# 2: Traffic Engineering -1

**Course Objectives:**

1. To give knowledge about basic elements of traffic and their characteristics, interactions, impacts.
2. To provide know-how of fundamental variables of traffic, techniques of measurements and analysis.
3. To make conversant with conducting different traffic surveys, analysis and interpretations.

**Course Contents:**

1. Introduction: Basic components of traffic and their characteristics.
2. Fundamental variables of traffic: volume, speed, delay, density, headway - measurement techniques and analysis, sampling, frequency distribution, statistics.
3. Transportation surveys- O-D survey, methodology and analysis.
4. Parking survey, characteristics and interpretation.
5. Road accidents and safety measures.
6. Traffic planning and design – for pedestrians, intersections, road markings, signs.

**Practical work:**

List of tests/ practical are given below:

| Sr. No. | Test |
|---|---|
| 1 | Driver's ability test & Vehicular characteristics |
| 2 | Classified traffic volume study with use of hand count, tape, video recorder |
| 3 | Spot speeds study with radar meter, enoscope |
| 4 | Travel time and delay study |
| 5 | Parking survey |
| 6 | Road accident studies |
| 7 | Pedestrian flow survey |
| 8 | Intersection volume study |
| 9 | Analysis of traffic survey data, presentation and interpretations. |

**References:**


1. L.J.Pingnataro, *Traffic Engineering; Theory and Practice*. Prentice Hall, Englewood Clitts, 1973.
2. M.Wohl and B.V.Martin, *Traffic System Analysis for Engineering and Planners*, McGraw-Hill. New York,1983.
3. D.R.Drew, *Traffic Flow Theory and Control*, McGraw Hill. New York 1968.
4. W.R.McShane, R.P.Roess and E.S.Prassas, *Traffic Engineering*, Prentice Hall, New Jersey, 1990.
5. R.J.Salter, *Highway Traffic Analysis and Design*, McMillan, Hampshire, 1989.
6. *Highway Capacity Manual*, Transportation Research Board, Washington D.C., 1997, 2000
7. Partho Chakraborty and Animesh Das, *Principles of Transportation Engineering*, PHI
8. S.C. Saxena, *Traffic Planning and Design,* Dhanpat Rai Pub., New Delhi.