**Practice Questions**

**LPP**

**Type-1: SIMPLEX METHOD**

**1.** Maximize Subject to

**2.** Maximize

Subject to

**3.** Maximize Subject to

**4.** Maximize Subject to

**5.** Maximize Subject to

**6.** Maximize Subject to

**7.** Minimize

Subject to

**8.** Maximize

Subject to

**9.** Maximize

Subject to

**10.** Maximize

Subject to

**TYPE-2: PENALTY METHOD**

Using penalty (Big M) method to solve the following LPP

**1.** Maximize Subject to

**2.** Maximize

Subject to

**3.** Minimize Subject to

**4.** Minimize Subject to

**5.** Maximize Subject to

**6.** Maximize Subject to

**7.** Maximize Subject to

**8.** Maximize Subject to

Is the solution unique? If not, find another solution.

**9.** Minimize Subject to

**10.** Maximize

Subject to

**TYPE-3 BASIC SOLUTIONS**

Find all basic solutions to the following problem. Which of them are basic feasible, non-degenerate, infeasible

basic and optimal feasible solutions?

**1.** Maximize

Subject to

**2.** Maximize

Subject to

**3.** Maximize

Subject to

**4.** Maximize

Subject to

**5.** Maximize

Subject to

**6.** Maximize

Subject to

Covert the following LPP to standard form

**7.** Maximize

subject to

**8.** Minimize

Subject to is unrestricted

**9.** Maximise

Subject to

**10.** Maximize

Subject to

**11.** Maximize

Subject to

**12.** Minimize

Subject to

**13.** Minimize

Subject to

Also put the problem in matrix form.

**14.** Maximize

Subject to

Also put the problem in matrix form.

**Type-4 : Duality**

**Write the duals of the following LPP**

**1.** Maximize

Subject to

**2.** Maximize

Subject to unrestricted

**3.** Minimize

Subject to

**4.** Minimize

Subject to unrestricted

**5.** Maximize

Subject to

**6.** Maximize

Subject to unrestricted

**7.** Minimize

Subject to unrestricted

**8.** Maximize

Subject to