VCD–14/10/2016

F.Y.M.F.M SEMESTER-I   Subject : Business Mathematics

Marks:75   Time: $2\frac{1}{2}$ Hrs.

N.B.: 1. All questions are compulsory.

2. All questions carry equal marks.

3. Figures to the right indicate maximum marks allotted to the sub-questions.

4. Use of simple calculator is allowed.

Q.1] A] Attempt any eight multiple choice questions: [08]

i) Dividend paid for a share by the company is based on its

a) face value   b) market value   c) average of (a) and (b)   d) shareholders discretion

ii)   Cash discount is charged on ------------

a) Gross price   b) Invoice price   c) Net price   d) None of these

iii) The simple interest at 8% for 4years was Rs. 640, then the principal was

a) 6400   b) 20000   c) 12000   d) 2000

iv) When two rows or columns of a determinant are identical its value is _____.

a) Negative   b) Positive   c) Zero   d) None of these.

v) The fourth proportional to 5 8, 15, is ____.

a) 18   b) 24   c) 19   d) 20

vi) When inverse of a matrix does not exist it is

a) Non-singular   b) Singular   c) Null matrix d) None of these

vii) If market value = face value , then the share is said to be ---------

a) At par   b) At discount   c) At premium   d) All of these

viii) The compound interest on two years on Rs. 1,000 at the rate of 9%, calculated annually

is, Rs.____.

a) 90   b) 81   c) 188.1   d) none of these

P.T.O....

ix) An annuity in which all the payments are equal is called

   a) Equitable annuity.   b) Egalitarian annuity.   c) Annuity due.   d) Uniform annui

x) If 0.75: x :: 5 : 8, then x is equal to:

   a) 1.12   b) 1.2   c) 1.25   d) 1.3

B] Attempt any seven True or False: [0

i) The person who join together to form the company are called promoters.

ii) The value of a determinant remains unchanged if the rows and columns are interchanged.

iii) Trade discount calculated on the marked price.

iv) a: b: c is called continued ratio of three numbers.

v) Matrix having only one row is called a row matrix.

vi) Adjoint method is used to find order of matrix.

vii) Compound interest is given as $C.I = A - P$.

viii) Net price = Reduced price + cash discount.

ix) The NAV depends on the current assets of the fund and its liabilities.

x) The interest charge on flat rate of interest method is simple interest.

Q.2]

A) The total income per day of shopkeepers Ramlal, Syamlal and Rakesh bhai is 900

   and their savings per day from this income are 20%, 40% and 30% respectively their

   respective expenditure in the shops are in the ratio 8 : 9 : 14, find their individual income

   from the shops.

B) A shopekeeper sold an executive chair, marked at Rs.4000, with 25% trade discount and

   4% cash discount. Find his profit and the percentage profit if the cost of the chair was

   Rs.2500.

B) Arjun owned 30 shares of LPT Ltd., brought at the market price of Rs.4550 each. If the company decided to give one bonus shares for three shares held and if the market price of the share after bonus is Rs.3520, find the initial investment, the number of his shares after bonus, and his assets and gain due to the bonus. [07]

OR

C) Sejal invested Rs.6000 in Kisan Vikas patra maturing to Rs.12000 in 8 years 6 months. Calculate the rate of interest if the compound interest is calculated quarterly.

$(\sqrt[34]{2} = 1.021)$ [08]

D) If $A = \begin{bmatrix} 3 & 1 \\ -1 & 2 \end{bmatrix}$ then find the matrix $A^2 - 5A + 7I$. [07]

Q.5]

A) Explain various types of Annuity in detail. [08]

B) Explain types of matrix with one example each. [07]

OR

C) Write short note: (Any three)

i) Preference share and advantages of preference share

ii) Mutual fund

iii) Properties of determinant.

iv) Type of commission of agents.

v) EMI

****