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Total No. of Pages : 01

Total No. of Questions : 08

M.Tech. (Soil Mechanics & Foundation Engineering) (2013 Batch)
(Sem.-2)

DESIGN OF ROAD PAVEMENTS

Subject Code : CESE-14

Paper ID : [E1012]

Time : 3 Hrs.

Max. Marks : 100

INSTRUCTIONS TO CANDIDATES :

1. Attempt any FIVE questions in all.
2. Each question carries TWENTY marks.

- Q1 a) Bring out points of difference between flexible pavements and rigid pavements.
b) What are the requirements of airport pavements? Discuss each one in detail.
- Q2 Write short note on water bound Macadam.
- Q3 a) What are the factors influencing the properties of soil-cement? Explain how soil-cement mix is designed.
b) How is soil-cement base course constructed? Give details.
- Q4 a) Explain CBR method of pavement design. How is this method useful to determine thickness of component layers?
b) Explain the California resistance value method of flexible pavement design.
- Q5 Design the cement concrete pavement thickness, expansion and contraction joint spacing, dowel and tie bars for a wheel load of 5100 kg. Assume all data suitably.
- Q6 a) Describe the method of design of overlays for flexible pavement as per IRC guidelines.
b) A number of deflection readings were taken on a pavement. The mean and standard deviations were 1.50 and 0.20 mm. The allowable deflection is 1.00 mm. Determine the overlay thickness.
- Q7 What are the various methods of pavement evaluation? Explain.
- Q8 What were the objectives of AASHO Road test? Describe the PSI concept developed in the AASHO test. How is the pavement performance predicted as per the test findings?