

BACHELOR OF TECHNOLOGY (C.B.C.S.) (2020 COURSE)
B.Tech.Sem - V CIVIL : WINTER- 2022
SUBJECT : INFRASTRUCTURE & TRANSPORTATION SYSTEMS

Day : Thursday

Time : 02:30 PM-05:30 PM

Date : 8/12/2022

W-24381-2022

Max. Marks : 60

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Assumable suitable data **WHEREER** necessary.
- 4) Draw neat labelled diagram **WHEREVER** necessary.

Q.1 What is the role of transportation? Briefly outline the highway development (10) in India.

OR

Q.1 Define highway alignment. What are the basic requirements of an ideal (10) alignment?

Q.2 Comment briefly on 'Road User' and 'Vehicular' characteristics of traffic. (10)

OR

Q.2 What is Travel Demand Forecasting? Elaborate the four stages in Travel (10) Demand Forecasting.

Q.3 What are the criteria for geometric design? Draw the neat and labeled cross (10) section of road in embankment.

OR

Q.3 What do you understand by super elevation? Discuss briefly 'Attainment of (10) super elevation'.

Q.4 What is importance of sub grade? State and explain its properties. (10)

OR

Q.4 The CBR value of subgrade soil is 7%, calculate total thickness of a pavement (10) using design formula developed by US Corps of Engineers. Assume 4500 kg wheel load and tyre pressure 6 kg/cm².

Q.5 What are the various types of highway construction? Elaborate on the (10) construction of bituminous roads.

OR

Q.5 What are the causes of failure of road pavements? Comment on maintenance (10) of flexible pavements.

Q.6 What is 'Mass Rapid Transit System' and 'Intelligent Transport System'? (10)

OR

Q.6 Comment on financing of road projects by BOT and BOOT models. (10)

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