

Roll No.

Total Pages : 02

BT-7/M-20

37046

TRANSPORTATION ENGG.-II

CE-405-E

Time : Three Hours]

[Maximum Marks : 100

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. Explain 'Flexible and Rigid' pavements and bring out the difference. **20**
2. Calculate the stresses at interior, edge and corner regions of a cement concrete pavement using Westergaard's equations. Use the following data :
Wheel load = 5100 kg., Modulus of elasticity of CC = 3×10^5 kg/cm², Pavement thickness = 18 cm. Poisson's ratios of concrete = 0.15, Modulus of subgrade reaction = 6 kg/cm³, Radius of contact area = 15 cm. **20**

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Unit II

3. What is WBM roads ? Discuss briefly its construction. **20**
4. Write short notes on the following :
- (a) Prime Coat
 - (b) Tack Coat. **20**

Unit III

5. Explain the Benkelman beam test in detail. **20**
6. Explain the surface and sub-surface drainage system. **20**

Unit IV

7. Explain the net present value techniques for evaluation of highway projects. **20**
8. Explain the heading and benching method in tunneling. **20**