Total No. of Questions : 5]

SEAT No. :

P2127

[Total No. of Pages : 3

[5803]-203

F.Y. B.B.A. (C.A.)

CA-203 : BUSINESS MATHEMATICS

(2019 Pattern) (Semester - II)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) *Answer all questions.*
2) *Figures to the right indicate full marks.*

Q1) A. Fill in the blanks. **[5×2=10]**

a) The column, which is introduced in the transportation Matrix to balance the rim requirements, is known as _____.

(Key column, Idle column, Dummy column)

b) The variables that help to decide the outcome are called _____.

(Decision variables, Dependent variables)

c) If A and B matrices are of some order and A+B=B+A, this law is known as _____

(Commutative law, Associative law, Cramer's law)

d) The price at which the articles are sold is called the _____price.

(Cost, Selling, Purchase)

e) If the interest is calculated on the principal alone, then it is known as _____.

(Simple interest, Compound Interest, Annuity)

P.T.O.

B) State whether the following statement are true OR False. [3×2=6]

a) The zero matrix is not the additive identity for the matrices.

b) The inverse ratio is the ratio in reverse order of the original ratio.

c) Market value of the share is the current price at which the share is being treated in stock market.

Q2) Attempt any four of the following. (4 out of 6) **[4×4=16]**

a) Define the term matrices?

b) What are the components of linear programming?

c) Find the number whose 30% in 360.

d) A TV set is sold for ₹ 36,375 at a loss of 15%. find the purchase price of the TV set.

e) Find the simple interest on Rs. 7,000 at $\frac{50}{3}$% for a 9 months.

f) Find fourth proportional to 6,8,10.

Q3) Attempt any four of the following. (4 out of 6) **[4×4=16]**

a) Find out the total income received from the investment OF Rohit invested Rs. 99,000 in $7\frac{1}{2}$% stocks at Rs. $81\frac{1}{2}$ plus Brokerage of ₹1.

b) What is transportation model?

c) An amount of ₹1,200 is deposited in a bank paying an annual interest rate of 5% compounded yearly. Find the balance after 2 years.

d) What we mean by objective function in LPP.

e) Find A+B=B+A when matrices

$$A=\begin{bmatrix}1 & 2\\ 2 & -1\end{bmatrix}, B=\begin{bmatrix}3 & 1\\ -1 & -2\end{bmatrix}$$

f) What is percentage and how it is calculated.

Q4) Attempt any four of the following. (4 out of 6) **[4×4=16]**

a) Explain the North West Corner Method (NWCM) method of TP?

b) Write the steps of LPP formulation?

c) Alfred buys an old scooter for Rs. 4,700 and spend Rs. 800 on its repairs. If he sells the scooter for Rs. 5,800 his gain percent is what?

d) What is the 20% of 150?

e) A person invests his money in bank worth ₹24,000. It is increasing at the rate of 5% every year. What will be the growth in his investment after 3 years?

f) At what price will ₹4,250 buy shares worth ₹5,000? (They are ₹100 shares)

Q5) Attempt any one out of two. **[1×6=6]**

a) Compute the inverse of A:-

Where $A = \begin{bmatrix} 0 & 1 & 2 \\ 1 & 2 & 3 \\ 3 & 1 & 1 \end{bmatrix}$

OR

b) Determine an initial basic feasible solution to the following transportation problem by using VAM method.

		Destination				
		D1	D2	D3	D4	Supply
Source	A	11	13	17	14	250
	B	16	18	14	10	300
	C	21	24	13	10	400
	Demand	200	225	275	250	

❖ ❖ ❖