

Roll No.

24382

B. Tech 6th Semester (Civil)

Examination – May, 2016

TRANSPORTATION ENGG-II

Paper : CE-310-F

Time : Three Hours]

[Maximum Marks : 100

Before answering the question, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt any *five* questions selecting *first* question as *compulsory*.

1. Write short notes on any four : 5 + 5 + 5 + 5

- (a) ESWL
- (b) Field control for compaction
- (c) Warping joints
- (d) Frost action in pavement
- (e) Benkelman beam test

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2. (a) What are the various factors to be considered in pavement design ? Discuss the significance of each. 10
- (b) Discuss the advantages and limitations of CBR method of design of flexible pavement. 10
3. (a) The width of expansion joint gap is 2.5 cm in a cement concrete pavement. If the laying temperature in summer is 54°C, calculate the spacing between expansion joints. Assume coefficient of thermal expansion of concrete as 10×10^{-6} per °C. 10
- (b) Discuss the function of dowel and tie bars in rigid pavement. 10
4. (a) Explain the objects of compaction and the effect of inadequate compaction. 10
- (b) Specify the materials required for construction of WBM roads. What are the uses and limitations of this type of road ? 10
5. (a) Write short notes on any *three* : 12
- (i) Seal coat
- (ii) DBM

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- (iii) BSD
- (iv) Prime coat
- (b) Compare Hot mix and Cold mix methods of bituminous road construction. 8
6. What are the various types of failures in flexible pavement ? Explain the causes. 20
7. Discuss the importance of hill road drainage. With the aid of neat sketches, show the surface drainage system for effective drainage and disposal of water. 20
8. (a) Explain briefly various factors affecting the vehicle operating cost. 10
- (b) Discuss the importance of highway economy studies. 10
9. (a) What are the safety measures adopted in rock drilling ? 10
- (b) State the sequence of operation in tunneling in rocks. 10

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