BACHELOR OF BUSINESS ADMINISTRATION (CBCS - 2018 COURSE)
B.B.A. Sem-I : WINTER : 2021
SUBJECT: FOUNDATION OF MATHEMATICS & STATISTICS

Day : Monday
Date : 24-01-2022 **W-18811-2021**
Time : 10:00 AM-01:00 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)** Mr. Ashitosh get a commission at 10% on cash sales and 7% on credit sales. If he receives ₹ 1795 as commission on the total sales of ₹22000. Find the sales made by Mr. Ashitosh in cash and on credit. **(06)**

b) Draw Ogive curve (Less than basis) for the following data. **(06)**

Age in Years	15-25	25-35	35-45	45-55	55-65	65-75	75-85
No. of persons	4	15	26	30	22	15	3

Q.2 **a)** Discuss the scope of statistics in Business. **(06)**

b) Describe following term with suitable example. **(06)**
i) Population ii) Sample

Q.3 **a)** Solve the linear system: **(06)**
$-2x+3y=16$
$3x-6y=9$

b) Evaluate: i) $x={}^{20}C_2+{}^{15}C_5$ ii) $y={}^{4}P_2\cdot{}^{52}P_4$ **(06)**

Q.4 Elaborates various methods of data collection with the help of- **(12)**
i) Advantages
ii) Disadvantages and
iii) Examples observed in real life situation for each of the data collection methods.

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

a) Histogram-an efficient data representation method
b) Concept of Annuity
c) Payroll

P.T.O.

SECTION-II

Q.6 **a)** Find the difference between compound interest and simple interest on a sum of ₹3000 at 10% rate of interest p.a. for two years. **(06)**

b) Prove that **(06)**

$A(B+C)=AB+AC$ *for*

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

Q.7 **a)** Virendra has purchased two machines for a total of ₹ 22,000. He sold one of them at a gain of 6% and the other at a loss of 5%, but then he realized that, he has neither gain nor loss in total transaction. Find C. P. of each machine. **(06)**

b) Discuss various applications of Linear equation theory in the field of Business. **(06)**

Q.8 **a)** The market price of ₹ 25 shares of a company is ₹ 28. If a man purchases 400 shares of this company then find: **(06)**

i) How much money does he invest.

ii) What will be his annual income and percentage will he get on his investment: if the company pays a dividend of 7% p.a.

b) Describe significance of Descriptive and Inferential statistics. **(06)**

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