



Reg. No. :

Name :

**Eighth Semester B.Tech. Degree Examination, April 2014
(2008 Scheme)**

08.806.3 – Elective – IV : DESIGN AND CONSTRUCTION OF PAVEMENTS (C)

Time : 3 Hours

Max. Marks : 100

Instruction : Answer *all* questions from Part – A and *one full* question from *each* Module of Part – B.

PART – A

- I. a) Distinguish between flexible and rigid pavements.
- b) What are the various factors to be considered in pavement design.
- c) Explain Burmister's layers method of pavement design. What are the limitations of this method ?
- d) What are the advantages of Bradbury's stress coefficient ?
- e) What are the considerations for the design of rigid pavement ?
- f) Why is an overlay necessary over an existing airport pavements ?
- g) Explain Wet Mix Macadam. Mention significance of this mix.
- h) Discuss the basic concepts of pavement management system. **(5×8=40 Marks)**

PART – B

Module – I

Each question carry **20** marks.

- II. a) Explain Group Index Method of pavement design. What are the limitations of this method ?
- b) Discuss the importance of gross wheel load and contact pressure in distribution pattern and in pavement design.

OR



- III. a) A sub grade soil sample has following properties. Soil passing 200 mesh Sieve = 65%, Liquid limit = 58%, Plastic limit = 40%, Traffic intensity 1200 cvd. Design pavement section by GI method.
- b) Explain the IRC method of design of pavement. What are its limitations ?

Module – II

- IV. a) Bring out Westergaard's concept of temperature stresses in concrete pavements.
- b) Discuss the design details of dowel bars.
- c) Distinguish between dowel bars and tie bars.

OR

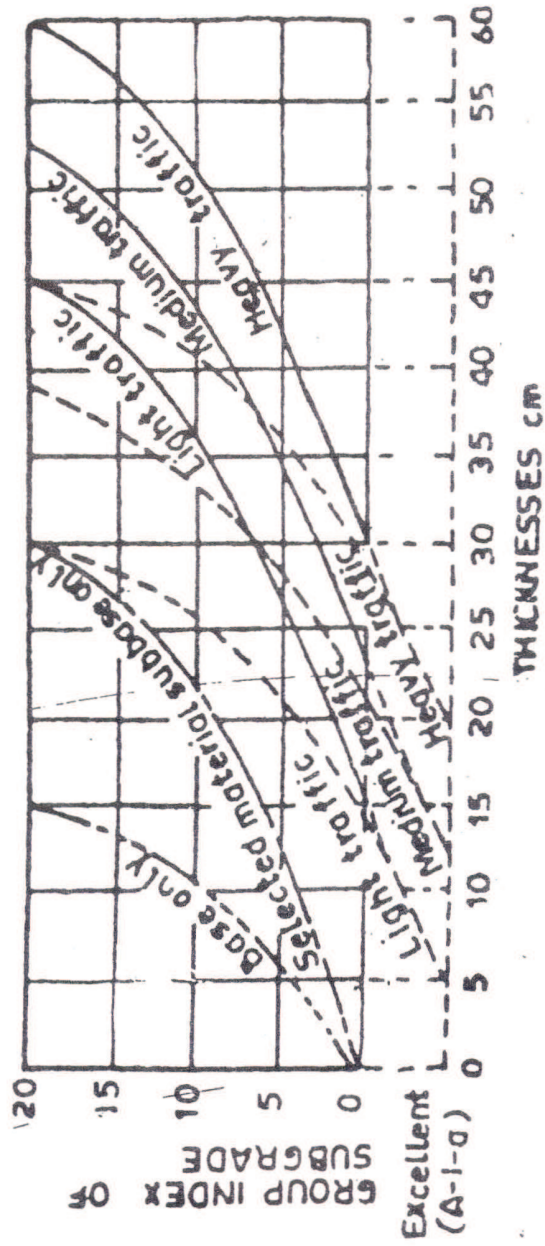
- V. a) Discuss in brief the various factors to be considered in the design of airfield pavement.
- b) What is ESWL ? How can it be determined for dual and dual-in-tandem wheel assembly.

Module – III

- VI. a) What are the requirements of a good drainage system ?
- b) Explain with sketches how the sub-surface drainage system is provided to lower the water table and control seepage flow.

OR

- VII. a) Explain Benkelman beam deflection method for valuation of flexible pavements.
- b) Explain the construction procedure for a WBM, based on its specifications.



— Combined thickness of surface, base and sub-base

--- Thickness of surface and base.