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Reg. No. :

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Question Paper Code : 21204

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2013.

Fourth Semester

Civil Engineering

CE 2255/CE 46/CE 1255 A/10111 CE 406/080100022 — HIGHWAY ENGINEERING

(Regulation 2008/2010)

(Common to PTCE 2255 — Highway Engineering for B.E. (Part-Time)
Third Semester — Civil Engineering — Regulation 2009)

Time : Three hours

Maximum : 100 marks

(Use of Tables and Charts in IRC 37 and IRC 58 are permitted)

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is Ideal alignment?
2. Define camber.
3. What is meant by super elevation?
4. State PIEV theory.
5. What is ESWL?
6. Explain rigid pavement.
7. Mention a few desirable properties of highway materials.
8. Write the importance of California bearing ratio.
9. Give examples for surface defects in pavements.
10. What is pavement evaluation?

PART B — (5 × 16 = 80 marks)

11. (a) Explain the requirements of Ideal alignment.

Or

(b) Explain the classification and cross section of urban roads.

12. (a) Explain the factors affecting sight distances.

Or

(b) Explain the steps involved in the design of hill roads.

13. (a) Explain the functions of the components of flexible pavements.

Or

(b) Explain the factors governing the structural design of pavements.

14. (a) Explain the importance and procedure of Field density test and Crushing strength test.

Or

(b) Discuss the merits and demerits of cement concrete roads.

15. (a) Explain the methods of strengthening damaged pavements.

Or

(b) Discuss the causes for the disintegration of flexible pavements.