

BACHELOR OF BUSINESS ADMINISTRATION (CBCS- 2022 COURSE)
B.B.A. Sem – I : WINTER- 2022
SUBJECT : FOUNDATION OF MATHEMATICS

Day : Wednesday
Date : 21-12-2022

W-25946-2022

Time : 10:00 AM-01:00 PM
Max. Marks 100

N.B.

- 1) Attempt any **FOUR** questions from Section – I. Each question carries 15 marks.
- 2) Attempt any **TWO** questions from Section – II. Each question carries 20 marks.
- 3) Answers to both the sections should be written in the **SAME** answer book.
- 4) Use of non-programmable calculator is **ALLOWED**.

SECTION – I

- Q.1** What is Annuity? Explain the types of Annuity.
- Q.2** Two numbers are in the ratio of 5:6. If 21 is subtracted from each of two numbers, they become in the ratio of 2:3. Find the numbers.
- Q.3** A car uses gasoline worth ₹1,320 for 864 kms of run. How far would it have run if it had used gasoline worth ₹990?
- Q.4** Ashu purchases 180 dozen eggs @ ₹15.80 per per dozen. 60 eggs are broken in transportation. He sells the remaining eggs @ ₹18 per dozen. Calculate his profit and profit percentage.
- Q.5** If $A = \begin{bmatrix} 1 & 2 & 3 \\ 0 & 5 & 7 \\ 6 & 8 & 9 \end{bmatrix}$ $B = \begin{bmatrix} 2 & 0 & 3 \\ 3 & 0 & 5 \\ 5 & 7 & 0 \end{bmatrix}$. Find value of $2A - 3B$.
- Q.6** Write short notes on **ANY THREE** of the following.
- a) Solution of Simultaneous Equations
 - b) Simple and Compound Interest
 - c) Partnership
 - d) Payroll
 - e) Determinants

SECTION – II

- Q.7** a) Using adjoint method find the inverse of the matrix
- $$\begin{bmatrix} 3 & 2 & 6 \\ 1 & 1 & 2 \\ 2 & 2 & 5 \end{bmatrix}$$
- b) What is discount? Explain the types of discount.
- Q.8** a) Find the amount of an ordinary annuity of ₹ 6,400 per annum for 12 years at the rate of interest of 10% per period.
- b) Rakesh purchases a washing machine priced ₹9,850 for ₹ 9,062. Calculate the rate of discount.
- Q.9** a) Expand the determinant
- $$\begin{bmatrix} -4 & 2 & -8 \\ 4 & -5 & 6 \\ 1 & 7 & 9 \end{bmatrix}$$
- b) A salesman receives 10% commission on the gross turnover and 6% bonus on the sales exceeding ₹5000. If he receives ₹2,600 as a commission, find the amount of bonus.

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