

CBCS SCHEME

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14PHDCV001

**Ph.D./M.Sc. (Engg.) by Research Degree Examination, April 2018
Transportation and Highway Technology**

Time: 3 hrs.

Max Marks: 100

Note: Answer any FIVE full questions.

- 1 a. Explain the necessity of Geosynthetics and Geotextiles in construction of highways. (10 Marks)
b. Briefly outline the procedure for design of flexible pavements for low volume rural roads. (10 Marks)
- 2 a. Explain the various steps involved in the maintenance of gravel roads using low cost equipments. (10 Marks)
b. Define the term "Level of Service". Explain the concept of LOS in planning and design of highways. (10 Marks)
- 3 a. Define the term "Trip Generation". Mention the various factors affecting trip generation. (10 Marks)
b. Mention and explain the various measures considered for road safety. (10 Marks)
- 4 a. Mention and explain the various factors on which the strength characteristics of soil depends. (10 Marks)
b. Explain the various problems associated with planning and construction of rural roads. (10 Marks)
- 5 a. Explain the various steps involved in maintaining bituminous surface roads. (10 Marks)
b. Explain in detail the working concept of GIS. (10 Marks)
- 6 a. Define the term "Road Subgrade Stabilization". Explain different types of stabilization. (10 Marks)
b. Explain the various factors affecting the design and performance of airport pavements. (10 Marks)
- 7 a. With neat sketches, explain the different types of failures in flexible pavements. (10 Marks)
b. With neat sketches, explain the various measures taken in lowering water table. (10 Marks)
- 8 Write short notes on :
a. Quality control as per MORTH specification.
b. Economic evaluation of roads.
c. Evaluation of new pavement materials.
d. Model split. (20 Marks)
