

Roll No.

3305

**B. Tech. 6th Semester (Civil)
Examination – May, 2023**

HIGHWAY ENGINEERING - II

Paper : PCC-CE-306-G

Time : Three Hours] [Maximum Marks : 75

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt *five* questions in all, selecting *one* question from each Unit. Question No. 1 is *compulsory*. All questions carry equal marks.

1. Describe the following : $2.5 \times 6 = 15$

- (a) Components of Pavements
- (b) Critical location of loading
- (c) Mastic Asphalt
- (d) Subgrade Construction
- (e) Non Destructive Evaluation
- (f) Flexible Overlays

UNIT – I

2. (a) Briefly describe the design of pavements. 7
(b) Explain the pavement performance and its methods-AASHTO. 8
3. (a) Explain the design of dowel and tie bars. 8
(b) Briefly explain method of rigid pavement design. 7

UNIT – II

4. (a) Explain the construction of BUSG and Premix Carpet. 7
(b) What are the functions of rollers, Paver and Hot Mix plants? 8
5. (a) Explain the construction of WBM and WMM. 8
(b) Explain the construction of DLC. 7

UNIT – III

6. (a) Explain classification of distresses in pavements. 8
(b) Explain the functional and non destructive evaluation of pavements. 7
7. (a) What is the objective of strengthening of pavement? 7
(b) Explain the thickness approach and deflection approach. 8

UNIT – IV

8. (a) What are the modes of ingress of water in highway structure? 7
(b) Explain the types of subsurface drainage. 8
9. (a) Explain the cost estimation in highway economics. 7
(b) Explain the PPP projects and rate analysis of MoRTH-Standard Data Book. 8