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 Total number of pages:[2 ]

**B.Tech. || CIVIL || 5<sup>th</sup>Sem**  
**TRANSPORTATION ENGINEERING -I**  
**Subject Code: BTCE-504**

**Paper ID:**

**Time allowed: 3 Hrs**

**Max Marks: 60**

**Important Instructions:**

- All questions are compulsory
- Assume any missing data
- Additional instructions, if any

**PART A (10x 2marks)**

Q. 1. Short-Answer Questions:

- a) What are the different modes of transportation? Explain the specific functions of each of them.
- b) Explain with sketches the star and grid pattern.
- c) What are the objects of highway geometric design?
- d) Explain Camber. What are the objects of Camber?
- e) What are the objects of providing transition curves on the horizontal alignment highways?
- f) What are the objects and scope of traffic engineering? Explain briefly.
- g) What are objectives of accident studies?
- h) What are the various types of traffic markings commonly used?
- i) Explain the mechanics of soil compaction and optimum moisture content.
- j) List the different types of damages and deterioration of road works during and after the rainy seasons

**PART B (5×8marks)**

Q-2 What are the various methods of classifying roads? Briefly outline the classification based on location and functions as suggested in the nagpur Road plan.

Or

Explain briefly three modified classification of road system in India as per the Third twenty Year Road Development Plan, 1981-2001.



Q-3 Explain the importance of friction coefficient /skid resistance in geometric design in highways. State the factors affecting friction between tyres of vehicles.

Or

Enumerate the factors governing the width of carriage way. state the IRC specifications for width of carriageway for various classes of roads. CO2

Q-4 Explain the objectives, types of material and method of application of (i)Prime coat(ii)tack coat

Or

Mention the specifications of material ,construction steps in quality control for laying premixed carpet with seal coat . CO3

Q-5 Discuss how the problem of road constrction in water logged areas may be solved.

Or

Explain the important functions of highway embankment and subgrade in the performance of highway pavements. CO3

Q- 6 With neat sketches show some of the important types of regulatory traffic signs and mention the function of each.

Or

What are the various types of parking facilities designed for traffic needs? Compare kerb parking with off-street parking. CO4