

BACHELOR OF BUSINESS ADMINISTRATION (CBCS - 2018 COURSE)
B.B.A. Sem-I :SUMMER- 2022
SUBJECT : FOUNDATION OF MATHEMATICS & STATISTICS

Day : Wednesday
Date : 15-06-2022

S-18811-2022

Time : 02:00 PM-05:00 PM
Max. Marks : 60

N.B.:

- 1) Attempt **ANY THREE** questions from Section- I and **ANY TWO** questions from Section-II.
- 2) Figures to the right indicate **FULL** marks.
- 3) Use of non-programmable **CALCULATOR** is allowed.
- 4) Use graph paper **WHEREVER** necessary.
- 5) Answers to both the sections should be written in **SAME** answer book.

SECTION-I

- Q.1** a) Hitesh is a sales agent. He booked cash and credit sales and receives (06)
commission 12% on cash and 8% on credit. In a year he received ₹676 when
the ratio of cash sales to credit sales was 3:2. Find the amount of sales.
- b) A college management wanted to give scholarships to their students. (06)
Represent the data below by Histogram.

% of Marks	60-65	65-70	70-75	75-80	80-85
Scholarship	25	30	35	40	45

- Q.2** a) Illustrate the term 'Data' with the help of 'Population Data and Sample Data'. (06)
- b) Find value of 'Y' if $|A|=0$ (06)

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

- Q.3** Discuss the importance of Diagrammatic and Graphical representation of (12)
data.

- Q.4** a) Find out how many distinct three digit numbers can be formed using all the (06)
digits of 1, 2 and 3.

- b) Describe various properties of Determinants with suitable examples. (06)

- Q.5** Write short notes on (ANY TWO): (12)

- a) Types of Ogive curves
- b) Concept of 'Annuity Due'
- c) Stocks and shares

P.T.O.

SECTION-II

Q.6 a) Yashwant deposits a fixed sum every year for 5 years. Bank pays 8% p.a. simple interest. At the end of 5 years the depositor receives ₹ 9300. Find the sum deposited every year. **(06)**

b) Find $A^2 B + B = ?$ **(06)**

$$\text{if } A = \begin{bmatrix} 6 & 3 & 2 \\ -1 & 0 & 2 \\ 4 & 3 & 2 \end{bmatrix}, B = \begin{bmatrix} -3 & -2 & 1 \\ 3 & 2 & 2 \\ -1 & 0 & -1 \end{bmatrix}$$

Q.7 a) 50 shares of ₹ 100 each were purchased at ₹ 150 each. The company declared a dividend of 42%. Find the total dividend received and the rate of return on the investment. **(06)**

b) Describe applicability value of Linear equations. **(06)**

Q.8 a) A grocer sales one kind of chemical powder at ₹15 per kg and losses 5%.One other kind of powder he sells at ₹20 per kg and gains 14%. If he mixes the two powders in equal quantities and sells the mixture at ₹ 18 per kg. What would be his loss or gain? **(06)**

b) Solve the linear system. **(06)**

$$-x + 2y = 4$$

$$3x + 2y = 6$$

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