B.Tech. CIVIL ENGINEERING (BTCLEVI)
Term-End Examination
December, 2016

00133

BICEE-018 : PAVEMENT EVALUATION

Time : 3 hours   *Maximum Marks : 70*

*Note : Answer any **seven** questions. All questions carry equal marks. Assume suitable data wherever necessary. Use of scientific calculator is allowed.*

1. Discuss the different types of distress in cement concrete pavements.   10

2. Explain the different methods of repairing structural cracks.   10

3. Define vehicle damage factor. Determine the design traffic in terms of cumulative standard axles for the following data :   10

    (a) Number of commercial vehicles in the year of overlay = 2750 per day

    (b) Average growth rate = 6·5% per year

    (c) Vehicle damage factor = 5·4

    (d) Design life = 10 years

    (e) Lane distribution factor = 0·75

4. Define unevenness index. How is it measured using bump integrator ? Describe. *10*

5. Differentiate between skid and slip. Discuss the factors which affect the quality of pavement surface. *10*

6. What is the use of pavement condition survey ? List the instruments used for pavement condition survey. *10*

7. Discuss the utility of Benkelman Beam Deflection test with a neat diagram. *10*

8. What are the alternatives of flexible overlay over flexible pavements ? Discuss their relative merits and demerits. *10*

9. FWD test is used to back calculate the elastic moduli of pavement layers. How does it help in pavement overlay design ? Explain. *10*

10. Write short notes on any *two* of the following : *2×5=10*

(a) Geosynthetics in Pavement Overlays

(b) Stripping

(c) Use of Waste Material in Pavement