

CRASH COURSE



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10CV763

Seventh Semester B.E. Degree Examination, May 2017 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. Explain the desirable properties of aggregate to be used in different types of pavement construction. (06 Marks)
- b. Explain and indicate the suitability of the following tests on the selection of proper aggregates for various pavement constructions with their permissible limits:
 - i) Aggregate shape test
 - ii) Aggregate soundness test
 - iii) Aggregate impact test. (08 Marks)
- c. Write a note on aggregate blending to meet the specified gradation. (06 Marks)
- 2 a. What are bitumen emulsions and cutback? How they are prepared? Mention under what conditions these are used. (14 Marks)
- b. Explain the following:
 - i) Cationic emulsions
 - ii) Anionic emulsions
 - iii) Non-ionic emulsions (06 Marks)
- 3 a. What are the difference between bitumen and tar? (06 Marks)
- b. What are the requirements of bitumen used for road work? (06 Marks)
- c. Explain with a neat sketch manufacturing process of bitumen. (08 Marks)
- 4 a. What do you mean by stripping of bitumen? Explain any one test on bitumen adhesion. (08 Marks)
- b. Explain step by step procedure of marshall method of bituminous mix. (12 Marks)

PART - B

- 5 a. Explain different types of compacting equipment used for pavement construction. (10 Marks)
- b. Explain different types of equipment required for bituminous construction. (10 Marks)
- 6 a. Enumerate the steps in the preparation of subgrade. How do you evaluate the adequacy of compaction? (10 Marks)
- b. Write notes on:
 - i) Desirable properties of subgrade soil
 - ii) Test a subgrade soil (10 Marks)
- 7 a. Explain with a neat sketch different joints in the rigid pavement. (10 Marks)
- b. Enumerate the steps involved in the construction of cement concrete pavements. (10 Marks)
- 8 a. What are the functions of primcoat, seal coat and tack coat? (10 Marks)
- b. Discuss the materials required and construction steps for the construction of bituminous concrete pavement. (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.