

FD-973

BBA 1st Semester Examination, Dec.-Jan., 2021-22

Paper - III

Business Mathematics

Time: Three Hours] [Maximum Marks: 90

[Minimum Pass Marks: 32

Note: Answer all questions. All questions carry equal

marks.

Unit-I

1. Explain the main characteristics of a determinant.

OR

Find the value of AB. Is AB = BA if

$$A = \begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \end{bmatrix} \text{ and } B = \begin{bmatrix} 2 & 3 & 1 \\ 5 & 4 & 3 \\ 2 & 1 & 1 \end{bmatrix}.$$

DRG_163_(4)

(Turn Over)

Unit-II

- 2. (a) The listed price of a cloth of Andhra Khadi Bhandar is ₹ 380 on which regular discount is 20%. Due to partial damage in cloth an additional discount of 20% is allowed. For how much money the buyer paid to purchase it?
 - (b) An agent gets 3% commission on the full sale and 2% bonus on the amount of the sale exceeding ₹ 20,000. He sold goods amounting to ₹ 35,000. Calculate his commission, bonus and total remuneration.

OR

A man purchases 200 kg rice at the rate of ₹ 10 per kg. He pays ₹ 200 as cartage and ₹ 100 as octroi. He sells the whole rice at 10% gain. Find the selling price per kg of rice.

Unit-III

3. Solve the following equations by elimination method:

$$2x + y = 8$$

$$2x - y = 4$$

OR

Explain Fundamental laws of logarithm.

DRG_163_(4)

(Continued)

Unit-IV

- 4. (a) Two numbers are in the ratio of 5:8 if 9 be added to each they are in the ratio 8:11. Find the numbers.
 - (b) 12 carpenters make 18 chairs in a certain time. How many chairs will be made by 10 carpenters in the same time?

OR

- (a) Ram purchased 13 bags at the rate of ₹ 50 per bag, 15 bags at the rate of ₹ 60 per bag and 12 bags at the rate of 65 per bag. Find the average purchase price of per bag.
- (b) From the following data about the wages of 5 workers, find the average wage:

₹ : 80, 70, 120, 100, 110

Unit-V

5. Ajay obtained a loan of ₹ 4,000 at an interest rate of 6% p.a. He immediately rent ₹ 2,500 at an interest rate of 9% p.a. to Kiran and the balance at 12% p.a. to Soham. After three years he collected the amounts due to them and repaid his loan. Find his gain.

OR

If interest is payable quarterly, find the compound interest on ₹1500 @ 12% per annum for one year.
