Reg. No. : ☐☐☐☐☐☐☐☐☐☐☐

Question Paper Code: 34103

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2018

Fourth Semester

Civil Engineering

01UCE403 – HIGHWAY ENGINEERING

(Regulation 2013)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. State the requirements of an ideal highway alignment.

2. List out the functions of Highway Research Board (HRB).

3. Express super elevation.

4. Write the formula for widening of curves.

5. List the components of flexible pavement.

6. State the desirable properties of bitumen.

7. Mandate the desirable properties of road aggregates.

8. Define flakiness index.

9. Define skid resistance.

10. Mention the types of maintenance of pavements.

11. (a) Explain the different stages of ground surveys which are to be conducted for the construction of highways. (16)

Or

(b) Describe the factors influencing highway alignment. (16)

12. (a) Describe the types of sight distance with neat sketch. (16)

Or

(b) Explain the different types of gradients. (16)

13. (a) Explain CBR method of designing flexible pavements. (16)

Or

(b) Discuss the equivalent single wheel load. (16)

14. (a) Illustrate the construction of WBM Road with neat sketch. (16)

Or

(b) Describe the following tests on aggregates with sketches: (i) Impact test (ii) Los Angeles Abrasion test. (16)

15. (a) Discuss the typical failures occurring in flexible pavements. (16)

Or

(b) List the different types of defects in rigid pavements and explain. (16)

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