## Roll No. 3322195

## 24382

## B. Tech. 6th Semester (Civil Engg.)

## Examination - May, 2014

Transportation Engg. II

Paper : CE-310-F

Time: Three hours]

[ Maximum Marks: 100

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: Answer any five questions selecting first question as compulsory.

- 1. (a) What do you understand by mud pumping and map cracking?
  - (b) Explain function of dowel bars and tie bars. 6
  - (c) What do you understand by Mastic Asphalts 5
  - (d) Explain net present value method of cost analysis.

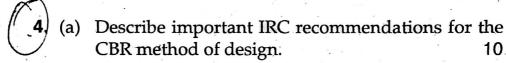
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P. T. O.



Explain the thickness design procedure with the help of Burmister's Method.

- (b) Determine the spacing between contraction joints for 3.5 m slab having thickness of 20 cm and f=1.5 for reinforcement cement concrete using 1 cm dia bar at 0.30 m spacing.
- 3. Determine the warping stress at interior, edge, and corner regions in a 25 cm concrete pavement with transverse joint at 11 m interval and longitudinal joints at 3.6 m interval. Assuming the following data- $K = 6.9 \text{ kg/cm}^3 \text{ a} = 15 \text{ cm} \text{ e} = 10 \times 10^{-6}$   $E = 3 \times 10^5 \text{ kg/cm}^2 \text{ } \mu = 0.15 \text{ C}_x = 1.03 \text{ C}_y = 0.55$



- (b) Explain materials used, specification and construction procedure for W.B.M. pavement. 10
- **5.** Explain the following terms.

20

- (a) Surface dressing
- (b) B.U.S.G.
- (c) Working of hot mix plants.
- (d) Rollers and their types.

6./ (a)

Explain principal, procedure and analysis of data for Benkelman Beam device.

(b) How the flexible overlay over rigid pavement is provided?

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- 7. Explain the following terms.
  - (a) Hair pin bends.
  - (b) Floating gradient.
  - (c) Resisting length.
  - (d) Cliff galleries with sketch.
- 8. (a) Explain the following methods of driving tunnel in rocks.
  - (i) Heading and bench method.
  - (ii) Full face method.
  - (b) Compare net present value method with internal rate of return method.
- 9. (a) How the highway finance in India is done?

  Discuss various sources of revenue.
  - (b) Discuss the advantages and limitation of various sections of tunnels.

