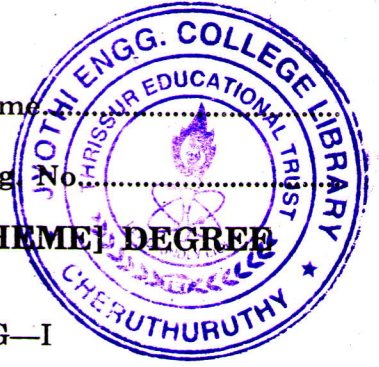


D 12061

(Pages : 2)

Name:

Reg. No:



**FIFTH SEMESTER B.TECH. (ENGINEERING) [14 SCHEME] DEGREE
EXAMINATION, NOVEMBER 2016**

CE 14 503—TRANSPORTATION ENGINEERING—I

Time : Three Hours

Maximum : 100 Marks

Part A

Answer any *eight* out of ten :

1. What are the objects of highway geometric design ?
2. State the factors in which the over taking sight distance depends. Explain briefly.
3. Discuss the scope of detailed survey for highway location. What are the steps to be followed ?
4. What are the various objects and application of spot speed studies ?
5. What are the desirable properties of bituminous mixes ? What are the steps in bituminous mix design ?
6. Explain Desirable properties of aggregate to be used in different types of pavement construction.
7. What are the air craft characteristics that influence on planning of airports ? Explain.
8. What are the objectives of design of runway of airport ? Explain.
9. What are the components of terminal area and how this area is facilitated.
10. Explain the PIEV theory.

(8 × 5 = 40 marks)

Part B

Answer according to choice :

11. (a) What are the various objectives of preliminary survey for highway alignment ? Enumerate the details to be collected and the various steps in the conventional method.

Or

- (b) The radius of a horizontal circular curve is 100 m. The design speed is 50 kmph. and the design co-efficient of lateral friction is 0.15.
 - (i) Calculate the super elevation required if full lateral friction is assumed to develop.
 - (ii) Calculate the co-efficient of friction needed if no super elevation is assumed to develop.
12. (a) Explain briefly the various aspects investigated during parking studies. What are the uses of these studies ? Compare angle parking with parallel parking.

Or

Turn over

- (b) On cross roads A and B the 15 minute traffic volume during the design hour were 700 and 400 vehicles. The approach speed were 50 and 30 kmph. for roads A and B. The width of road A is 14 m. and that of road B is 10 m. Design the signal timings (i) By trial method ; and (ii) By simple method with pedestrian signals.

13. (a) Explain the uses of emulsion. How are they prepared ? Discuss in brief the tests carried out on emulsion.

Or

- (b) Briefly outline the IRC recommendations for determining thickness of cement concrete pavements.

14. (a) What are airport obstructions ? What are the causes for obstructions ? How these obstructions prevented or avoided ?

Or

- (b) Give the outline and Geometric design of runway of international airport. How aprons necessary ? What are their design aspects ?

(4 × 15 = 60 marks)