

**HIGHWAY  
ENGINEERING  
(3350606)**

## **UNIT – I**

### **INTRODUCTION TO HIGHWAY ENGINEERING**

1. Write down importance of roads .
2. What are the advantages and disadvantages of roads?
3. Explain Road classifications in India (Nagpur plan) &Third road development (Lucknow) plan.
4. What are Requirements of an ideal road alignment .
5. Describe the factors affecting road alignment.

Submission Date: 06/07/17

**UNIT – II**  
**GEOMETRIC DESIGN OF HIGHWAY.**

1. Describe the following terms with neat sketches:
  - a. Kerbs
  - b. Road margin
  - c. road formation
  - d. right of way.
2. Describe widening on curves.
3. Explain super-elevation with neat sketch. Derive formula for calculating minimum and maximum superelevation
4. What is Curve? Explain types of it with neat sketches.
5. Explain Sight distance and types of it.
6. Draw the sketches of typical cross-section of roads.

Submission Date: 20/07/17

## **UNIT – III**

### **CONSTRUCTION OF ROAD PAVEMENTS, DRAINAGE AND MATERIALS.**

1. Define the term.
  - (1) Bitumen
  - (2) Emulsion
  - (3) Cutback
  - (4) Tar
  - (5) prime coat,
  - (6) tack coat
  - (7) seal coat
2. Describes materials used in road construction
3. What is pavement? Give objectives of pavement
4. Explain types of pavement with neat sketches.
5. Write down functions of pavement components.
6. Enlist Equipments used in Highway Construction.
7. Explain surface and sub-surface drainage.

Submission Date: 17/08/1

**UNIT – IV**  
**TRAFFIC ENGINEERING**

1. Describe traffic characteristics.
2. Enlist types of traffic studies and explain it.
3. What is PCU. Write down PCU for different vehicles.
4. Explain various traffic control devices.
5. Write down advantages and disadvantages of signal.
6. Explain intersections in brief.
7. What are the causes and preventive measures for accidents.

Submission Date:

**UNIT –V**  
**HILL ROAD**

1. What are Hill roads and classification of it?
2. Describe principles of alignment in Hill roads.
3. Explain types of curve on hill roads.
4. Explain geometric standards of hill roads.
5. What is Landslide? Give classification and preventive measures for it

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Submission Date:

## **UNIT – VI**

### **MAINTENANCE AND REPAIR OF ROADS.**

1. Explain Failures of flexible pavement.
2. Give types of flexible pavement failures.
3. Give types of rigid pavement failures.
4. Explain maintenance of bituminous Roads.

Submission Date:



