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Name.....

Reg. No.....

SEVENTH SEMESTER B.TECH. (ENGINEERING) [09 SCHEME] DEGREE EXAMINATION, NOVEMBER 2016

CE 09 705 L10—HIGHWAY PAVEMENT DESIGN

Time : Three Hours

Maximum : 70 Marks

Part A

Answer **all** *questions.*
Each question carries 2 *marks.*

1. What is highway pavement and airport pavement ?
2. What are the uses of EWL factors ?
3. What is warping stresses ?
4. What is the slab thickness by IRC recommendation to the rigid pavement ?
5. What is pavement distress ?

(5 × 2 = 10 marks)

Part B

Answer any **four** *questions.*
Each question carries 5 *marks.*

6. Elaborate the various tests on bituminous and assess its quality.
7. Elaborate the burmister 2 layer and 3 layer theories.
8. What is importance of warping stress ?
9. Differentiate between Rigid and Flexible pavement.
10. What are the uses of plate load test in concrete pavement ?
11. Give the importance of burmister layer system methods.

(4 × 5 = 20 marks)

Part C

Answer **all** *questions.*
Each question carries 10 *marks.*

12. What are functions and significance of subgrade properties ?

Or

13. Explain briefly the Marshall method of design.

Turn over

14. Explain ESWL and the concept in the determination of the equivalent wheel load.

Or

15. Discuss the CBR method of pavement design. How this method is useful to determine the method of component layer ?

16. Explain the effect due to the expansion and contraction of cement concrete slab and discuss the types of stresses induced.

Or

17. Briefly outline the IRC recommendation for determining the thickness of cement concrete pavements.

18. Explain the various types of failures in cement concrete pavement and their causes.

Or

19. Write a descriptive note on pavement evaluations.

(4 × 10 = 40 marks)