Roll No. | | | | | | | | | | | | Total No. of Pages : 03

Total No. of Questions : 09

B.Sc. Business Economics (BBE) (2015 to 2017) (Sem.–1)

QUANTITATIVE TECHNIQUES FOR ECONOMICS – I

Subject Code : BBE-103

Paper ID : [72693]

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B consists of FOUR Sub-sections : Units-I, II, III & IV.
3. Each Sub-section contains TWO questions each, carrying TEN marks each.
4. Student has to attempt any ONE question from each Sub-section.

SECTION-A

1. Write note on the followings :

   i) Universal set and empty set.

   ii) Two main types of matrices.

   iii) Skew Symmetric Matrix.

   iv) Find value of

      a) log8127

      b) log10100

   v) Find nth term of an AP and sum to ‘n’ terms of an AP.

   vi) Find the value of x satisfying logl0(2x+x-41)=x(l-logl05)

   vii) Ratio.

   viii) de Morgan's Law.

   ix) Formulas of Simple and Compound Interest.

   x) Find Simple Interest if P = Rs.400, R = 3% per three months, T = 2 months.

SECTION-B

UNIT-I

2. i) Discuss the main laws of the operation of sets.

   ii) In a class of sixty boys, there are 45 boys who play cards and thirty play carom, find

   a) How many boys play both the games?

   b) How many boys play cards only?

   c) How many boys play carom only?

3. Discuss the fundamental properties of logarithm with proofs.

UNIT-II

4. i) Solve the equation with the help of Cramer's rule

$$x+6y-z = 10$$

$$2x+3y+3z=17$$

$$3x-3y-2z= -9$$

   ii) Define adjoint of a Matrix

5. i) Find the inverse of a matrix

$$\begin{bmatrix} 1 & 2 & 2 \\ 2 & 1 & 2 \\ 2 & 2 & 1 \end{bmatrix}$$

   ii) Define Transpose of a Matrix

UNIT-III

6. Find the sum of the series = 1 + 3.5 + 6 + 8.5 + ... + 101

7. i) Write down the first five terms of the geometric progression which has first term 1 and common ratio 1/2.

   ii) Find the 10th and 20th terms of the GP with first term 3 and common ratio 2.

   iii) Find the 7th term of the GP 2,–6,18,...,

UNIT-IV

8. i) If the compound interest on a certain sum for two years at 10% p.a. is Rs 2,100 the simple interest on it at the same rate for two years will be.

   ii) The compound interesiron a sum for 2 years is Rs. 832 and the simple interest on the same sum for the same period is Rs. 800. The difference between the compound and simple interest for 3 years will be.

9. Write note on the followings :

   i) Bill Discounting

   ii) Mark up