

Code No: RT31015

**R13** 

**SET - 1** 

## III B. Tech I Semester Supplementary Examinations, May-2018 TRANSPORTATION ENGINEERING – I

Note: 1. Question Paper consists of two parts (Part-A and Part-B) 2. Answering the question in Part-A is compulsory 3. Answer any THREE Questions from Part-B  PART -A  a) What is the necessity of highway planning?  (b) Write about highway cross sectional elements?  (c) Write about PCU factors. (d) What are highway materials? Explain. (e) Write about various types of pavements. (f) What is Overlay? Discuss about various types of Overlays.  PART -B  a) Write about various road patterns?  (a) What are the differences between good and improper alignment?  (b) Calculate the safe stopping distance for design speed of 50kmph for two-way traffic on a two lane road. Assume coefficient of friction as 0.35 and reaction time of driver as 2.5 seconds.  (c) The design speed of highway is 90kmph and radius R=200m. Check for safety.  (a) Discuss the relation between parameters of Traffic-Volume, Speed and Density. (b) Discuss the guidelines of IRC method of Signals.  (a) Write about Marshall Mix Design.  (a) Compare various aspects of flexible and rigid pavement. (b) Calculate the stresses at the corner and edge regions of a cement concrete pavement using westerguard equations with the following data.  (c) Radius of relative stiffness (1)=20cm  (e) Wheel load (P)=4500 kg  (e) Modulus of elasticity of cement concrete (E) =3x10^5 kg/cm2  (e) Pavement thickness (h) =18cm  (e) Modulus of sub grade reaction (k)=6.0 kg/cm3  (f) Radius of contact area (a)=15cm  (g) Write the construction process of bitumen pavement. (g) Mi	Tiı	ne: 3	(Civil Engineering) 8 hours Max	. Marks: 70
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