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B.Tech 6th Semester (Civil) F-Scheme Examination,

May-2017

TRANSPORTATION ENGINEERING-II

Paper-CE-310-F

*Time allowed : 3 hours]*

*[Maximum marks : 100*

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

1. Write short notes on any four : 5+5+5+5
  - (a) Group index method of pavement design
  - (b) Mechanical soil stabilization
  - (c) Longitudinal joints
  - (d) WBM and WMM
  - (e) Design wheel load
  
2.
  - (a) Draw a sketch of flexible pavement cross section and show the component parts. Enumerate the functions and importance of each component of the pavement. 10
  - (b) Explain the CBR method of pavement design. How is this method useful to determine the thickness of component layer ? 10

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3. (a) Find the spacing between contraction joints for 3.5 m slab width having thickness of 20 cm and  $f=1.5$ , for plain cement concrete, allowable  $S_c=0.8 \text{ kg/m}^2$ . 10
4. (a) Enumerate the steps in the construction of cement concrete pavement. 10
- (b) Discuss the advantages and application of various compacting equipment for construction of subgrade and embankments. 10
5. What are the various types of bituminous construction in use ? Discuss the advantages and limitations of each. 20
6. (a) Write a descriptive note on pavement evaluation. 10
- (b) What are the various causes of formation of waves and corrugation in flexible pavements ? Suggest remedial measures. 10
7. (a) Write short notes on any *two*: 10
- (i) Resisting length
- (ii) Hair pin bend
- (iii) Prevention of land slide

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- (b) What are the special points considered in the alignment of hill roads ? Discuss. 10
8. (a) Explain benefit cost analysis and its significance. 10
- (b) Write a note in highway financing. 10
9. (a) State and describe the various methods adopted in tunneling in rocky strata. 10
- (b) Write short notes on any *two*: 10
- (i) Shaft
- (ii) Pilot tunnel
- (iii) Mucking

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