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BICEE-018

B. Tech. CIVIL ENGINEERING
(BTCLEVI)
Term-End Examination
June, 2019

BICEE-018 : PAVEMENT EVALUATION

Time : 3 Hours *Maximum Marks : 70*

Note : *Answer any **seven** questions. All questions carry equal marks.*

1. (a) State the function of subgrade. Give a brief specification of soil including unit weight and compaction requirement of soil in subgrade. 5

   (b) Discuss in detail the unified and S. I. soil classification system. 5

2. (a) Elaborate the aggregate gradation techniques. Discuss Rothfutch's method in detail. 5

   (b) State the requirement of paving bitumen as per IS : 73. Describe the advantages of modified binder over VG bitumen. 5

3. (a) Define Rheology. Explain the creep and relaxation behaviours of standard soil model with the help of sketches and equation. 5

   (b) What are indirect test to give an idea of viscosity of binder ? Discuss the relationship between viscosity penetration and temperature with the help of equation and graphs. 5

4. (a) List out the factors which control the strength characteristic of soil. Describe the testing procedure of CBR test in laboratory. 5

   (b) Describe the relevant characteristics of road aggregate. 5

5. (a) Discuss the mechanical properties of bituminous mix. 5

   (b) Discuss fatigue performance of bituminous mix along with concept of cumulative fatigue damage. 5

6. (a) State the characteristic of expansive soils under various moisture variations. 5

   (b) What are possible mix structures for binary aggregate ? 5

7. (a) Explain briefly the minimum flexural strength on concrete for CC slab as per mix design. 5

   (b) Briefly outline the concept of "Superpave". 5

8. (a) Elaborate in detail the usage and type of overlays. 5

   (b) Describe in detail the use of geosynthetics in pavement overlays. 5

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