

Seat No. **OCT-NOV 2025 WINTER EXAMINATION****1154 B.Tech. CBCS****Sub. Name: Transportation Engineering - I****Sub. Code: 83735/84015****Day and Date: Monday ,08-12-2025****Total Marks: 70****Time: 02:30 PM To 05:00 PM****Instructions: 1. Draw neat labelled diagrams wherever necessary
2. Drawings must be drawn to the given scale****Special Inst.: Q.4 AND Q.8 are compulsory
Attempt any two questions from Q.1,2,3 AND any two from Q 5,6,7.**

- Q1)** Attempt any two questions. [10]
- Write a brief note on N.H.A.I. [5]
 - Explain Third road development plan in detail. [5]
 - Explain the requirements of an ideal highway alignment. [5]
- Q2)** Attempt any two questions. [10]
- Explain the necessity of Superelevation on the horizontal curves. [5]
 - Calculate the super elevation required on a road curve of radius 280 m for Permissible speed of 75 kmph. The coefficient of friction is 0.12. Define 'Gradient'. [5]
 - Write a note on Vertical highway alignment. [5]
- Q3)** Attempt any two questions. [10]
- Explain various desirable properties of stone aggregate used in Road construction [5]
 - Explain with neat sketch joints in rigid pavements. [5]
 - Explain rigid and flexible pavement failures in detail. [5]
- Q4)** Attempt all the questions. [15]
- Explain the considerations while aligning roads on hilly areas. [5]
 - Explain 'Overtaking Sight Distance'. How O.S.D. is calculated for One-way traffic road and Two-way traffic road? [5]

- c. Differentiate between Flexible Pavements and Rigid Pavements with sketches [5]
- Q5)** Q.5) Attempt any two questions. [10]
- a. Explain the construction steps for BBM in detail. [5]
- b. What do you mean of evaluation of pavements explain structural and functional evaluation of pavement. [5]
- c. Explain the construction steps for SDBC. [5]
- Q6)** Q.6) Attempt any two questions. [10]
- a. Enlist various traffic studies. Explain any ONE in detail. [5]
- b. Explain 'Roundabout/ Rotary' with a neat sketch. [5]
- c. Write a note on highway Drainage. [5]
- Q7)** Attempt any two questions [10]
- a. Explain various shapes of tunnels. [5]
- b. Explain the shield method of tunneling. [5]
- c. Explain the Ventilation of tunneling. [5]
- Q8)** Attempt all the questions. [15]
- a. Explain different traffic Control devices. [5]
- b. Write note on use of geo - textiles and geo - girds in road construction. [5]
- c. Explain strengthening of existing pavements in details. [5]

End Of Question Paper

Important Note for Chief Exam Officer / SRPD Coordinator / Sr Supervisor/ Student -

This Question Paper may be distributed for following Subjects as common code.

सदरची प्रश्नपत्रिका खालील विषयांकरिता वितरित करता येईल.

1] (101) Bachelor of Engineering (84015) Transportation Engineering - I Part 4 SEM 7

2] (1154) B.Tech. CBCS (83735) Transportation Engineering - I Part 4 SEM 7