S.D.E.

B.B.A. SEM–I (CBCS - 2018 COURSE) : SUMMER - 2019
SUBJECT: FOUNDATION OF MATHEMATICS AND STATISTICS

Day: Wednesday
Date: 08/05/2019

S-2019-4881

Time: 02.00 PM TO 05.00 PM
Max. Marks: 70

N.B.:

1) Attempt **ANY FOUR** questions from Section-**I**. Each questions carries **10** marks.
2) Attempt **ANY TWO** questions from Section-**II**. Each questions carries **15** marks.
3) Answers to both the sections should be written in the SAME answer book.
4) Use of non-programmable **CALCULATE** is allowed.

SECTION-I

Q.1 Define term 'Statistics' and discuss applications of statistics in various fields of management. **(10)**

Q.2 **a)** Find $|A| = ?$ **(05)**

$$If\ A = \begin{vmatrix} -3 & -2 & 0 \\ 3 & 4 & 3 \\ -1 & 0 & 2 \end{vmatrix}$$

b) An article is sold at a loss of 10%. Had it been sold for Rs. 9 more, there would have been a gain of 12.5% on it. What is the cost price of the articles? **(05)**

Q.3 **a)** Solve for: **(05)**

i) ${}^{12}C_3 . {}^{11}C_4$ ii) $\frac{{}^{8}P_4}{{}^{9}P_2}$

b) Find $A^2 + BA = ?$ **(05)**

If $A = \begin{bmatrix} 2 & 3 & -1 \\ 3 & 2 & -1 \\ -1 & 2 & 3 \end{bmatrix}$ *and* $B = \begin{bmatrix} -1 & 0 & -1 \\ 0 & -1 & -1 \\ -1 & -1 & 0 \end{bmatrix}$

Q.4 **a)** Construct frequency distribution table for data given below: **(05)**
Weight: 58, 61, 61, 45, 51, 60, 48, 47, 61, 48, 47, 51, 58, 54, 61, 48, 52, 58, 45, 49, 50, 51, 58, 62, 61.

b) Madhura has invested ₹6200 in 6% share at ₹124. How much percent of dividend will she get? **(05)**

Q.5 Write short notes on any TWO of the following: **(10)**

a) Annuity
b) Frequency Polygon
c) Commission

P.T.O.

SECTION-II

Q.6 **a)** A, B and C started a business with ₹ 6000, ₹ 8000 and ₹ 10,000 respectively. They agreed to share profit or loss in proportion to their capitals invested. In a ascertain year the amount of profit was ₹2400. Find the share of profit of each in that year. **(08)**

b) Mr. Sanjeev took a loan form a bank at the rate of 12% p.a. simple interest after three years he had to pay Rs. 5400 interest only for the period. What is principle amount borrowed by Sanjeev was? **(07)**

Q.7 **a)** Construct 'less than' and 'more than' Ogive curves for data given. **(08)**

CGPA	0-2	2-4	4-6	6-8	8-10
No. of Students	13	17	9	51	10

b) Solve for Linear system. **(07)**

$-x+y=36$

$2x-4y=37$

Q.8 **a)** Describe concept of 'Insurance' with suitable example. **(07)**

b) If $|A|=0$ then find value of 'x' **(08)**

For $A=\begin{bmatrix} 2 & -1 & 0 \\ x & -3 & -3 \\ 2 & 6 & 5 \end{bmatrix}$

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