SARDAR PATEL UNIVERSITY
MA (III Semester) Examination
2012
Saturday, 1ˢᵗ December
2.30 - 5.30 pm

PA03CECO03 - Quantitative Economics

Total Marks: 70

Notes: 1. Attempt all questions.
2. Figures to the right indicate full marks of the question.

Q.1 Fill in the blanks with appropriate option. Write answers in answer book.   [10]

1. _____ Mathematician gave the concept of set.
   (George William, George Hikcs, George Kentar)
2. Population of children in a family is an example of _____ variable.
   (Discrete, Continuous, Inclusive)
3. The mean of 15 observations is 20. Then the sum of these observations are _____.   (30, 300, 250)
4. The standard deviation of 3, 3, 3, 3, 3, _____ .
   (3, 0, 1)
5. The positive square-root of variance is called is _____.
   (Standard deviation, Average deviation, Range)
6. The new matrix founded by interchange of all rows and columns of any matrix is called _____ .
   (Column matrix, Transpose matrix, Symmetric matrix)
7. The mean of first natural numbers is _____.   (5.5, 5, 0.5)
8. Suppose a square matrix is $\begin{bmatrix} 1 & x & y \\ x & 2 & z \\ y & z & 8 \end{bmatrix}$,

   which is called _____ matrix.
   (unit, symmetric, inverse)
9. $X^0 = $ _____.   (1, 0, ∞)
10. Value of probability is always between ____ and _____.
    (-1 and 0, 0 and 1, 1 and 0)

Q.2
(A) Describe the variables and explain its various types in detail.   [06]
(B) Suppose demand and supply function are $4-P^2=D$ and $4P-1=5$.   [05]
Then find out equilibrium supply and price.
(C) Give the meaning with appropriate example.   [04]
   (1) Homogenous Function
   (2) Production Function

OR

1

Q.2

(A) What is an economic model ? Explain one Commodity Market [08]
Model.

(B) Solve the below equation with the help of elimination method. [07]
$$3x + 4y = -8$$
$$5x + 2y = -9$$

Q.3

(A) What is statistical series ? Explain its types with illustration. [06]

(B) Find out the Mean, Median and Mode for the following frequency [09]
distribution.

Class	5-15	15-25	25-35	35-45	45-55	55-65	65-75
Frequency	8	11	15	25	20	13	8

OR

(A) What is co-efficient ? Explain its uses in Economics [05]

(B) Find out co-efficient of mean, deviation of below data. [04]
50, 40, 55, 90, 100, 80, 65, 75, 85, 70.

(C) In ten (10) games score of two sportsmen are below. [06]

A	58	59	60	54	65	66	52	75	69	52
B	84	56	92	65	86	78	44	54	78	68

Find which sportsman is very constant in games ?

Q.4

(A) Solve the following linear equation with the help of Crammer's rule. [07]
$$3x_1 + 2x_2 + 6x_3 = 24$$
$$2x_1 + 4x_2 + 3x_3 = 23$$
$$5x_1 + 3x_2 + 4x_3 = 33$$

(B) What is Matrix ? Explain its types and discuss its utility in economic [08]
analysis.

OR

(A) What is input-output analysis? What are its assumptions. Explain its [09]
limitation.

(B) Suppose $A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$, $B = \begin{bmatrix} 1 & 1 \\ 2 & 1 \end{bmatrix}$, and $C = \begin{bmatrix} 2 & 3 \\ 2 & 1 \end{bmatrix}$ [06]

Find out AB, AB(C) and BC.

Q.5

(A) Explain Lorenz curve with appropriate example and plot the Lorenz curve. [09]

(B) A bag contains 4 White, 5 Red and 6 Green balls. Three balls are drawn at [06]
random. What is the chance that a white a red and green ball is drawn ?

OR

(A) What is Probability ? Discuss its concept of event and explain the [08]
addition rule of probability.

(B) Define set theory ? Explain its types in detail. [07]