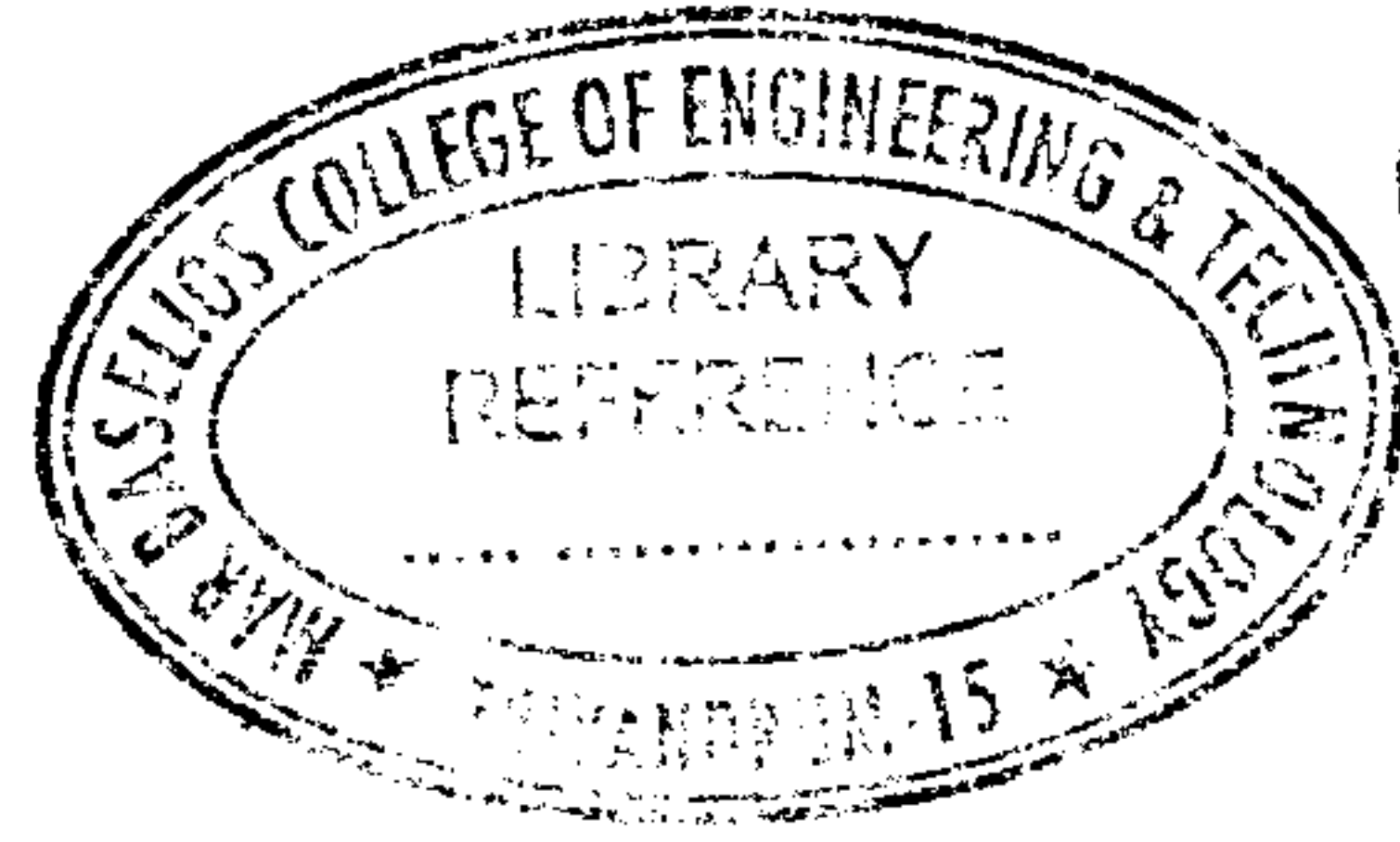




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C – 2346

Reg. No. : .....

Name : .....

**Eighth Semester B.Tech. Degree Examination, May 2017  
(2013 Scheme)**

**13.805.7 : DESIGN AND CONSTRUCTION OF PAVEMENTS (C)**

Time : 3 Hours

Max. Marks : 100

**Instruction :** *Relevant charts and tables are permitted in the examination hall.*

**PART – A**

Answer **all** questions :

1. Explain the application of Burmister's two layer theory in pavement design.
2. How is the load stress in the corner region obtained for the design of rigid pavement ?
3. What are the requirements of a good highway drainage system ?
4. What are the causes of potholes and how are they repaired ?
5. Write in explanatory note on present serviceability index. (5×4=20)

**PART – B**

Answer **any one full** question from **each** Module.

**Module – I**

6. i) Explain the concept of ESWL based on equal deflection criterion. 10
- ii) Enumerate the functions of each component of flexible pavement. 10

OR

7. Design the pavement which is located in hilly area. Present traffic intensity is 350 vehicles/day with a design period of 8 years and a traffic growth rate of 7.5%. Take lane distribution factor as 0.75; take vehicle damage factor as 2.5; design CBR value for soil sub grade is 10%. 20

P.T.O.

**Module – II**

8. i) Discuss the critical combination of stress due to wheel load and temperature effects. 10
- ii) What are the functions of dowel bars and tie bars ? Explain the design of both. 10

OR

9. List the different types of joints that are usually adopted in rigid pavements. Explain with sketches, their purpose and where they are used. 20

**Module – III**

10. Differentiate between Bituminous Macadam (BM) and Bituminous Concrete (BC). Mention the specification for materials used for BC. Explain its construction and quality control during construction. 20

OR

11. i) Explain the design of filter material for use in subsurface drainage system. 10
- ii) Explain the construction of roads in water-logged areas. 10

**Module – IV**

12. Explain the causes of various types of distresses in cement concrete and flexible pavements and suggest remedial measures. 20

OR

13. a) Discuss the functional and structural evaluation of pavement. 10
- b) Explain the procedure for overlay design by Benkelman Beam method. 10
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