time: 3 Hours Maximum Marks: 50

PART A

(Answer *ALL* questions)

(5 × 2 = 10)

1. What do you mean by skewness and Kurtosis?

2. What do dependent variable and independent variables indicate in a simple regression? Explain with the help of an example.

3. What is moving average and where is it used?

4. Define Baye's theorem.

5. Define inverse of a matrix. How is it useful in solving a set of equations?

PART B

(Answer *ALL* questions)

(5 × 4 = 20)

6. (a) Define:
   (i) Geometric Mean (GM)
   (ii) Harmonic Mean (HM)

   (b) Find the GM of 3, 6, 24, 48 and HM of 1, (1/2), (1/3), (1/4).

7. Calculate the correlation coefficient from the following data:

x	2	3	4	5	6	7	8
y	4	5	6	12	9	5	4

8. Explain the importance of Index numbers and also their major uses.

9. Discuss the major features of normal distribution and enumerate its practical uses.

10 If $A = \begin{vmatrix} 1 & 0 & -2 \\ 2 & 2 & 4 \\ 0 & 0 & 2 \end{vmatrix}$, verify $A^2 - 3A + 21 = 0$.

(P.T.O.)

PART C

(Answer ***ANY TWO*** questions)

(2 × 10 = 20)

11 (a) Using matrices, solve the equations:

$$x + y + z = 6$$
$$x + 2y + 3z = 14$$
$$-x + y - z = -2$$

(b) Write a note on new tools and concepts in data analysis. Discuss the use of statistical packages for data analysis.

12. Calculate the Laspeyre's and Paasche's index numbers for the year 2011 from the following data:

Quantity (kg)	Commodity			
	A	B	C	D
in 2006	8	10	15	20
in 2011	6	5	10	15
Price per kg (₹)	A	B	C	D
in 2006	20	50	40	20
in 2011	40	60	50	20

13. (a) Briefly describe

(i) Karl Pearson's coefficient of correlation

(ii) Rank correlation

(iii) What does coefficient of determination (r^2) indicate?

(b) Find coefficient correlation (r) and coefficient of determination (r^2) from the following and offer your comments and inferences on the results:

x	1	2	3	4	5	6	7
y	6	8	11	9	12	10	14

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