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

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 kg/m². 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

(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