No. of Printed Pages : 4 **ET-505**

B. TECH. (CIVIL) (CONSTRUCTION MANAGEMENT)/B. TECH. CIVIL (WATER RESOURCES ENGINEERING)
Term-End Examination
June, 2019

ET-505 : TRANSPORTATION AND TRAFFIC ENGINEERING

Time : 3 Hours *Maximum Marks : 70*

Note :Attempt all questions. All questions carry equal marks.

1. Answer any *two* of the following : 2×5=10

    (a) What are the advantages of containerisation in the transport of goods ?

    (b) Which Act regulates traffic of motor vehicles ?

    (c) A vehicle travelling at 100 km/hr is brought to halt by braking. What is the breaking distance if the coefficient of friction that develops between the tyres and the road surface is 0.45 ?

2. Answer any *two* of the following :   2×5=10

   (a) Write a short note on CBR.

   (b) Observations from a Direct Shear Test on a soil sample gives the following values :

Compressive Force	Maximum Shear Force
5 kg	7 kg
10 kg	9.5 kg
15 kg	12 kg
20 kg	14 kg

   The loaded area of the sample is 36 sq. cm. Determine the values of cohesion and internal friction of the soil sample.

   (c) Explain the need for camber. How is it provided in hill roads ?

3. Answer any *two* of the following :   2×5=10

   (a) Write a short note on surface dressing.

   (b) Find out the radius of contact area of the tyre subjected to an axle load of .150 kN with tyre pressure of 0.6 MN/m².

   (c) List out various roadway factors for controlling an accident. Discuss any *two* of them.

4. Answer any *two* of the following : 2×5=10

   (a) Explain the advantages and disadvantages of transport signals at road intersection.

   (b) Why is Public Transport desirable ? What are the types of public transport systems ?

   (c) What are the factors that govern traffic growth ?

5. Answer any *two* of the following : 2×5=10

   (a) What is meant by 'Permanent Way' ? What are 'check rails' and 'guard rails' ?

   (b) Define platform and illustrate its requirements for Rly line. Make a sketch of its cross-section.

   (c) Write briefly on the following :

      (i) Buffer stop

      (ii) Tunnels

6. Answer any *two* of the following : 2×5=10

   (a) What are the advantages and disadvantages of air transport ?

   (b) How is the runway orientation decided ? What are the factors that influence runway length ?

(c) What are various form of water transport ? What are the advantages of water transport ?

7. Answer any *two* of the following :   2×5=10

(a) Can solids be transported through pipeline ? List out advantages of pipeline transport system.

(b) Write briefly on the following :

(i) Freeport zone

(ii) Break waters

(c) What are belt conveyors ? Explain in brief their various configuration.