

## ONE TIME EXIT SCHEME

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**Seventh Semester B.E. Degree Examination, April 2018**  
**Pavement Materials and Construction**

Time: 3 hrs.

Max. Marks:100

**Note: Answer any FIVE full questions, selecting at least TWO questions from each part.**

**PART – A**

- 1 a. What are the requirements of a good road aggregates? (05 Marks)
- b. Determine the classification of road aggregates according to shape. (05 Marks)
- c. Explain with neat sketches Flakiness index test on shape of coarse aggregates. (10 Marks)
- 2 a. Define the terms, Tar and Bitumen, and list out the properties and uses of tar and bitumen. (10 Marks)
- b. What is meant by Cutback bitumen and list out the types of cutback bitumen? (10 Marks)
- 3 a. Enumerate the characteristics and uses of bitumen emulsion. (10 Marks)
- b. Explain the mechanism of stripping value test and dealing with problem of stripping. (10 Marks)
- 4 a. Explain with sketch, how to determine the volume of airvoids and voids filled with bitumen in a compacted bituminous mix. (10 Marks)
- b. Explain the concept of Mashall stability test on bituminous mix. (10 Marks)

**PART – B**

- 5 a. Enumerate the equipments required for excavation and explain the role of Bulldozers. (10 Marks)
- b. Explain the commonly used equipment for cement concrete roads, discuss the equipment for concrete mixer and straight edge. (10 Marks)
- 6 a. Describe the preparation of subgrade and discuss the quality control tests. (10 Marks)
- b. Explain the construction of highway embankment and list out the quality control checks. (10 Marks)
- 7 a. Explain the construction method and field control tests for prime coat layer. (10 Marks)
- b. Describe the objectives of tackcoat and discuss the method of application of tack coat and quality control tests. (10 Marks)
- 8 a. Explain the method of construction of cement concrete pavements by alternate bay method and list out the advantages. (10 Marks)
- b. Explain with neat sketch of contraction joint in cement concrete pavements and mention their advantages. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.