SREE CHAITANYA MAHAVIDYALAYA
INTERNAL EXAMINATIONS : 2021
B.SC. (GEN) SEMESTER : VI
PAPER CODE : MTMGDSE04T
PAPER NAME : LINEAR PROGRAMMING

Time: 30 Min   **Full Marks: 10**

[Answer any <u>Five</u> questions (2 x 5=10)]

1. Find all possible B.F.S. of the system of linear equations given below:

    $2x – 3y + 4z – 2t = 9$, $x – y – 5z + t = 0$, $3x – 2y - 10z - 5t = 10$.

2. Prove that the *Hyperplane* is a Convex set.

3. Solve the problem graphically:

    Maximize Z = 2x – 3y ; subject to : x – y <= 5, 2x + y <= 15, x, y>=0.

4. Prove that the Dual of the Dual of a Primal LPP is the Primal itself.

5. Find the Dual:

    Minimize $Z = 2x + 3y – 4z$; Sub. To: $x – y – z >= -2$, $2x + y + 3z = 16$, $y,z>=0$, x is unrestricted.

6. Solve the above LPP (Q.4) using Big-M method.

7. How do you conclude 'no solution' and 'unbounded solution' in the simplex method ?

8. A tailor makes two types of garments A and B using three types of clothes P, Q and R. A requires 3ft of P, 1.5ft of Q and 2ft of R ; B requires 4ft of P, 0.5ft of Q and 2.5ft of R respectively. A sells in Rs. 600 per piece and B sells in Rs. 400 per piece. Formulate the LPP so that the tailor can make the maximum profit.

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Click the *Link* below to submit the *Answer Script* (in a single PDF file)

<< https://forms.gle/GDvptzaRdZbqPmz6A >>