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F - 1903

Bachelor of Business Administration
(First Semester)
EXAMINATION, Dec. - Jan., 2021-22
BUSINESS MATHEMATICS
(103)

Time : Three Hours]   *[Maximum Marks:90*
                                         [Minimum Pass marks :32

Note : Each unit comprises of three questions. Select any two from each unit. Each question carries Nine marks.

Unit - I

1. (A) Find the value of the following determinant by expanding with column.

$$\begin{vmatrix} 1 & 3 & 1 \\ 2 & 5 & 4 \\ 6 & 1 & 5 \end{vmatrix}$$

   (B) A manufacturing unit A makes 15 colour television sets and 80 black and white television sets in a month another unit B makes 40 colour T.V. sets and 100 black and white sets in a month. Represent this information into matrix form and find the production of each unit in 7 months.

   (C) What is matrix? What are diffrent type of matrices?

Unit - II

2. (A) Solve the following linear programming problem graphically: maximize $Z = 3x + 5y$

   such that

$$x + 2y \le 20$$
$$x + y \le 15$$
$$y \le 6$$
$$x \ge 0\, y \ge 0$$

   (B) Solve the following linear programming problem graphically maximize: $Z = 10x + 30y$

   such that

$$x + 2y \le 20$$
$$x + 5y \le 35$$
$$x + 4y \le 48$$

   and $x, y \le 0$

   (C) What is linear programming? Discuss the importance and limitation of linear programming.

Unit - III

3. (A) Find the logarithm of 128.88

   (B) If log 5 = 0.6990, then find log 125 and log 500.

(C) What do you mean by simultaneous equation?

Explain the method of solving simultaneous equation.

Unit - IV

4. (A) Determine the frequency of the class interval 15-20, the average being 19 units:

Class:	5 – 10	10 – 15	15 – 20	20 – 25	25 – 30
	2	2	?	4	4

(B) What do you understand by percent? Give some examples of percent. Explain the qualities of percentage.

(C) Write short notes on -

(1) Trade discount and cash discount

(2) Equal rate of discount

(3) Commission

Unit - V

5. (A) Three equal principals amount to Rs. 3,720 after 3,4 and 5 years at simple interest 6% p.a. find the principal.

(B) A sum of Rs. 2000 becomes Rs. 2205 at rate of 5% per annum compound interest, find the time.

(C) Explain the difference between simple interest and compound interest.