

Roll No.

Total No. of Pages : 01

Total No. of Questions : 08

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

DESIGN OF ROAD PAVEMENTS

Subject Code : CESE-14

M.Code : 37204

Date of Examination : 04-07-22

Time : 3 Hrs.

Max. Marks : 100

INSTRUCTIONS TO CANDIDATES :

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

1. a) Explain the different components of a road pavement and their functions. (12)
b) How do highway pavements differ from airport pavements? Explain. (8)
2. Explain the concept of stabilization of bases using cement and bitumen. List the chemicals which are commonly used for chemical stabilization. (20)
3. Discuss in detail the following factors with reference to pavement design: Traffic factor, Climate factor, Soil factor and stress distribution factor. (20)
4. a) What kind of temperature stresses are developed in rigid pavements? How the magnitude of these stresses determined?
b) What is the modulus of subgrade reaction? How is it determined in the field?
5. Give in detail the comparison of analysis of stress due to wheel loads on liquids and solids subgrade theorem. (20)
6. What is the necessity of providing overlays on the pavements? Discuss the method of providing flexible overlay and rigid overlay on existing rigid pavements. (20)
7. Discuss in detail the mechanics of 'Pumping and blowing'. (20)
8. Discuss in detail about pavement performance evaluation using pavement management system. (20)

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.