

TILAK MAHARASHTRA VIDYAPEETH, PUNE
MASTER OF BUSINESS ADMINISTRATION (M.B.A.)
EXAMINATION: MAY/JUNE - 2024
SEMESTER - I
Sub.: Statistical & Quantitative Methods (MBA104)

Date : 04/06/2024

Total Marks : 60

Time: 2.00pm to 4.30pm

- Instructions:** 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q. 1. Write Short notes on (Any Three) (15)

1. Types of Matrices
2. Basic Probability Rules
3. Linear Programming Problem
4. Scope of statistics in Business
5. Compound interest (CI)

Q. 2. Answer in detail (Any One) (10)

1. Estimate P61 & P50 for the given data .

Height (in cm)	0 -5	5 -10	10 – 15	15 -20	20 - 25	25 – 30	30 – 35
No. of plants	18	20	36	40	26	16	10

2. Find the Inverse of given matrix –

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

Q. 3. Answer in detail (Any One) (10)

1. The students in a hostel were asked whether they had a TV set or a computer in their rooms. The result showed that 650 students had a TV set, 150 did not have a TV set, 175 had a computer and 50 had neither a TV set nor a computer. Find the number of students who,
 - (a) Live in the hostel.
 - (b) Have both a TV set and a computer.
 - (c) Have only a computer.

2. Frequency distribution of ratable value of dwelling in locality is given below. Estimate the Median rate of dwellings-

Ratable no of values(Rs)	Dwelling
0 -10000	27
10000 -20000	58
20000 -30000	85
30000 – 40000	40
40000 -50000	10

Q. 4. Answer in detail (Any One) (10)

1. Define Function. Write Types of Functions. Give proper example.
2. What is Matrix? Write Properties of Matrices.

Q. 5. Case study (15)

- we have to maximize $Z = 2x + 5y$.

The constraints –

$$x + 4y \leq 24$$

$$3x + y \leq 21$$

$$x + y \leq 9$$

where, $x \geq 0$ and $y \geq 0$.

Question

- 1) Maximize the solution.
 - 2) Solve the inequalities
 - 3) Draw Graph
-