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10CV763



Seventh Semester B.E. Degree Examination, June/July 2018
Pavement Material & Construction

Time: 3 hrs.

Max. Marks:100

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

PART – A

- 1 a. Explain the desirable properties of aggregates to be used in different types of pavement construction. State the tests conducted for each property. (08 Marks)
b. Explain the following tests on aggregates and state the permissible limits as per MORTH guidelines for flexible pavements :
(i) Crushing test.
(ii) Impact test. (12 Marks)
- 2 a. Compare bitumen and tar. What are the requirements of bitumen used for road works? (10 Marks)
b. Explain with neat sketch manufacturing process of bitumen. (10 Marks)
- 3 a. Compare the salient features / characteristics of outback and emulsions. Under what condition each one is used. (10 Marks)
b. What is stripping? What are its adverse effects? Explain any one test on bitumen adhesion. (10 Marks)
- 4 a. Explain proportioning of aggregates by Rothfutch's method. (08 Marks)
b. Explain the step by step procedure of Marshall method of mix design. (12 Marks)

PART – B

- 5 a. What is a power Shovel? With a neat sketch, explain its operation and applications. (10 Marks)
b. What are the different types of compacting equipments used for pavement construction? Write an explanatory note on rollers in road construction. (10 Marks)
- 6 a. What are the desirable properties of subgrade soil? Enumerate the steps in preparation of subgrade. How do you evaluate adequacy of compaction. (12 Marks)
b. Explain the circumstances in which construction of embankment becomes necessary. (08 Marks)
- 7 a. Explain the material specification and construction steps for Bituminous surface dressing. (10 Marks)
b. Explain the objectives, type of material and method of application for (i) Prime coat (ii) Tack coat. (10 Marks)
- 8 a. Explain with a neat sketch, different joints in rigid pavement. (10 Marks)
b. Enumerate the steps involved in the construction of cement concrete pavements. (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.